Climate Change Adaptation in Forest and Agricultural Mosaic Landscapes

Part I: Project Information

GEF ID
10186

Project Type
FSP

Type of Trust Fund
LDCF

CBIT/NGI
CBIT **No**
NGI **No**

Project Title
Climate Change Adaptation in Forest and Agricultural Mosaic Landscapes

Countries
Zambia

Agency(ies)
FAO

Other Executing Partner(s)
Ministry of Lands and Natural Resources, WWF Zambia

Executing Partner Type
Government

GEF Focal Area
Climate Change

Taxonomy
Climate Change, Focal Areas, Climate Change Adaptation, National Adaptation Plan, Disaster risk management, National Adaptation Programme of Action, Least Developed Countries, Adaptation Tech

Transfer, Climate information, Ecosystem-based Adaptation, Innovation, Community-based adaptation, Climate finance, Livelihoods, Private sector, Climate resilience, Mainstreaming adaptation, Complementarity, Influencing models, Strengthen institutional capacity and decision-making, Demonstrate innovative approache, Stakeholders, Civil Society, Community Based Organization, Private Sector, Individuals/Entrepreneurs, SMEs, Communications, Awareness Raising, Local Communities, Beneficiaries, Type of Engagement, Participation, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Knowledge Generation and Exchange, Access and control over natural resources, Capacity Development, Participation and leadership, Access to benefits and services, Capacity, Knowledge and Research, Knowledge Generation, Learning, Knowledge Exchange

Rio Markers

Climate Change Mitigation

Climate Change Mitigation 1

Climate Change Adaptation

Climate Change Adaptation 2

Submission Date

4/1/2019

Expected Implementation Start

8/1/2021

Expected Completion Date

7/31/2026

Duration

60In Months

Agency Fee($)

666,872.00

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
CCA-1	Outcome 1.1 Technologies and innovative solutions piloted or deployed to reduce climate-related risks and/or enhance resilience Outcome 1.2 Innovative financial instruments and investment models enabled or introduced to enhance climate resilience	LDCF	6,019,700.00	27,512,515.00
CCA-2	Outcome 2.1 Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience Outcome 2.2 Adaptation considerations mainstreamed into investments Outcome 2.3 Institutional and human capacities strengthened to identify and implement adaptation measures	LDCF	1,000,000.00	5,508,485.00
		Total Project Cost($)	**7,019,700.00**	**33,021,000.00**

B. Project description summary

Project Objective

To increase the resilience of productive landscapes and rural communities through innovations and technology transfer for climate change adaptation

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
1. Strengthening the management capacity within productive landscapes for climate resilience	Technical Assistance	Outcome 1.1 Community managed forests and agricultural landscapes are resilient to climate change.	Output.1.1.1 Community leaders, forest and farm producer organizations, District Farmers Associations, government forestry and agriculture extension services, partner NGOs and other support institutions have the skills to implement gender sensitive participatory approaches at landscape level, including community forestry (including the use of digital/mobile tools and technologies). Output 1.1.2 Participatory assessments and community engagement at landscape level to reach a common understanding of landscape components and their actual and potential use including markets. Output 1.1.3	LDCF	1,270,925.00	1,720,530.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
2. Promoting innovations and technologies in agriculture and forestry value chains	Investment	Outcome 2.1: Improved resilience and efficiency of value chains based on innovative business models, technologies, and practices.	Output 2.1.1 Knowledge, including traditional knowledge, on agriculture and forest product use and marketing consolidated. Output 2.1.2 Climate-resilient agriculture and forest product value chains are identified and selected and bankable business plans for climate-resilient underutilized products and their related technologies developed by the targeted forest and farm producer organizations (FFPOs). Output 2.1.3 Targeted FFPOs have developed their agriculture and forest-based production into small-scale enterprises that are networked and represented by regional or national	LDCF	2,527,425.00	23,229,249.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
3. Enhancing diversified farm-based livelihood strategies for climate resilience	Investment	Outcome 3.1 Diversified livelihood strategies based on the sustainable use of agrobiodiversity	Output 3.1.1 Knowledge, including traditional knowledge, on climate-resilient crops in target landscapes consolidated and guidelines for their sustainable management and promotion developed through participatory engagement of FFPOs. Output 3.1.2 Knowledge, practice and implementation arrangements for soil conservation and water management technologies that enhance agricultural productivity installed on farm by FFPOs Output 3.1.3 Climate-resilient crop production systems implemented through farmer field schools and direct farmer support.	LDCF	2,006,425.00	5,816,722.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
4 Project monitoring, evaluation, and dissemination of results	Technical Assistance	Outcome 4.1: Best practice within and beyond the project sites shared through knowledge generation, monitoring, learning, and communication	Output 4.1.1 A sound results-based Monitoring and Evaluation system developed that includes participatory approaches Output 4.1.2 Midterm review and final evaluation successfully conducted Output 4.1.3 Best practices of NTFP management, small scale forest and farm enterprises, and climate smart agriculture successfully disseminated Output 4.1.4 Exchange visits for key stakeholders organized to increase their knowledge and share experiences	LDCF	880,654.00	682,699.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
				Sub Total ($)	**6,685,429.00**	**31,449,200.00**
Project Management Cost (PMC)						
			LDCF	334,271.00	1,571,800.00	
			Sub Total($)	**334,271.00**	**1,571,800.00**	
			Total Project Cost($)	**7,019,700.00**	**33,021,000.00**	

C. Sources of Co-financing for the Project by name and by type

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Lands and Natural Resources	In-kind	Recurrent expenditures	5,190,000.00
Recipient Country Government	Ministry of Agriculture	In-kind	Recurrent expenditures	15,570,000.00
Recipient Country Government	Ministry of Agriculture	Grant	Investment mobilized	275,953.00
GEF Agency	Food and Agriculture Organization of the United Nations	Grant	Investment mobilized	11,985,047.00
			Total Co-Financing($)	**33,021,000.00**

Describe how any "Investment Mobilized" was identified

The co-finance was identified by FAO Zambia Country Office through consultation with relevant projects, government agencies, and NGOs. Investment was mobilized based on the alignment and opportunities to enhance the achievement of mutual objectives between the LDCF project and the identified co-finance initiatives. Investment mobilized from Ministry of Agriculture is derived from ongoing initiatives such as the Farmer Input Support Program (FISP). Co-finance from FAO is composed of the following initiatives: - Sustainable Intensification of Smallholder Farming Systems in Zambia (European Development Fund (EDF)) - Sustainable Wildlife Management Program - Forest and Farm Facility Program - Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia Scaling up nutrition II (SUN II) in Zambia Programme

D. Trust Fund Resources Requested by Agency(ies), Country(ies), Focal Area and the Programming of Funds

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
FAO	LDCF	Zambia	Climate Change	NA	7,019,700	666,872
				Total Grant Resources($)	**7,019,700.00**	**666,872.00**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required **false**

PPG Amount ($)

200,000

PPG Agency Fee ($)

19,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
FAO	LDCF	Zambia	Climate Change		200,000	19,000
				Total Project Costs($)	**200,000.00**	**19,000.00**

Core Indicators

Provide additional explanation on targets, other methodologies used, and other focal area specifics (i.e., Aichi targets in BD) including justification where core indicator targets are not provided

Please refer to the CCA Indicator Framework attached in the roadmap section.

Part II. Project Justification

1a. Project Description

1.a Project Description

Scope and geographical area of interest

Located in Southern Africa between latitudes 8? and 18? south and longitudes 22? and 34? east, Zambia covers an estimated total land area of 752,612 square kilometers.

Zambia is divided into three agro-ecological zones (AEZs) distinguished by varying rainfall, temperature and soil types. The geographical focus of the Least Developed Country Fund (LDCF) project extends across Eastern and Western provinces covering agro-ecological zones I and II (Figure 1).

The Project will be implemented in four districts: Petauke and Nyimba in Eastern Province and Sioma and Sesheke in Western Province. The two provinces were identified as the highest priority sites by the Government of the Republic of Zambia (GRZ) via the Zambian Forestry Department (FD) and were chosen based on their vulnerability to climate risks and hazards, and high incidence of poverty.

Additionally, the four districts have one of the highest rates of deforestation and forest degradation in Zambia. Community consultations undertaken during project design provided abundant evidence of the extent of forest degradation and deforestation which is increasing the vulnerability and exposure of communities to climate change. The selected areas have a high potential for supporting the implementation of community forest management (CFM) and climate-smart agriculture (CSA) due to previous work carried out in the regions by GRZ, FAO, other UN entities, and the World Bank.

1) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed (systems description).

Zambia is a Least Developed Country (LDC) and poverty is widespread, especially among the rural population. Although Zambia achieved middle-income country status in 2011, it ranks among the countries with the highest level of inequality globally[1][1]. Sixty per cent of Zambians live below the poverty line, and in rural areas, 83 per cent of people live below the poverty line. Poverty rates are highest for female-headed households, with extreme poverty levels of more than 60 per cent in rural areas[2][2].

Food insecurity is high throughout the country. For example, in the year 2017 it was estimated that more than 350,000 people in the country did not have access to a regular food supply (ibid). An

estimated 72 per cent of Zambia?s small-scale farming households cultivate less than 2 hectares of land and largely depend on their own production and non-timber forest gatherings for food provisions. These households are considered among the poorest group in the country[3][3].

The country is ranked as medium human development at 144 out of 189 countries in 2018[4][4]. However, this national level ranking masks the large disparity between urban and rural populations in Zambia, with rural populations being heavily dependent on natural resources and livelihoods based on subsistence and semi subsistence agriculture. The degree of value addition, and value capture, in rural areas through processing, packaging, and branding is much lower than it could potentially be.

According to UNDP, 22.4 per cent of the population is vulnerable to multidimensional poverty, and 24.4 per cent of the population is in severe multidimensional poverty[5][5].

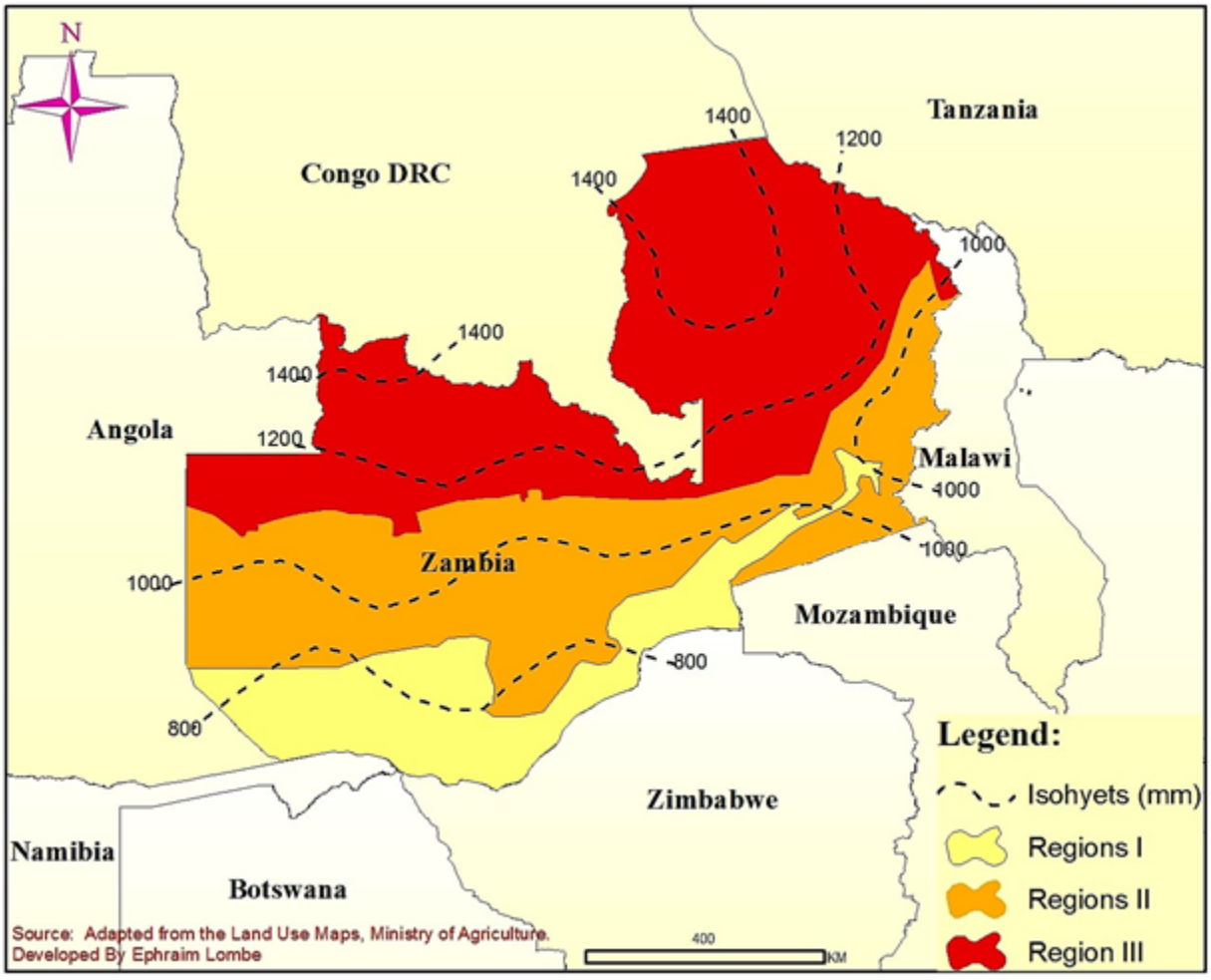

Figure 1: Agro-Ecological zones of Zambia

The project design was informed through consultations at national and sub-national levels, supported by the collection of baseline data between November and December 2019, using the FAO-developed Self-evaluation and Holistic Assessment of climate Resilience of farmers and Pastoralists (SHARP) tool surveying a total of 428 households[6][6].

The SHARP survey noted:

? 57 per cent of surveyed households in Eastern Province and 33 per cent of households in Western Province had less than 3 hectares of private land.

? Low household dietary diversity in 63 per cent of households in Eastern Province and 85 per cent of households in Western Province.

? 26 per cent of households in Eastern Province and 89 per cent of households in Western Province reported they were unable to stock food in the last 12 months.

Maize monoculture systems dominate agriculture throughout the country[7][7]. Other crops include sorghum, rice, millet, sunflower, groundnuts, soya bean, cassava, beans, and vegetables. Livestock including cattle, goats and sheep, supplement cropping. The SHARP survey confirmed that crop and animal production are the main agricultural activities in the sampled areas of Eastern and Western Provinces. The survey identified maize, groundnuts, millet, beans, and cowpeas as the main crops grown in target areas. In Eastern province the plantation of sunflower constitutes an important crop and in Western province the cultivation of sorghum was observed in 13 per cent of farmers assessed.

Although Zambia is ideally situated to produce a wide range of crops, livestock, and fish given the diversity of the country?s agroecological zones[8][8], crop outputs are generally low, which has led to food insecurity at both national and household levels. In addition to weak access to appropriate technology for agricultural production, processing and marketing, poor agricultural productivity has been attributed to:

? Unfavorable weather conditions such as erratic rainfall, droughts, and floods.

? Unreliable and poor service delivery, particularly for small-scale farmers.

? Marketing constraints especially in outlying areas as a result of poor infrastructure notably feeder roads.

? Inadequate agricultural finance and credit.

? Poor accessibility and administration of land as well as low utilization.

? Policy inconsistency, especially with respect to commodity and fertilizer marketing (ibid).

Due to the low agricultural productivity, increase in production is mostly attributed to agricultural land expansion, often at the expense of forested areas and woodlands. Nevertheless, the country has the potential to increase agricultural output[9][9]. Projections until 2050 show that Zambia?s agriculture sector could achieve or surpass sectoral development goals such as increasing crop and livestock production, food availability, and net trade[10][10].

In addition to reliance on semi-subsistence agriculture, an estimated 65 per cent of Zambia?s population is directly or indirectly dependent on woodlands[11][11]. Woodlands[12][12] cover approximately 62.5 per cent of Zambia, providing rural communities with a wide range of ecosystem services[13][13] , including both timber and non-timber forest products (NTFPs) - mushrooms, edible insects such as the Mopani worm (caterpillars), orchids, thatching grass, honey, fiber, medicines, small game, charcoal, and firewood. Zambia?s forests and woodlands also provide a buffer for most of the resource poor rural communities who often have limited or no access to sources of income or employment[14][14]. The SHARP survey found forests were accessed by 67 per cent of producers on average (55 per cent in Eastern province and 95 per cent in Western province). Most households (86 per cent) can access a forest within 5 km from their home.

Woodlands are particularly important in the lives of rural women who have limited access to disposable income and productive agriculture land, but substantial responsibility for educating the children and meeting other domestic expenses. In many cases, women collect woodland products and sell them in the urban markets or along the main roads.

The problems of high poverty and deforestation rates appear to be closely linked, mainly because most of the rural populations in the two target provinces live on customary lands (de facto open access) rely on semi-subsistence agriculture for their livelihoods and have a high dependence on forest resources for food security and to supplement their livelihoods.

Table 1 Key statistics of the project area

Province	**Eastern**		**Western**	
District	**Petauke**	**Nyimba**	**Sesheke**	**Sioma**
Area (Km2)	7,140	10,557	12,178	7,899

Constituencies	3	1	1	1
Chiefdoms	4	3	1	1
Wards	23	13	6	10
Households	67,988	16,718	9,582	11,562
Rural Population	211,328	77,359	30,681	45,820
Male	104,185	38,215	15,187	22,131
Female	107,143	39,144	15,494	23,689
Urban	29,728	7,666	13,167	0
Population density, persons per Km2	42.95	9.572	4.493	7.899
Population growth rates	+2.80	+2.00	+2.58	+3.04

The Project areas are primarily rural, with more females than males in the population (Table 1). The primary beneficiaries of the proposed intervention are rural individuals and households who have a strong dependence on the forest resources.

The project will deliberately target women and youth, households living in extreme poverty, and vulnerable groups by ensuring better inclusion and representation in decision-making within Forest and Farm Producer Organizations (FFPOs) and their equitable participation in other project activities. The project aims to directly benefit about 144,000 people (18,000 households based on an average family of 8 individuals per household as per the SHARP survey).

According to Zambia?s Nationally Determined Contribution (NDC), Zambia?s geographic characteristics coupled with high poverty levels and limited institutional capacity for adaptation, make it highly vulnerable to the adverse impacts of climate change, especially droughts and floods. The NDC notes that the key socio-economic sectors most vulnerable to climate change impacts include agriculture, water, forestry, energy, wildlife, infrastructure, and health. It also notes that Zambia?s capacity to undertake and sustain strong mitigation actions is dependent upon support for the implementation of cross-cutting adaptation actions[15][15].

Impacts from climate change

Zambia has a humid subtropical or tropical wet and dry climate (>800mm year-1), with some patches of semi-arid steppe climate found in south-western parts of the country (<800mm year-1)[16][16]. A

unimodal rainfall regime characterizes the project areas, with most of the precipitation occurring between November and February, followed by a prolonged dry period from May to September.

Studies analyzing the amount of annual rainfall and variability over the 1980-2016 period show that some parts of the country are experiencing (from 1995 onwards) a shorter duration of the rainy season and higher rainfall variability. A delayed onset of the rainy season has been observed in southernmost parts of the country, shifting from mid-October in the 1980s to mid-November 2016[17][17].

Longer datasets (since 1960) show a temperature increase of 1.3?C, particularly during winter (June-August), increase in the average number of hot days and nights, a decrease in the total amount of rainfall, and increased frequency and intensity of extreme weather events, such as droughts and floods[18][18]. Detailed trends in extreme temperatures indices for Mongu and Lundazi (Western and Eastern Province, respectively) show significant differences in the number of days with maximum temperatures higher than 35?C, with an increase of 0.45 (Mongu) and 0.15 (Lundazi) days per year during 1950-2013. The trend analysis of rainfall observations shows a decreasing pattern of annual total precipitation of about -1.8 mm per year in Lundazi and -0.07 mm per year in Mongu between 1950 and 2013[19][19].

Climate projections for the country indicate that temperatures are likely to increase by 1.2 to 3.4?C by 2060, with intensified and more recurrent extreme weather events (e.g. heavy rains, floods and droughts), increasing rainfall variability and decreasing total amount of rainfall from September to November. The number of hot days and nights are projected to increase by 15-29 per cent and 26-54 per cent by 2060 under RCP 8.5.

The number of hot days with temperatures above 35?C across the country is expected to increase from 19 days per year in 2020-2039 to 107 days per year by 2080-2099 under RCP 8. The Eastern province will experience an increase in the number of days with precipitation higher than 20 mm in 24h (+5 to +10 days per year by 2080-2099 compared to 1986-2005), whereas in Western province there will be a slight decrease (1-day per year by 2080-2099 compared to 1986-2005). The number of consecutive dry days will increase throughout the century and across the country, from 5 to 22 days per year when comparing 2020-2039 and 2080-2099 periods under RCP 8.5[20][20].

The most recurrent natural hazards observed in Zambia are hydrological (flood) and climatological (drought). For instance, the proposed project area, among others, was affected (over 600 thousand people) by heavy rains and riverine flooding in 2009[21][21]. The ND-GAIN index considers that Zambia faces high vulnerability to climate change related impacts (ranked 140/181 countries) as a result of a low/moderate adaptive capacity and a moderate exposure to extreme weather events[22][22]. In

recent years Zambia has experienced several climate-related hazards, including droughts, floods, and extreme temperatures. The intensity and severity of droughts has increased over the last 30 years, and seasonal rainfall has decreased dramatically, especially in the Southern, Western, Central, and North-Western provinces[23][23].

In the period 2000-2010, Zambia experienced three droughts and two floods with severe consequences for crop and livestock production. The 2005 drought left approximately 1.2 million people starving[24][24]. The annual economic losses from droughts and floods are estimated at USD100 million.

Food crop production in Zambia, and most Southern African countries, is dominated by small scale and subsistence farmers who mainly practice rain-fed agriculture. The impacts of climate change on crops and forests have already been detected, with an increased drought frequency and intensity over the past two decades. For example, the droughts occurring during the 1990s resulted in a sharp drop of maize yields, while the prolonged drought spells across Eastern, Southern and Western provinces resulted in an irreversible damage to numerous crops[25].

Moreover, the emerging findings of the FAO-Modelling System for Agricultural Impacts of Climate Change (MOSAICC) show that maize yields over Zambia are likely to decrease under RCP 8.5 over Eastern and Western Provinces but will remain similar under RCP 4.5. While bean yields are expected to increase in Eastern Province and decrease in Western Province under RCP 4.5, groundnut yields are expected to decrease in both provinces for both climate scenarios[25][25].

Climate change projections until 2050 show that yield of key crops could decrease by -25 per cent, depending on agroecological zone. A 2010 study based on average losses from 1976-2007 estimated that climate variability from 2006-2016 would reduce agricultural growth by 1 per cent each year, with an economic loss of USD2.2bn compared to a reference scenario with no extreme climatic events[26][26]. The Zambia Climate-Smart Agricultural Investment Plan notes that climate change is expected to contribute to a negative yield shock for six crops: groundnuts, maize, millet, potatoes, sorghum and sweet potatoes, whereas the yield effect is positive for barley, dry beans, cassava, rice and soybeans[27][27].

According to Zambia?s 2016 National Policy on Climate Change, the agriculture sector is very sensitive to climate change. Adverse impacts of climate change on crops, livestock, and fisheries lead to reduction of agricultural productivity, contributing to food insecurity and to further expansion of agriculture into forest and woodland areas and unsustainable use of forest products. Increased temperature has resulted in difficulties in the control and management of pests and diseases. Droughts and flooding have caused crop failure, reduced livestock production, and the consequent food

insecurity[28][28]. During the field study for the project design, the main climate-related concern raised by farmers was the increasing unpredictability of rainfall.

Evidence suggests that annual agriculture GDP growth rate has been reduced by at least one per cent and by over two per cent during the worst rainfall scenario[29][29]. This will significantly reduce Zambia?s chances of achieving the national development goal of strengthening agricultural and rural income growth. Therefore, in the absence of any adaptation strategy, rainfall variability alone could keep an additional 300,000 rural people in abject poverty in the next decade.

The country?s high rainfall variability coupled with limited irrigation capacity makes the livestock sector highly vulnerable to climate change. During the project development stakeholder consultative meetings, participants in Eastern province highlighted the negative impact of the 2019 drought on the livestock sector with most grazing fields experiencing extensive degradation. Furthermore, the International Labour Organization has recently estimated that only 10 per cent of the farmers in Zambia have social insurance coverage; hence, exacerbating their vulnerability when facing climate related hazards[30][30].

Zambia's woodlands are highly vulnerable to climate change as tree species with long lifecycles have limited mobility or replacement with varieties that can cope with changing climatic conditions. At the same time, the physiological plant processes are expected to be negatively impacted by climate change, including the reproductive processes such as flowering, pollination, seed production, and seed germination,.

Similarly, forest food availability in Zambia is largely dependent on weather changes with most foods such as edible insects, small wild animals, wide variety of wild fruits and vegetables and honey mushrooms not available in the dry season (May to October). Therefore, climate change, in particular changes in temperature, rainfall, and other factors, may directly and indirectly affect the food provisioning services of the forests in Zambia. In rural Zambia, where the proposed project will be implemented, low-income households have a very strong dependence on forest resources in times of agricultural failure. NTFPs, in particular, help rural households diversify domestic income and act as an adaptive strategy to impacts of droughts. As expected, forests are a primary and supplementary source of income for millions of forest-dependent communities. Most rural communities in Zambia use forest products extensively for subsistence and livelihoods and cope with climate variability related to the start and duration of the rainy season. However, high dependence on forest products for dealing with extreme climate events can also be a source of forest vulnerability, especially under unregulated tenure rights and access. It may lead to unsustainable harvesting and eventual degradation of the forest resources by the users. If climate stresses increase with climate change, the intensive resource extraction that can occur after repeated climate events can lead to a scarcity of forest goods and make the use of forest products unsustainable. Consistent with the Forests Act of 2015, the project proposes

leveraging the 2018 Community Forest Regulations to promote community forest management as one of the main strategies.

In addition, elevated levels of carbon dioxide have an effect on plant growth. These changes influence complex forest ecosystems in many ways. Warming temperatures generally increase the length of the growing season. It also shifts the geographic ranges of some tree species.

Additionally, the projected increase in droughts and the number of days with extreme temperatures will increase evapotranspiration from trees' canopy, causing increased moisture stress, thereby increasing the vulnerability of the forest ecosystems to negative impacts of forest fires. Climate change will increase the frequency, intensity, seasonality, and extent of fires common in Zambia's Miombo woodlands. Fire effects resulting from climate-related impacts on Zambian woodlands will include individual trees, rapid nutrient cycling, shifts in plant species geographical distribution, reductions in seed germination mortality, loss of soil seed bank, accelerated degradation of soil carbon stocks, and low species recruitments,. Such changes in the fire regime are likely to change the structure and composition of these woodlands and the range of forest products that sustain rural economies.

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[1] Chidumayo, E.N. 2008. Implications of climate warming on seedling emergence and mortality of African savanna woody plants. Plant Ecology 198: 61?71

[2] Mofya-Mukuka R & Simoloka A (2016). Nutrition and Food Security: The Role of Forest Resources in Eastern Zambia. http://wwwaec.msu.edu/agecon/fs2/zambia/index.htm and http://www.iapri.org.zm)

Chidumayo EN (2011) Climate Change and the Woodlands of Africa. In: Chidumayo, E., Okali, D., Kowero, G. and Larwanou, M. (eds.). Climate change and African forest and wildlife resources. African Forest Forum, Nairobi, Kenya.

[4] Vinya R (2011). Stem Hydraulic Architecture and Xylem Vulnerability to Cavitation for Miombo Woodlands Canopy Tree Species. DPhil Thesis. Wolfson College, University of Oxford

As forest cover declines, it is likely that the effects of intense rainfall events will be exacerbated as runoff is increased, and flooding risks rise. Increased flooding creates a risk for agriculture, livelihoods, human settlements, and infrastructure.

Climate change and variability are compounding an already desperate situation by negatively affecting crop production and forest health, thereby further stressing ecosystems and negatively affecting the provision of ecosystem services[31][31]. Discussions with communities during project design revealed that droughts and erratic rainfall had resulted in crop failure leading to households depending increasingly on forests where they can harvest wild tubers.

Farmers across Zambia?s AEZs I and II[32][32] are struggling due to the poor performance of their conventional farming systems. It is perhaps not surprising that non-agricultural activities, such as charcoal production in some areas, have intensified to compensate for lowered agricultural productivity.

The GRZ considers climate change as a major challenge to its socio-economic development[33][33]. In relation to the proposed project, the following priority actions identified in Zambia?s current NDC are highly relevant:

? Guaranteed food security through diversification and promotion of Climate Smart Agricultural (CSA) practices for crop, livestock, and fisheries production, including conservation of germplasm for land races and their wild relatives.

? Capacity building in CSA, Sustainable Forest Management (SFM), Sustainable Fisheries and Aquaculture (SFA), Renewable Energy Technologies (RET), and Early Warning Systems (EWS), Change management and climate change planning.

A climate risk screening summary is included as Annex O. The climate risk of the project is high (on a scale of low, moderate, high and very high). The substantial climate risk in the project area (Western and Eastern Provinces of Zambia) is the result of a very high hazard probability (e.g. heat-waves, flooding, tropical storms, dry-spells and droughts), high exposure (low-lying, very warm and semi-arid areas), and vulnerability of the population and agricultural systems to climate change related impacts.

Environmental and socio-cultural features

On the Zambian plateau, the Savannah woodlands are dominated by Miombo woodlands, comprising 47 per cent of the country?s forests (294,480km2). Miombo woodlands are the most widely distributed tropical forest in Africa being found in most of the countries south of the equator and an estimated land surface area of about 270 million hectares[34][34]. This biome is located within White?s (1983) Zambezian phyto-region, which is the largest phytochorion in Africa. Miombo woodlands comprise mainly a semi continuous cover dominated by small leguminous trees of the *Brachystegia* and *Julbernardia* genera, with a significant grassy undergrowth[35][35].

Other important woodland types include Kalahari, Mopane, and Munga woodland. Mopane woodland occurs in the drier and hotter valleys of the Zambezi in the south and in the Luangwa valley and is dominated by *Colophospermum mopane.*

The woodlands in Zambia are an essential source for many subsistence goods as well as meeting the energy needs for most rural and urban populations[36][36]. Among the crucial products harvested are herbal medicines, construction poles, firewood, wild foods (animals and plants), and timber. In addition, woodlands have a regulating role in modifying hydrological cycles, controlling soil erosion, and ameliorating soil conditions.

The SHARP survey revealed that fuelwood was the main energy source for 75 per cent of respondents in Eastern Province and 93 per cent of respondents in Western Province.

Pressures on the environment

Although Zambia?s forest cover is still considered relatively good, globally, the country has one of the highest rates of forest cover losses. For example, in the last two decades (2000 to 2019), Zambia lost about 1.58 million hectares of tree cover, equivalent to a 6.6 per cent decrease in tree cover since the year 2000, resulting in the emission of about 435Mt of CO?[37][37] or the equivalent of 86 per cent of Zambia?s total GHG emissions[38][38]. Most of the targeted project areas, especially in Eastern province, are depleted of forest cover. Forest cover loss throughout the proposed sites has been chiefly driven by weak forest tenure systems which promote *de facto* open access.

Consequently, the rich biodiversity that underpins the flow of ecosystem services to rural communities in Zambia is under pressure from encroachment of woodlands for agriculture, inappropriate use of fire, and the excessive harvesting of forest products. Key species and habitats are increasingly being threatened, and ecological functions (e.g. nutrient flows, predator prey relations) are being disrupted. As expected, these changes are leading to a decline in the flow of ecosystem services in most rural areas of Zambia, exacerbating poverty, and food insecurity, altogether increasing ecosystem vulnerability to climate change.

During the district level and community stakeholder consultation meetings undertaken for the project development phase, concerns were raised about the increasing climate impacts and deterioration of the natural environment in the targeted districts over the last three decades. The key negative environmental changes that have occurred across the project landscapes, as pointed out by the various stakeholders, are:

? Drying of most perennial streams and rivers: Most waterways have become seasonal due to severe droughts.

? Increased frequency and severity of droughts and elevated seasonal temperatures leading to increased agricultural crop failure and death of livestock.

? Marked decrease in tree cover leading to habitat fragmentation across the landscapes, mainly driven by increased unregulated charcoal production, selective logging, firewood harvesting, and agricultural expansion. (Deforestation and degradation of woodlands are major causes of biodiversity loss and associated decline in ecosystem services upon which the well-being of much of the rural population of Zambia relies altogether exacerbating both ecosystem and livelihood vulnerability.)

? Disappearance of most non-timber forest products as well as wild animals. Most of the wild foods, including mushrooms, fruits, vegetables, herbal medicines, and small game, have disappeared from the forests in and around the target project sites.

? Loss of agro-biodiversity including local varieties of crops.

? Increase in frequency and severity of destructive late fires. Inappropriate use of fire poses a serious threat to forest health. It is estimated that fires occur over 25 per cent of the total land area annually[39][39]. Whilst fire is a component of traditional farming systems, such as the Chitemene system[40][40], the increasing use of fire late in the dry season is leading to forest degradation and eroding ecosystem resilience.

The continued degradation of forests poses a serious obstacle to eliminating poverty and improving food security, and adversely affects the ability of women, youth and men farmers, and local communities to adapt to the impacts of climate change. The high rate of forest degradation is increasing competition for scarce resources leading to conflicts between forest users and increased inequalities for certain groups, notably women, in relation to the use and control over resources. Forest resources are particularly important to the lives of rural women who have little access to disposable income and yet take greater responsibility for educating the children and meeting other domestic expenses. In Zambia, for example, women collect a variety of forest products, including mushrooms, orchids, thatching grass, honey, fiber, medicines, and firewood from the forests for sale in the urban markets. These forest products serve as a natural buffer in times of poor agricultural production induced by climate change.

In terms of agro-biodiversity, there is inadequate conservation of traditional crop varieties, and the collection, exchange and transfer of crop genetic resources is inadequately controlled[41][41].

Genetic erosion of crop species is occurring through replacement of crop varieties with improved varieties, especially for major crops such as maize, sorghum, and groundnuts (ibid).

During project development, information was obtained about chiefs that have promoted progressive forest and farm management and encouraged farmers to access markets. These chiefs can potentially be an important means for peer to peer engagement of other chiefs.

The interaction of pressures on the environment

Pressures can interact with each other to generate cumulative impacts on the environment. Most notably, climate change interacts with and often worsens the impact of other pressures, such as fire, on the environment.

The interaction of pressures has implications for the management and health of agricultural lands and forests. Loss of productivity from agricultural lands and forests can lead to increased poverty, loss of livelihoods, food and water insecurity, increased health problems and increased susceptibility to climate risks and hazards.

Root Causes

Encroachment mainly due to expansion of settlement areas, uncontrolled fire, and the excessive harvesting are the direct causes of loss and degradation of woodlands in Zambia and overstocking of livestock and poor agricultural practices are the direct causes degradation of agricultural lands. These underlying pressures are a set of root causes to environmental change that, in turn, lead to increased vulnerability to climate change.

Root causes of change to the environment can be categorized as demographic, economic, socio-political, scientific, technological, cultural, and religious (Millennium Ecosystem Assessment, 2005). In Zambia, these root causes operate to various degrees. However, in terms of the planned project area, the most apparent root causes are:

Demographic factors ? A rapidly increasing population coupled with declining land productivity, drought, and a lack of alternative livelihoods creates pressure on available agricultural lands and also on woodlands as rural communities seek to expand agriculture into woodlands and to harvest a wide range of timber and NTFPs.

Economic factors ? Most rural people are poor and have limited access to production resources including financial capital and livelihood opportunities other than semi-subsistence agriculture, and poor access to value-added activities and markets.

Rural areas offer very few job opportunities outside semi-subsistence farming, forcing communities especially youth to rely heavily on forest/woodland and land resources. For younger people, prospects of job opportunities and sustainable livelihoods remain difficult.

Socio-political factors ? lack of clarity around rights to land use and forest use are key root causes of change in the project area, coupled with the low value attached to the forest resources, the lack of perceived rights to use and manage woodlands contributes to encroachment, habitat fragmentation, and poor management practices.

In Zambia?s rural areas, chiefs and traditional leaders play crucially important roles. They are usually very aware of local conditions, challenges, and opportunities and often have a very strong influence over land use decisions. Whilst chiefs and traditional leaders often pay very positive roles, and they can also perpetuate negative aspects of the culture that hinder the rights of women and men[42][42]. Gaining the support of chiefs and traditional leaders for landscape scale adaptation and related market opportunities is critical to the success of the project.

Technological factors ? Lack of access to simple, reliable, relevant, and cost-effective adaptation technology discourages farmers from adopting innovations that would potentially reduce or eliminate harmful and unsustainable forest use and agricultural practices.

Climate change - climate change operates as a direct pressure on the environment and people, as a factor that compounds other pressures and as a root cause. Climate change and climate variability affect agricultural and forest productivity, contributing to food insecurity and increased vulnerability of

communities and their local economies. Community-level sensitivity to climate change remains high and with limited adaptive capacities, climate change impacts are expected to increase vulnerability in the planned project sites.

Barriers

Rural communities in Eastern and Western Provinces face several barriers to reducing vulnerability and increasing resilience to climate change, including: 1) weak capacity and capability, 2) tenure insecurity at community level, 3) poor access to finance and investment, and 4) lack of information and knowledge on climate smart agriculture and forestry and their associated value chains.

Barrier 1 Weak capacity and capability

Community forestry is a promising avenue to address weak forest tenure and use rights while improving the management of communal forests in the face of climate change. However, the Forestry Department under the Ministry of Lands and Natural Resources and several NGOs have limited skills in climate resilient and sustainable forest management, particularly community forestry, and the rate of handover of forests to local communities and the relatively low level of awareness and capability at community level will remain barriers for some time.

The concept of community forest management (CFM) in its current form is quite new in Zambia, and forestry training at both Zambia Forestry College and Copperbelt University are tailored towards traditional silviculture forest management. Graduates and technicians coming from the only two institutions involved in forestry training have limited knowledge of CFM in its current form, including in the context of CFM as an adaptation measure. Moreover, the lack of skilled staff at provincial and district levels, and/or lack of logistical support for field work (e.g. lack of transport and equipment) limits the capacity of government extension efforts.

Beneficiaries targeted by the Project currently have weak adaptive capacities to cope with climate impacts or to sustain livelihoods in the face of climate change. Existing coping strategies are primarily focused on expanding croplands into nearby woodlands and using the woodlands as sources of timber and NTFPs. These strategies are unsustainable and leading to deforestation and degradation of woodlands altogether exacerbating vulnerability.

Key government institutions at the district level are poorly equipped and staffed to undertake meaningful and practical natural resources management and climate-resilient agriculture development. District forest and agriculture offices lack simple equipment to undertake forest resource assessment and provide effective farmer support services, mainly due to low budgetary support from the Central government.

The concept of aggregation in value chains of agricultural and forest products is relatively new in Zambia and is largely absent for most farm and forest products except for grain and some horticultural commodities. For the purposes of the Project, the term ?aggregation? refers to bringing together

(aggregation) and storing products from dispersed smallholders to enable economies of scale[43][43]. In Zambia, farmers usually each find their own buyers, either by taking products to the nearest local market or selling to whoever ventures into their village looking to purchase products. Even in cases where farmer cooperatives exist, farmers often do not aggregate their produce with others, but instead operate as individuals. The lack of capacity of smallholders and Forest and Farm Producer Organizations (FFPOs) and other intermediaries to aggregate, process and distribute products presents a substantial challenge to building value chains.

The SHARP survey results indicate that smallholder producers possess certain capacity and knowledge to cope with unexpected shocks and climate variability, but there is a need to further strengthen their ability to adapt to climate change and disturbances. The survey suggested the introduction of sustainable forest management (SFM) techniques was paramount to avoid further degradation of forests.

The primary value of forest resources in the lives of most rural people in Zambia is that they gap-fill and complement other meager sources of subsistence income at the domestic level. In particular, forest resources complement the resources more vulnerable to climate change such as agricultural crops and contribute to developing resilient livelihoods. Therefore, deforestation and forest degradation increase rural people's vulnerability by reducing the range of ecosystem services and products that forests provide. The resources affected by forest loss are part of the traditional household economy, in which women, youths, and children play an important role. Deforestation leads to many socio-economic hardships for the rural populations that live in or near forests while also increasing ecosystem vulnerability to climate-related impacts.

Barrier 2 Lack of tenure and use rights over communal lands

Across the country, there are weak tenure systems leading to inadequate landscape planning and management at community level. Weak tenure systems in relation to land administration at community level, whereby most of the land is under customary management, is hindering both the Government and communities to implement effective land use planning. Without clear tenure rights and the related title deeds, communities are not willing to invest in their surrounding landscapes or in climate-resilient farming and woodland management systems.

At local level, knowledge gaps exist on how to progress land claims with customary and state authorities. Weak forest tenure and use rights have been the main drivers of deforestation in most rural Zambia. Although the Forests Act of 2015 mandates the Forestry Department (FD) under the Ministry of Lands and Natural Resources to promote community forest management in Zambia, its ability to undertake this function has been hampered by the week institutional capacity. The FD and several NGOs have limited skills in climate resilient and sustainable forest management, particularly community forestry, and the rate of handover of forests to local communities and the relatively low level of awareness and capability at community level will remain barriers for some time. However, Community forestry is a promising avenue to address weak forest tenure and use rights while improving the management of communal forests in the face of climate change.

Therefore, one of the primary expectations in promoting CFM in Zambia is that tenure security will strengthen sustainable forest management and increase woodlands' resilience to climate change. By gaining legal tenure security through CFM, tangible economic benefits are expected to flow directly to the participating CFM households. In short to medium terms, CFM will incentivize the development and growth of the NTFP cottage industry. Community forest management will help build the resilience of local communities by improving their access to additional sources of income, food, and other resources in times of falling agriculture productivity as a result of changing climate.

Additionally, although the Government recognizes the importance of an integrated landscape approach to respond to climate risks, in practice, there is inadequate focus on the management of landscapes. Overall, there continues to be a lack of management of the mosaic structure of mixed croplands, forests, agroforests, and intermediary connected land parcels in the context of a landscape. Weak community governance structures also inhibit effective landscape level management.

Barrier 3 Insufficient access to Finance and Investment

Agriculture production in Zambia is dominated by smallholder farmers who have limited access to finance for investment in the sector. Although Zambia has made progress towards developing innovation in agricultural finance as a way of addressing the perennial undersupply of agricultural finance, the level of lending to the sector has remained low, especially among the small-scale rainfed farmers where less than 15 per cent of farmers have access to loans and credit[44][44].

Several daunting challenges face financial institutions that opt to work in the agriculture value chain[45][45]. Among the many barriers limiting access to financial services are poor physical and technological infrastructure, price and yield risks, and perceived lack of tangible collateral among the rural populations. Additionally, most low-end financial institutions prefer to provide short-term working capital loans that have repayment terms that are not favorable to agricultural activities[46][46].

The problem of undersupply of agricultural finance is perhaps not surprising, given the deep-rooted perception by most formal financial intermediaries (FFIs) that the agriculture sector is high risk. The principal hazards include climate change and persistent outbreaks of crop and livestock diseases and pests throughout rural Zambia. Just like in the agricultural sector, the forestry sector equally faces daunting challenges of access to financial resources for upscaling most of the forest-based livelihood activities by smallholders and their producer groups.

The SHARP survey found 52 per cent of respondents had access to finance. The respondents indicated that they were able to receive financial support from both government and other sources. However, the general outlook is that of a significant proportion of rural people do not have access to financial support due to various factors including lack of collateral, and distance from the financial institutions.

In recent years, the Zambian Government has made substantial efforts to address financial barriers among its citizens. These include efforts to increase financial literacy through the national financial education strategy[47][47], recognizing movable assets as quality collateral, improvements to the quality of agricultural input subsidy delivery through the electronic voucher system, and establishment of an Agricultural and Industrial Credit Guarantee Scheme. The establishment of the Zambian Commodity Exchange has seen the acceptance of Warehouse Receipts by some commercial banks as collateral.

Barrier 4: Inadequate knowledge, data, and information to inform good decision making

In rural areas, there are often substantial gaps in data, information, and knowledge and challenges to accessing reliable, accurate, timely, and useable information. In June 2019, a knowledge demand survey was undertaken by the Forest and Farm Facility (FFF) ? with interviews of established forest and farm producer groups spanning six provinces (Western, Eastern, Lusaka, Copperbelt, Central and Southern) to identify information and knowledge barriers. The survey covered land and natural resources, business and finance, organizational links and information, policies, justice and security, youth and education, and gender and cultural issues.

While there is abundant knowledge about the cultivation of traditional staple crops, there is widespread lack of knowledge about the increased climatic variability that is making some crops untenable. Information is lacking on options to grow more resilient tree and crop varieties and where seed might be sourced that could diversify production. Agronomic know-how about cultivation techniques for such species is lacking.

Zambia has recently developed a National Forest Monitoring System that includes georeferenced land use management layers and forest time series to monitor forest degradation and deforestation across the country[48][48]. Moreover, the Zambian Meteorological Department provides bulletins with rainy seasonal forecasts as well as on the average start of the rainy season[49][49]. Existing early warning systems are monitoring the Zambezi river and disseminating alerts on flooding to the communities living in low-lying areas. In addition, to support climate resilient development, the UNDP has recently launched a project to strengthen climate information and early warning systems in Zambia[50][50],[51][51].

At village level awareness of alternative approaches to agroforestry, community forestry, community forestry-based enterprises, and forest management in general, are barriers to sustainable farm and forest management. Local communities often have poor market knowledge, limited or no access to investment capital or credit, are unable to risk ventures into enterprises without significant external assistance, and have inadequate access to markets.

Results from the SHARP surveys indicated that although there were some levels of awareness around adaptation, sustainable agriculture practices, and government policies on climate change and sustainable agriculture in the target areas, there were still gaps in the overall picture of access to information. Information gaps vary between regions due to various factors that include culture and traditions. The SHARP survey identified variations in knowledge between the two regions. While sixty-nine per cent of households in Eastern Province indicated that they had access to information on adaptation practices, only fifty-two per cent of households in Western Province had access to similar information.

In terms of information on sustainable agriculture practices, sixty-one per cent of the households in Eastern province were aware, but only forty-six per cent of households in Western Province had access to similar information. Fifty-nine per cent of households in Eastern Province and thirty-two per cent of households in Western Province were aware of government policies or programmes on climate change or sustainable agriculture. Knowledge gaps also varied between gender with women respondents being relatively disadvantaged in accessing information on adaptation practices and sustainable agriculture when compared to male respondents.

In terms of business and finance ? there are a range of knowledge gaps. For example, information is lacking on how to conduct basic market research and assess market demand for agroforestry products, how to keep financial records, how to develop properly costed business plans, how to mobilize finance internally and attract external finance, how to develop group business models that are structured around a diverse basket of products and can distribute benefits fairly, and how to assess and overcome competition.

In terms of organizational relationships and links, there are knowledge gaps in the process of business registration, organizational management, and leadership (including how to resolve conflicts). Guidance is needed on how to attract and maintain membership, how to organize internal finance, and how to professionalize staff roles and responsibilities. Gaps also exist in how to enter contractual arrangements with other business partners, and how to improve negotiation skills.

At local level, knowledge of government policies and programmes often remains rudimentary. There are conflicting interpretations of different bodies of law ? and lack of knowledge about how to engage and with whom ? both to take advantage of incentive programmes that may be in place to support community tree planting and enterprises (but are unknown at local level) and also to address issues of illegal resource extraction (e.g. unsustainable harvesting trees for charcoal) or discretionary and unfair application of laws.

In terms of youth and education, a range of forestry, agriculture, livestock, and fisheries extension programmes exist for a range of people including youth, but their penetration to rural areas is often poor. Government departments at district level often have extremely limited, or in some cases no, means to access communities due to lack of transport. Youth express interest in improving knowledge on entrepreneurship and value addition particularly in terms of processing and input-based businesses.

At the organisational level, there is a need to ensure that women have equal representation in decision-making and can access information about business and can have equal rights to land to engage in sustainable business and landscape restoration and management.

Poor quality information and data can lead to poor quality decisions or be used as a reason for indecision; both represent a barrier to effective landscape management.

Table 2 Summary of Root Causes, Threats, Consequences and Barriers

	Root causes of environmental change and climate vulnerability	Threats (caused by pressures that are generated by root causes)	Consequences of the threats	Barriers to change
Forest ecosystems	Demographic factors (rapidly expanding rural population and high dependence on natural resource use) Economic factors (limited access to financial capital and livelihood opportunities, poor access to value-added activities and markets) Socio-political factors (lack of clarity around rights to land use and forest use) Technological factors (lack of access to simple, reliable, relevant, and cost-effective adaptation technology) Climate change and climate variability (affect both the environment and socio-economic well-being)	Climate-related: ? Forest fires ? Droughts ? Floods Agriculture expansion Overharvesting and destructive harvesting of forest products (including for charcoal)	Biodiversity change and loss (increased threat to species, loss, and degradation of habitat, loss of genetic diversity) Soil erosion Changes to hydrological systems Changes to micro-climate Loss of ecosystem services	Weak capacity and capability Lack of tenure and use rights over communal lands Insufficient access to finance and investment Inadequate knowledge, data, and information to inform good decision making
Socio-economic wellbeing		Climate-related: ? Droughts ? Floods ? Severe weather events Soil erosion Forest degradation Loss of agrobiodiversity	Increasing risks to agriculture and livestock production Decreasing access to water Loss of productivity due to soil erosion and fertility decline Loss of livelihoods	

2) Baseline scenario and any associated baseline projects.

Selected Government policy and legal frameworks

Zambia?s vision 2030 aims at creating a productive environment and with well conserved natural resources that is consistent with principles of sustainable socioeconomic development. Further, the 7th National Development Plan acknowledges the need to enhance woodland and agriculture value chains, promote small-scale agriculture and generate income opportunities for poor and marginalized groups

while also recognizing the importance of climate adaptation and mitigation mainstreaming. More specifically in relation to climate change adaptation, the Republic of Zambia has established several policies and strategies that set goals for the forest and agriculture sectors in relation to improving resilience and promoting climate change adaptation. These include Zambia?s national policy on climate the Nationally Determined Contribution (NDC), a Technology Needs Assessment (TNA) for Climate Change Adaptation, National Capacity Self-Assessment (NCSA) For Global Environmental Management, Zambia National Strategy to Reduce Emissions from Deforestation and Forest Degradation, and a National Adaptation Programme of Action (NAPA).

Of particular importance to the Project is the Forests Act (2015) and the Community Forest Management Regulations (2018) which define a procedure for how members of a community, who derive their livelihood from a nearby forest, may apply for recognition by the Forestry Department as a community forest management group (CFMG)[52][52]. A key focus of the Project is to support the implementation of community forestry and enable local communities to take effective control of communal forests.

Zambia?s National Agriculture Policy, Climate-Smart Agriculture (CSA) Strategy Framework and Climate Smart Agricultural Investment Plan provide clear guidance on the priority areas and needs for addressing climate change.

Whilst the above policies and frameworks provide a sound basis for guiding climate change adaptation activities, implementation is lagging, and multi-sectoral approaches would benefit from improvement.

In addition to the policy and legislative environment, lessons from relevant programs and projects in Zambia have been considered in the project design. The following section summarizes the most relevant programs and projects that the project will seek to forge links with to ensure cross learning, capacity building, and realization of opportunities for collaboration and co-funding.

Community forestry

The Government is implementing several programmes on natural resource management, climate change, climate smart agriculture, and improving the livelihoods of rural poor communities.

Of importance to the Project is the Government?s efforts to implement Community Forestry in Zambia. Whilst the Forest Act of 2015 and the Community Forestry Regulations of 2017 provide an enabling environment for community forestry, implementation has been slow. Components 1 and 2 of the Project are focused on supporting the implementation of community forestry as a means to improving the resilience of woodlands, improving the livelihoods of populations that are vulnerable to climate change, improving use rights and empowering local communities to identify and respond to climate change impacts and reduce vulnerability of woodlands, and developing climate smart forest product value chains.

Climate Smart Agriculture

The Climate-Smart Agriculture Investment Plan Zambia (CSAIP) provides a set of options for leveraging public resources to overcome barriers and gaps, such as those outlined above, through private sector involvement[53][53]. The most promising and profitable mechanisms include: 1) business partnerships with rural communities which build on environmental sustainability as a business strategy, 2) farmer field schools to enhance community-based learning and technology dissemination, and 3) participatory integrated landscape management approaches.

The CSAIP highlights the need to support the operationalization of holistic landscape management approaches by harmonizing policies and supporting cross-ministerial collaboration across the agriculture, environment, water and energy sector, and across administrative boundaries. Landscape approaches include climate-smart crop, livestock and forest management which have the potential to reduce rates of land conversion for agriculture as well as to address issues of biomass burning and charcoal production, while promoting a more resilient and sustainable rural economy (ibid).

The Project supports participatory integrated landscape approaches (Component 1) and the development of the capacity of targeted households and forest and farm producer organisations (FFPOs) to adopt climate smart agriculture and forest management and develop environmentally sustainable business opportunities based on forest and farm products (Components 2 and 3).

Relevant Projects and Initiatives

Note that the linkages between the project and GEF and GCF projects (current, planned and closed) is detailed in Section 6 and not repeated here.

PROGRAMS SUPPORTED BY GERMANY

Gesellschaft f?r Zusammenarbeit (GIZ) programs on community forestry, community based natural resources management, climate change adaptation, and smallholder agriculture and water resources management are relevant to the proposed project. The most relevant is the Climate resilience through risk prevention and innovative climate risk insurance project that runs from 2020 to 2022.

The project takes a private sector approach to support the market for climate risk insurance and the dissemination of climate risk information. The project offers training to employees of insurance companies, brokers and governmental institutions in the area of climate risk insurance and to selected actors involved in providing climate risk information.

WWF - Silowana Complex Landscape Project

The project is being implemented by WWF Zambia in Sioma and Sesheke districts in western Province, budget US$1,400,000 with funding from WWF Germany, duration 2019-2023.

The project aims to improve community livelihoods and enhance conservation of the Silowana complex in Western Province of Zambia.

The Project will seek to establish linkages with this project and draw lessons on landscape approaches before the Landscape Programme ends in 2023. This is relevant to Component 1.

Accelerate Water and Agricultural Resources Efficiency (AWARE) programme

Co-financed by Germany?s Federal Ministry of Economic Cooperation and Development (BMZ) and the European Union. Delivered by the Zambian Water Resources Management Authority (WARMA). Duration 2019-2022.

The AWARE programme promotes effective, integrated water resources management as well as efficient practices in water extraction and irrigation[54][54]. It aims to enhance climate-smart water resources management and efficient agricultural water use for smallholders in the Lower Kafue Sub-Catchment, ensuring a gender sensitive approach. AWARE works on the national as well as decentralized level on water resources management and supports more than 11,000 smallholders in the sub-catchment to improve their agricultural water management practices.

The project will seek to learn lessons from and collaborate with AWARE for Component 3.

Green Innovation Centres for the Agriculture and Food Sector (GIC)

Implementing partners are Community Markets for Conservation (COMACO) and Good Nature Agro are the implementing partners on legumes in Eastern Province, and the Netherlands Development Organisation (SNV) is the dairy partner in Southern Province, budget unknown, duration 2014-2023

The objective of GIC is that innovations in the agriculture and food sector have increased the incomes of small farming enterprises, boosted employment, and improved the regional food supply in the rural target regions. The GIC supports innovations in the agriculture and food sector to increase the incomes of small farming enterprises, boost employment and improve the regional food supply.

The project will seek to establish regular interaction with the Green innovation Centres to both share lessons on value chains for forest and farm products, and to potentially link to the market initiatives they have supported as well as relevant training (Component 2 and 3)

FAO-related programs and projects

The Forests and Farm Facility

A multi-donor partnership programme hosted by FAO, co-managed by FAO, IUCN, IIED, and Agricord and working in numerous countries including Zambia. Duration of second phase 2018 ? 2022.

The project will seek to actively engage and leverage the extensive skills and experience of Forest and Farm Facility (FFF). This will be undertaken through a formal engagement mechanism with FFF for Component 3 in terms of FFF playing a critical role in the identification of and support to forest and

farm producer organisations (FFPOs). FFF will also be engaged to support the development of markets and FFPOs skills in marketing forest products.

The goal of the FFF is ?to support forest and farm producers and their organizations to enable ?climate Resilient Landscapes and Improved Livelihoods.??

The FFF recognizes that it is the collective action of producers (i.e. the strength of their FFPOs) that enables them to play a key role in accessing markets, reducing poverty, sustaining and restoring productive landscapes as a means to enhance resilience.

FFF strengthens multiple tiers of FFPO organization, from local, national, and regional to international member-based organizations and platforms. It supports FFPOs in business development, sustainable and climate resilient forest and farm management, and social and cultural service provision. By building strength in numbers, it also enables FFPOs to engage effectively in policy platforms and processes to improve the enabling and investment environment. Proven success over the last five years confirms the vision that FFPOs that represent women and men, smallholder families, indigenous peoples, and local communities can become the primary agents of change for resilient landscapes and improved livelihoods. The Project will build on the FFPO model.

FFF also contributes to smallholder policy dialogue frameworks, business risk assessments, market analysis and techniques linked to improved landscape management by smallholder producers.

In Zambia, one focus of FFF work has been on greening the wood fuel value chains through concerted work to organize producers into FFPOs around which several innovative approaches and technologies have been developed and successfully piloted ? one key innovation being a Participatory Guarantee System (PGS) for certifying sustainable charcoal.

Another focus of FFF has been to consolidate the organizations of tree nursery producers to provide the planting material for a wide range of on-farm and domestic tree planting and landscape restoration activities. A third focus has been to develop women?s group business that diversify livelihoods, improve local savings and loan associations (VSLAs), and provide investment capital for agroforestry system development. The Project will investigate and, as appropriate, introduce to the project sites innovations that have been promoted by the FFF.

The second phase of the FFF (2018 ? 2022) provides important baseline information for the proposed project. Building on the success of phase I, FFF phase II supported greater inclusion of producers in policy initiatives and increasing business and technical capacity of FFPOs (through enterprise development and business incubation) to enable these organisations to become profitable and scale up their support. For example, through the facilitated strengthening of national FFPO federations, the Zambia National Forest Commodities Association (ZNFCA) and the smallholders Cotton Association of Zambia, provide services to a greater number of members, especially poor and vulnerable groups. This has enabled some women groups, with support from the ZNFCA, to participate in primary processing and accesses high value markets of forest products in Southern province. The ZNFCA has recently entered into a contract with the Dairy Association of Zambia to supply forestry products to the

Dairy Association of Zambia and Parmalat private company limited as dairy animal feed supplement and as natural forest product flavor for ice cream and yoghurt.

The Sustainable Intensification of Smallholder Farming Systems

Implementation agency FAO, delivery of the project is by the Ministry of Agriculture, technically supported by FAO as part of the 11th European Development Fund National Indicative Programme (NIP). Duration 2014-2020

The project operates in 27 districts in Southern, Western, Copperbelt, Eastern and Northern 5 Provinces.

The project?s objective is to improve sustainable and climate smart crop production and land management practices. The project aims to reduce rural poverty and improve rural livelihoods by improving the productivity, and income and employment opportunities of smallholder farmers, while pursuing a gender sensitive approach. The project contributes to Zambia?s NIP objectives of (1) improved and sustainable rural livelihoods, (2) improved nutrition and food security, and (3) improved environmental sustainability.

The Project will draw lessons and technical advice from this project, potentially through a formal agreement of cooperation, notably to support activities in Components 2 and 3.

In addition the project will seek to link with FAO?s Building the Basis for implementing the Save & Grow approach - Regional strategies on sustainable and climate-resilient intensification of cropping systems with a view to learning learn lessons on field level solutions that increase the income and standard of living of smallholder farmers (Component 2 and 3).

Other relevant projects include those that gathered information on forest resources including the Integrated Land Use Assessment (ILUA) I and II, and REDD+ Programme (UN, Norway, Finland, and USAID supported) and projects listed below that have potential relevance in the form of knowledge, innovative approaches, and practices.

Integrating Agriculture into National Adaptation Plans programme (NAP-Ag)

The NAP-Ag programme aims to integrate agriculture within the National Adaptation Plans. NAP-Ag focuses on two priority areas that include: Guaranteed food security through diversification and promotion of Climate Smart Agriculture (CSA) practices for crop, livestock and fisheries production including conservation of germplasm for land races and their wild relatives and; Enhanced decentralization of climate information services for early warning and long-term projections on the effects of climate change to support sustainable management of production systems, infrastructure development and public health.

The key findings from NAP-Ag in Zambia is the high risk faced by Smallholder farming communities who practice unsustainable land use practices based on mono-cropping with high dependence on rain fed agriculture that has in the recent past experienced significant intra-seasonal variability.

The project will contribute towards the attainment of the objectives set out in the NAP-Ag framework. Overall, the project will reinforce the ideals of NAP-Ag in component 2.

Modelling System for Agricultural Impacts of Climate Change (MOSAICC)

MOSAICC is a tool developed to assess crop production systems, water and forest resources and the national economy under changing climatic conditions. Climate impact assessment studies have been carried out in Zambia and provide evidence-based information on the threats and opportunities presented by climate change to agricultural systems and food security, and ways to adapt these systems to the impacts of climate change.

The project will seek to sue MOSAICC information to inform component 2 and 3.

Green Climate Fund (GCF) projects

Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia.

Implementing agency is UNDP, budget US$33,400,000, duration 2018-2025

The project supports the Government of Zambia to strengthen the capacity of farmers to plan for climate risks that threaten to derail development gains, promote climate resilient agricultural production and diversification practices to improve food security and income generation, improve access to markets, and foster the commercialization pf climate-resilient agricultural commodities.

This project has some geographic overlap in Western Province with the proposed project and also considerable relevance to the Project and as such the project will seek to establish regular interaction to share lessons on climate resilient production and improved access to markets, and potentially use the GCF project demonstration sites for farmer-to-farmer exchange (Component 3 and 4).

World Bank funded initiatives

Zambia Integrated Forest Landscape Program (ZIFLP) Multi donor trust fund.

Managed by the World Bank, US$17,000,000, duration of current phase 2017-2022.

The Zambia Integrated Forest Landscape Program (ZIFLP) is supported by a Multilateral Fund involving Germany, Norway, the United Kingdom, and the United States of America. It is also supported by GEF (project 9213). The fund is managed by the World Bank.

The goal of the program is to improve landscape management and increase environmental and economic benefits for targeted rural communities and to improve Zambia?s capacity to respond promptly and effectively to an eligible crisis or emergency. The project aims to operate through 2030

and will achieve on average emission reductions of 3.5 million tCO2e/year (35 million tCO2e in total). In total, the program is expected to cover 5 million hectares[55][55].

The two most relevant components of the ZIFLP for the Project are: (1) Enabling environment component will create conditions that will allow the livelihood investments of Livelihood and low carbon investments component to be successfully implemented and that will prepare the country for emission reductions purchases. (2) Livelihood and low carbon investments component will finance on the ground activities that improve rural livelihoods, conserve ecosystems, and reduce GHG emissions.

The Project will seek to share lessons with ZIFLP on issues related to livelihood and low carbon issues including sustainable land management and livelihoods, land tenure security, land-use planning, community forestry and market access for smallholder farmers. Components 1, 2 and 3.

Strengthening Zambia's institutional framework for climate resilience and improve the adaptive capacity of vulnerable communities in the Barotse sub-basin.

Implementation agency the World Bank, delivery of the project is by the Ministry of National Development Planning. Budget US$ 50,600,000. Duration 2013-2022

The project provides capacity and financial support to an interim inter-ministerial national climate change secretariat in the Ministry of National Development Planning, as well as facilitation and technical capacity building for mainstreaming climate change into local-level development plans, community decision-making, and through direct sub-project grants to communities, wards, and districts for climate adaptation measures.

The Project will seek to share lessons relevant to local development planning (Component 1).

African Development Bank funded projects

Strengthening Climate Resilience in the Kafue Basin (part of the Pilot Programme for Climate Resilience (PPCR) in Zambia)

Implemented by the African Development Bank National Climate Change Secretariat with the Ministry of Finance. Budget US$ 38,720,000. Duration 2013-2019.

The project aims to reduce poverty and enhance food security of rural communities in the Kafue basin through strengthening their climate change adaptive capacity.

The project will seek to learn lessons from the project for Components 2 and 3.

Gaps to be filled

Zambia has an extensive body of policy and law related to climate change adaptation and a wealth of experience developed through programs and projects, but there is a need to substantially improve the

management of woodlands and agricultural land through an integrated landscape approach that empowers households and FFPOs to benefit from the sustainable flow of ecosystem services that are essential for livelihoods.

The project will draw on the accumulated knowledge and experience of existing and past projects and programmes and, at the same time, seek to address the following gaps:

Organisational capacity and capability gaps

Rural households often act as individual economic agents, isolated from the market, business, and financial support services (credit and other financial products), unable to influence policies and decision-making. The products and services that households can offer into the market are at such small scale that their negotiating power on price is very low. Because economies of scale are largely absent, the transaction costs of providing support services or finance are high, and perceptions are that investment are therefore high risk for low return.

The benefits of collective action (i.e., organization) are frequently not understood nor basic principles of organizational decision-making and management. Few communities are aware of just how beneficial simple aggregation of products, and grading and improving quality standards for different product types.

The lack of organizational capability robs farmers of incentives to conserve woodlands and regulate agricultural encroachment and over-extraction.

District level government extension staff often lack the means to support rural communities and their organisations and have weak levels of coordination between various government agencies. Overall, there is a lack of incentives to diversify crop production beyond monoculture maize farming systems that are promoted through government inputs and support.

Community forestry is being promoted by the Government, but implementation remains slow mainly due to limited knowledge in CFM among the extension staff.

Overall, approaches to climate change adaptation and resilience lack an integrated ?landscape approach? which looks across land uses, and as a result, efforts tend to focus on sector-based site level interventions without effective consideration of restoring ecosystem functionality, flows of ecosystem services, or adding value to forest and farm products through improved value chains.

Tenure and land security gaps

There is limited social inclusion and participation in forest and farm governance processes and the relationships between customary law and state law are often not well synchronized. Additionally, the lack of secure commercial tenure in such regimes undermines longer term restorative investments in forest management.

There are limited cross-sectoral policy fora to improve the combined business environment for community forests and related agricultural production systems in integrated landscapes.

Extraction of products from communal land is variably governed, and grievances over land tenure and use rights are common.

Information and knowledge gaps

Rural communities have limited knowledge and information on climate change, although they have observed the impacts of drought and other climate-related impacts on conventional farm productivity and livelihoods. Many famers lack enough information to make climate resilient farming decisions. For example, they are often unaware of approaches and technologies developed by various projects and government/NGO agencies that help farmers deal with the impacts of climate change and/or improve farm productivity.

Rural households often have limited understanding of the benefits and trade-offs of different agronomic options (beyond staple crops) in which crops, and trees, farmland, and forest can be arranged to enhance longer-term soil fertility, moisture retention, and diversified and more resilient productivity.

Rural producer groups have a poor level of understanding of how to screen the market profitability of different production options, improve market access and negotiating power through collective action, add value to primary products, and engage and develop markets over time.

Few rural communities are aware of opportunities to improve their rights to and productivity of woodlands through the government?s community forestry programme. In general, community knowledge of sustainable forest management for climate change adaptation and livelihoods is weak.

The SHARP noted the following information and knowledge needs[56][56]:

? Information on crop and livestock production and management, and post-production handling that would allow producers to better adapt to changes in climate and produce more sustainably.

? Access to knowledge to ensure constant access to clean and enough water for household consumption and agriculture production, particularly to women-headed households.

It is likely that gaps in information have been worsened by the low capacity of government extension services. Sharing of knowledge between extension services and with FFPOs is a key element of all Components of the Project.

3) Proposed alternative scenario with a brief description of expected outcomes and components of the project and the project?s Theory of Change.

A business-as-usual approach will not halt or reverse the reduction in agricultural and forest productivity in Eastern and Western Provinces of Zambia in the face of climate change. The alternate scenario involves **improving the implementation of national strategies** aimed at improving climate change adaptation and reducing climate-related vulnerability in the forest and agriculture sectors.

The project will focus on interventions that address the barriers (described earlier) that inhibit rural communities in Petauke, Nyimba, Sioma and Sesheke from adopting climate resilient agriculture and forestry practices. By addressing barriers, the project will support rural communities to secure long-term flows of ecosystem services from farms and woodlands as a means to building resilience across the landscape.

Assumptions

The project assumes the following:

? **Strengthened cross-sectoral mechanisms are required to mainstream climate adaptation and resilience**: Successful climate adaptation requires supportive and coordinated local, district, provincial, and national efforts focused on effective participation of and negotiation with local communities and improving the legality of farm and forest value chains. A landscape approach will:

- Enable District level government extension staff to improve cross-sectoral site level interventions focused on restoring ecosystem functionality, improving the flows of ecosystem services, and adding value to forest and farm products through improved value chains.

- Support rural communities to undertake participatory assessments at landscape level to reach a common understanding of landscape components and their actual and potential use, and based on this, develop plans to implement community forestry and climate-smart agriculture

? **Community forestry will secure community tenure over woodlands.** It is assumed that by accelerating and improving the implementation of the Forest Act No. 4 (2015) and associated Community Forestry Regulations (2017) local communities will implement sustainable management of forest ecosystems and be empowered to exercise community rights over use woodlands thereby halting and reversing deforestation and forest degradation. It is assumed that people are more likely to conform to restrictions on the use of woodlands if they agree with the management objectives and have the means to control woodland use, including restrictions on encroachment, access, and use. It is also assumed that improved, climate-smart, management of woodlands is more likely to be achieved if it is supported by local chiefs and traditional leaders.

? **Value chains will incentivize local people to sustain climate-smart woodland and farm management.** It is assumed that profitable and diverse value chains, built on climate-resilient farm and woodland management and clear legal rights for farmers and FFPOs to sell and transport forest and farm products, will provide powerful incentives for local people to apply climate-smart, integrated woodland and farm management, including supporting local restrictions on encroachment, access, and use of woodlands. It is also assumed that strong and accountable FFPOs will generate efficiencies of scale, improved market bargaining power, more effective political influence to address policy barriers, and fairer distribution of profits and spread of wellbeing.

Theory of Change

The project?s **theory of change** assumes improved adaptation to climate change and enhanced climate resilience at the landscape level will be achieved by addressing key barriers through following key intervention strategies:

a) A **landscape approach** will help rural communities address capacity and capability barriers. This will be achieved through:

- Cross-sectoral support for participatory assessments and community engagement at landscape level to reach a common understanding of landscape components and their actual and potential use.

- Promoting the inclusive participation of local people, particularly women, in sustainable climate-smart farm and woodland management.

- Upgrading capacity and capabilities of local stakeholders to agree on appropriate adaptation options for farm and woodland management within a landscape context, ensuring that such decisions maintain/improve the flows of ecosystem services to local people.

- Target communities, and the FFPOs within them, implement community forestry management and other climate adaptation measures that to rural people through community forestry and climate smart agriculture (CSA). This will involve:

- A package of technical approaches (e.g. GIS, remote sensing, app-based information exchange and approaches for community forestry and CSA) that promote the active management of degraded woodlands, agroforestry and other configurations of on-farm trees

b) **Community forestry** will enable local communities to address *tenure security barriers* by securing rights to woodlands through the government?s community forestry programme. The identification and negotiated hand over of woodlands as community forests is a key strategy of the project. Communities will be supported by District extension agencies to sustainably manage and restore woodland ecosystems to better withstand the impacts of climate change and other disturbances and improve the flow of ecosystem services that support the development of value-added forest-based enterprises.

c) **Improved value chains** based on sustainable production from woodlands and farms will help farmers and FFPOs overcome *financial and investment barriers* to adopting climate-resilient forest and farm management. This strategy involves two linked but separate components of the project, component 2 is focused on value-added farm and forest-based enterprises, and component 3 is focused on climate-smart agriculture. This strategy includes:

- Market development and promotion of farm and forest-based enterprise to incentivize the integration of crops and trees, either on-farm or in mosaics of adjacent

farm and forest land, that will improve resilience and reduce vulnerability to climate change.

o Diversification of income generating options between and within multiple producer groups across the landscape, and through this achieve the savings and investment cushion required for greater social, economic, and ecological resilience to climate change.

o Empowering FFPOs that directly represent the poor to achieve scale efficiencies in markets and strong collective voice in inputs to planning, policy and management decisions.

o Using a package of business tools, including market analysis and development, risk management, business plans, business incubation, and access to finance.

o Market orientation to ensure that organizations of local people have financial incentives to maintain ecosystem functionality.

o Support to FFPOs to expand, associate and federate so that they spread best practice.

o Promoting financial literacy programmes among smallholder producers (e.g. through partners such as the Zambia National Farmers Union (ZNFU) - with support of the Cotton Association of Zambia (CAZ) in collaboration with the Zambia National Commercial Bank).

d) **Sharing best practices** of forest and farm management, small scale forest and farm enterprises and climate smart agriculture will help address *information and knowledge barriers*. This will be achieved through farmer to farmer learning and exchange visits for key stakeholders, including regionally with the DSL IP project.

Within the context of the theory of change, the project is designed to enable interventions to be tailored to the specific circumstances of each target district, as identified through participatory processes to be undertaken by local communities with the support of the Forestry Department, Department of Agriculture[57][57] (one of the seven departments of the Ministry of Agriculture), and project partners.

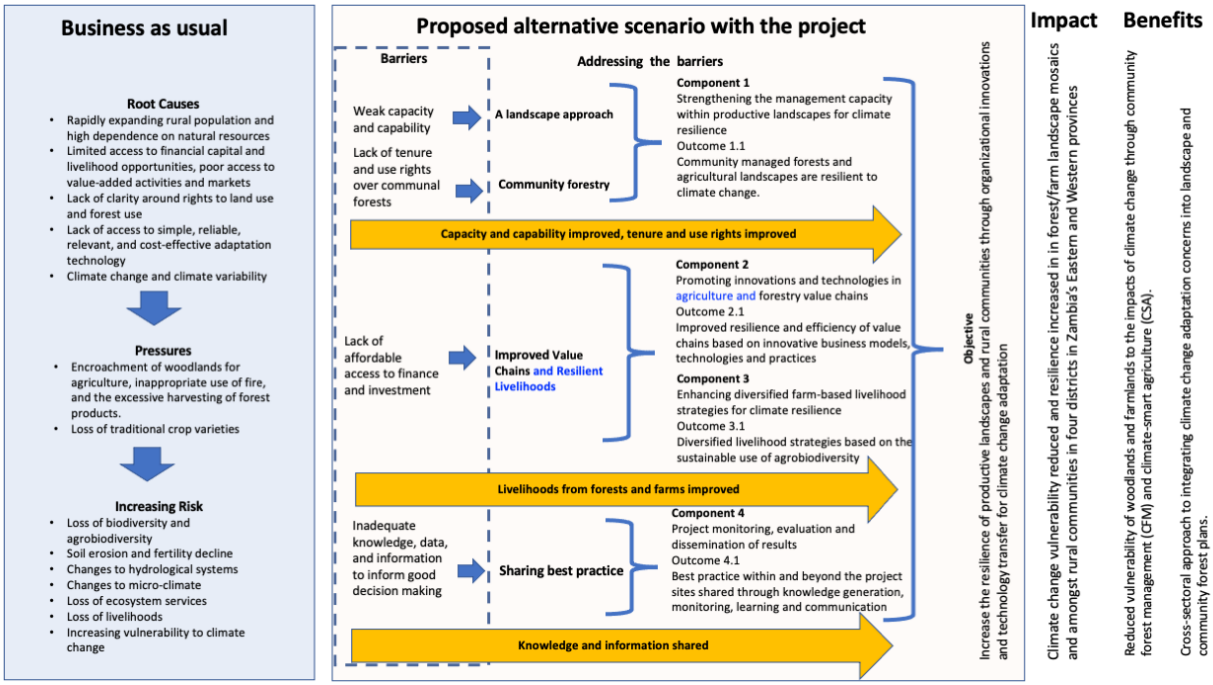
The project?s **theory of change** assumes that if the project successfully overcomes barriers to improved adaptation to climate change and enhanced climate resilience at the landscape level then:

? The loss of woodland biodiversity and agrobiodiversity will be halted and reversed thereby reducing the vulnerability of the landscape to climate change.

? The flow of ecosystem services that benefit local communities will be increased through the adoption of climate-smart management of farms and woodlands.

? Improved, diversified climate resilient livelihoods and food security will be achieved through value-addition and access to markets for forest and farm products.

The theory of change is shown diagrammatically below:



Project objective and expected impact

The objective of the project is to increase the resilience of productive landscapes and rural communities through organizational innovations and technology transfer for climate change adaptation.

Project components, their expected outcomes and outputs, and planned activities

This section outlines the four components of the project that provide pathways to change, describes how the components link and the activities that will be undertaken to achieve the planned outputs and outcomes.

Component 1. Strengthening the management capacity within productive landscapes for climate resilience

This component provides the basis for planning and implementing an integrated landscape management approach. It builds baseline information for all four components of the project. It identifies and engages target communities and assesses the degree to which forest and farm producer organisations (FFPOs) within those communities are, or could in the future, enhance climate resilience by sustainably managing local woodlands and farmland, with the support of the Government?s community forestry programme and other Government agencies (notably the Department of Agriculture).

It initiates processes to ensure that an integrated landscape management approach has been agreed and endorsed by customary and Government authorities ? and that FFPOs have their full support in market-oriented developments that will ultimately incentivize landscape restoration to reduce vulnerability to climate change.

The current national policy and legal environment supports the implementation of this component, including the Forests Act (2015) that provides for the legal basis of community forest management in Zambia.

Key partners involved in this component are: the Forestry Department (under the Ministry of Lands and Natural Resources), the Department of Agriculture (under the Ministry of Agriculture), District Farmers Associations and their Information Centres (ICs), the traditional chiefs, forest and farm producer groups, WWF Zambia, Copperbelt University (School of Natural Resources), Zambia National Forestry Commodities Association, CAZ, The Swedish Cooperative center (We Effect), Agritera and the FFF. The Climate Change Department and the Department of Environment (GEF Operational Focal Point) will be involved in terms of sharing policies and relevant lessons and guidance.

Component 1 is based on the following assumptions:

? An integrated landscape management approach, that is agreed and endorsed by relevant local authorities, will provide rural communities with opportunities for improving the management of both farms and woodlands, and the cross-sectoral mechanism needed to identify and mainstream climate adaptation and resilience into landscape, community forestry and farm plans.

? Effective interventions demand that climate change impacts are fully understood and assessed across the agricultural and forest systems of interest.

? A participatory process that engages local community members, community leaders, forest and farm producer organisations (FFPOs), district level extension staff and NGOs will provide the most appropriate mechanism for identifying climate impacts and appropriate adaptation responses through a landscape approach.

? The formalization of community forestry across the landscape will consolidate local use rights for the woodland component of income generation, and so mitigate de facto open access and reduce conflicts related to the use of woodlands (note that this the critical assumption for the success of the project). Most importantly, community forestry will provide the mechanism for improving the resilience of woodlands and reducing vulnerability to climate change.

? Stronger organization of local producers within market-oriented FFPOs with agreed commercial activities will help to integrate woodland businesses and on-farm production across the landscape and incentivize local people to sustainably manage their forests and farms, adopt climate adaptation approaches to forest and farm management, and benefit more from an improved flow of ecosystem services.

The initial work (to be undertaken within the first six months) of the project will focus on the following:

? Analyze current knowledge of landscape approaches, community forest management and climate smart agriculture through a review of existing and past projects and programs and plans (e.g. projects described above, knowledge held within government departments, CSAIP and the work of FAO) and identify relevant lessons for the project and opportunities for collaboration. This includes, but is not limited to the emerging findings from the successful implementation of the FAO-MOSAICC project for Western and Eastern Provinces[58][58], the R4 Rural Resilience Initiative which uses climate information to help determine weather-index insurance pay-outs in case of drought in Zambia[59][59], and the Enhancing National Climate Services (ENACTS) initiative that aims to improve the access, quality, coverage and understanding of climate information so that climate knowledge can be used for national decision-making[60][60].

? Identify appropriate customary chiefs, local forest and FFPOs, District Farmers Associations and their Information Centres (IC), district level government actors, NGOs, private sector, and other partners who are willing and able to collaborate to deliver the project.

? Strengthening existing or establishing new multi-sectoral landscape policy-and-practice platforms involving staff from relevant government departments at district and national levels with whom FFPOs can share experience and discuss progress towards climate-resilient landscape management.

? Select and train the trainers from partner organizations and government extension services in the participatory approaches to be used by the project, including the use of digital/mobile technologies and tools for integrated land use planning and mapping, such as Collect Earth and SHARP.

? Implement training for government agencies and project partners to enable them to undertake participatory approaches with local target communities and forest and farm producers.

? Undertake participatory assessments in all selected project target sites to develop a shared understanding of:

- **Biophysical conditions**: the state and trend of current land use (farms, woodlands, and wetlands), land use capabilities, the flow and trend of ecosystem services (including provisioning services (fuel, wood, NTFPs, charcoal and water) and regulating services (e.g., water catchment regulation).

- **Socio-economic conditions**: customary institutions and decision-making practices that govern land use management, existence and nature of any FFPOs current markets for farm and forest products, land use and resource conflicts, identification of women and men from the targeted communities who are working on existing farm or forest produce marketing. This will include a participatory assessment of farming systems and their resilience to climate change and a participatory analysis with vulnerable groups and their FFPOs on specific rural employment issues related to farms and forests.

- **Risk**: participatory climate risk and vulnerability assessments, mapping of climate hotspots in the landscape, identifying degraded areas suitable for restoration and business risk assessments. This will include the integration of findings from the implementation of the FAO-MOSAICC for Western and Eastern Provinces of Zambia.

The project staff, in consultation with partners and under the overview of the PSC, will determine the approach to be used to undertake participatory assessments, drawing on international best practice and approaches such as SEPAL, ROAM, Market Analysis & Development, Business risk management and Business Incubation, and Participatory Prospective Analysis. Information collected through these tools/approaches will be used to guide further work in all four components.

After the initial participatory assessments are complete, the following activities will be undertaken:

? Identify communities and forest and farm producer organisations that are interested in integrating community forestry and climate adaptation alongside farming within their productive landscapes.

? Undertake landscape level awareness raising in the local language with a view to enhancing project buy-in by the wider stakeholders and support communities to and to develop simple and inclusive landscape level climate action plans aimed at reducing vulnerability and building resilience in the landscape.

? Support interested communities (including Community Resource Boards) to secure legal rights to community forests under the Forest Act (2015), and develop community forest management plans targeted at building climate resilience into production landscapes, and enable relevant FFPOs based on those rights.

? Using participatory approaches, identify capacity building needs on adaptation measures (agroforestry, CSA, community forest management, gender sensitive adaptation, conflict management, participatory climate risk assessments, community based seed and seedling multiplication practices) and develop training packages. In doing so, the project will consider impact of technology options on the number and quality of jobs created.

? Build skills and capacity of women, youth and men to identify and implement climate adaptation measures (e.g. through farmer field schools, exchange visits and directly via extension services), including:

- o Sustainable management of community forests to generate a flow of profitable ecosystem services. This will involve both technical assistance for the development of community forestry plans, as well as the provision of financial support for necessary tools and equipment.

- o Participatory climate risk assessments, and climate smart agriculture and forest management practices including woodland restoration, water catchment management, and agroforestry.

? Support dialogue between the Forestry Department, Department of Agriculture and the Climate Change Department to integrate lessons learned about landscape approaches into advice to the GRZ on climate vulnerability and adaptation.

? Building local community capacity on the use of smartphones for mapping and accessing relevant landscape management information.

? Building a locally relevant database/repository to support easy access to information by FFPOs.

If the assumptions for Component 1 are realised, and the activities completed successfully, then the following outputs will be achieved:

Output.1.1.1 ? Community leaders, forest and farm producer organisations, District Farmers Associations and their Information Centres (IC), government forestry and agriculture extension

services, partner NGOs, and other support institutions have the skills to implement gender sensitive participatory approaches at landscape level, including community forestry (including the use of digital/mobile tools and technologies).

Output 1.1.2 - Participatory assessments and community engagement at landscape level to reach a common understanding of landscape components and their actual and potential use including markets.

Output 1.1.3 - Target communities, and the FFPOs within them, implement community forestry management and other climate adaptation measures including, as appropriate: climate smart agricultural practices, landscape level planning, participatory climate risk assessments, woodland restoration, water catchment management and agroforestry. Note: On-the-ground investments in climate smart agriculture, agroforestry, water management technologies, and farm and forest product value chain development will be implemented through Components 2 and 3.

If these outputs are achieved, then the anticipated **Outcome, 1.1** is: ***Community managed forests and agricultural landscapes are resilient to climate change.***

Component 1 provides information that will be used in all components and also provides the basis for improving tenure and management of woodlands and resilient agriculture. Component 1 also promotes a more integrated approach by the Forestry Department and Department of Agriculture to implement Zambia?s climate change policies at landscape level and by doing so support the work of the Climate Change Department at the national level.

Component 2: Promoting innovations and technologies in agriculture and forestry value chains.

This component provides the basis for generating adaptation and livelihood benefits from agriculture products and local woodlands by supporting innovations and technologies in development of value chains by forest and farm producer organisations. It complements Component 3 that focuses on on-farm livelihood options/climate-smart agriculture practices.
This component builds on the lessons of key projects mentioned previously and is based on the following assumptions:

? Woodlands and agriculture landscapes have substantial potential to generate a range of high value forest and agricultural products[61][61], including wood, non-timber forest products (NTFPs), medicines and food, to which value can be added through quality control, storage, processing, packaging and marketing. Examples include bee products, herbal medicines, green charcoal, groundnuts and cowpea. Aggregation of products increases the competitiveness of smallholder producer in terms of supply, quality control and storage.

? Generating and distributing livelihood benefits from the agricultural produce and woodlands products through the commercial activities of FFPOs and linking smallholder FFPOs to financial institutions and markets will incentivize local communities to manage woodlands and agriculture landscapes sustainably and improve community-level resilience. In addition, local financial savings

initiatives such as the village banking concept have proved to be useful in promoting financial inclusion among the resource poor especially the rural women who tend to be most vulnerable to economic shocks.

? Market dynamics are such that community members almost always stand to benefit from working together in FFPOs that can standardize large volumes of high-quality production and delivery, including through linking to district and national networks to access higher value markets and services.

? Negotiated decision-making and benefit-sharing arrangements between members of FFPOs (and potentially also the broader community) are central to trust and ongoing collective action.

? Existing and new markets for agricultural and forest products can be profitably developed through market research and engagement with technology developers and other service providers in a structured programme of business incubation by building on what the private sector (e.g. COMACO, Kalahari Oils, and Zambia Honey Council) is already doing.

? It is ultimately most sustainable if those business incubation services can be housed in umbrella FFPOs that are generating revenue from aggregating and marketing products from member-based FFPOs.

Key partners involved in this component are: WWF, FFF, the Forestry Department, the Department of Agriculture[63][62], the traditional chiefs, forest and farm producer groups, the Zambia National Forest Commodities Association (ZNFCA), Zambia Bureau of Standards (ZABS), academia (such as Copperbelt University, University of Zambia, Apex), CIFOR, Action Aid, Conservation Farming Unit (CFU) and COMACO ZNFCA[62][63].

Key activities of this component are focused on developing climate-resilient agricultural and forest product value chains. The key activities include:

? Analyse the contribution of agriculture landscapes and forests to rural livelihoods and the current knowledge of agriculture and forest-based enterprise development, markets, production, aggregation, quality control and distribution through a review of FFPOs within the target areas, an assessment of existing and past projects and programs and plans and interventions (e.g. projects described above, knowledge held within government departments, CSAIP and the work of FAO), a geo-spatial assessment of the drivers and pressures that cause forest degradation and deforestation, and identification of relevant lessons for the project as well as opportunities for collaboration and improving climate resilience.

? Using participatory approaches, support women, youth, and men from FFPOs to select suitable climate-resilient production options for diversified agriculture and forest products.

? Provide direct financial support to the FFPOs to upscale the identified farm- and forest-based value chains such as through acquisition of small processing equipment.

? Direct financial support to producer groups to undertake domestication/ cultivation of high value herbal medicines/ Devil?s claw and agroforestry plant products. This activity will be complimented with mass propagule production through tissue culture technology at the Copperbelt University tissue culture facility (see, Annex K).

? Support scaling up of beekeeping activities through training and providing financial support for the producer groups to acquire beekeeping processing equipment, and acquisition of modern framehives. This activity will go side-by-side with supporting of scaling up the processing and marketing of beeswax and other high value bee products.

? Work with the forest and farm producers in each community to explain the benefits of forming a producer organisation (around many different potential products) and provide training and financial support in the steps necessary to formalise those groups with management structures, roles, responsibilities and negotiated by-laws and benefit distribution mechanisms.

? Provide Market Analysis and Development training-of-trainers for women and men from FFPOs and forestry/agriculture extension services to enable them to deliver training on how to screen and then develop viable market options for the more promising timber, charcoal, agriculture, and NTFP products (including processing, packaging, aggregating and marketing, as well as the potential for out grower schemes).

? Train women and men producers in Market Analysis and Development to build entrepreneurial ability to assess markets and financial profitability, technologies (for quality, aggregation, processing, and packaging), sustain the natural resource supply-base, undertake legal registration of FFPOs and arrange social benefit sharing.

? Support FFPOs to develop group savings and loan structures (from the profits of their existing value chains), including Voluntary Savings and Lending Associations (VSLAs), in order to enhance access to finance and with a view to investing in alternative environmentally friendly forest- and farm-based livelihood options. The project will identify appropriate partners to undertake this work during project implementation (e.g. the Cotton Association of Zambia and other CSOs that are already working on these issues).

? Undertake exchange visits for women and men from FFPOs, support institutions, and local authorities to successful cases to enhance knowledge and confidence in viable market options for forest and farm products.

? Build the capacity of women and men from FFPOs for regular *risk management assessments* of their enterprises to proactively identify, prioritise, and adaptively manage challenges that need to be overcome to maintain business development.

? Encourage commodity associations (e.g. DFAs, CAZ, DAZ, ZNFCA) to both enroll and add value to new FFPO businesses to enhance revenue generation (and hence the sustainability) of those commodity associations.

? Develop the capacity of commodity associations to provide ongoing business incubation support to women and men to develop and scale-up small-scale forest and farm enterprises based on timber, sustainable and certified charcoal technologies (Green charcoal), NTFPs and agroforestry and other crops (with a focus on diversifying NTFPs with climate-resilient underutilized products and their related technologies). The FFF in collaboration with Cotton Association is looking at promoting briquetting of cotton stocks and other agricultural and forest waste.

If the above is successfully implemented, then FFPOs, and the commodity associations that represent them, will achieve improved resilience and efficiency of value chains based on innovative business models, technologies, and practices.

If the assumptions for Component 2 are realised, and the activities completed successfully, then the following outputs will be achieved:

Output 2.1.1 - Knowledge, including traditional knowledge, on agriculture and forest product use and marketing consolidated.

Output 2.1.2 - Climate-resilient forest product value chains are identified and selected and bankable business plans for climate-resilient underutilized products and their related technologies[64] developed, and the existing enterprises scaled up by the targeted FFPOs. In addition, local savings initiatives such as the village banking concept are promoted especially among the rural women.

Output 2.1.3 - Targeted FFPOs have developed their agriculture and forest-based production into small-scale enterprises that are networked and represented by regional or national producer associations.

In developing climate-resilient value chains, the project will also seek opportunities to contribute to COVID-19 recovery and enhance synergies with Government efforts to foster resilient livelihoods, in line with the Government?s economic and social protection policies.

If the outputs are achieved, then the anticipated **Outcome 2.1** is ***- Improved resilience and efficiency of agriculture and forestry value chains based on innovative business models, technologies and practices***.

Component 3: Enhancing diversified farm-based livelihood strategies for climate resilience

This component provides the basis for generating adaptation and livelihood benefits for local communities from farms by focusing on the development of diversified farm-based livelihoods based on climate-smart agriculture principles. This will be done by incorporating climate resilient crops (including tree crops/agroforestry) in the agriculture landscape that will enhance the resilience and productivity of agriculture crops, and livestock. It complements Component 2 that focuses on forest and farm product value chains.
This component is based on the following assumptions:

? Climate-resilient crops, including tree crops, have potential to help communities adapt farming systems to climate change and generate a range of farm-based products.

? Agroforestry has substantial potential to diversify a range of farm-based products that can generate livelihood benefits from on-farm tree planting, enhance or sustain agricultural productivity and thereby incentivize local communities to integrate trees on farm.

? Organic soil conservation methods that are developed within agroforestry systems and water management techniques can both increase soil fertility and soil moisture retention in ways that improve agricultural productivity for conventional or new crops.

? Existing and new markets for farm products can be profitably developed, but farmers may require improved access to inputs and finance to capture these opportunities (linked to interventions under Component 2).

A preliminary Farm Value Chain Analysis undertaken as part of the project design (see Annex L) identified several potential products including groundnuts and cowpea. However the analysis also noted that the choice of crops must take into account market demand, farmer location, social structure (including gender), available infrastructure, farm size, agronomic suitability of the land, the likelihood of pests and disease, land tenure, assets available to farmers, capacity to establish new enterprises, access to finance and capacity to use it profitability, technological requirements and access to extension advice, among other things. The analysis concluded that consideration of the risk that farmers face in diversifying into new products is important. Accordingly, the selection of crops will need to be determined by the Project stakeholders, taking into account the above, existing knowledge and experience, including within partners and in the projects and programmes described above, and also considering appropriate climate risk assessments, including in access to climate information and agricultural meteorological services.

The project will leverage two key activities being undertaken by the GCF project that is being implemented in the same landscape. These two activities are focused on strengthening the generation and interpretation of climate information and data collection to ensure timely and detailed weather, climate, crop and hydrological forecasts are available to support smallholder farmers in planning and management of water resources used in resilient agricultural practices and; strengthening dissemination and use of tailored weather/climate based agricultural advisories to ensure smallholder farmers receive the information they need for planning and decision-making.

Key executing partners in this component that will collaborate with WWF Zambia and the Forestry Department are: the Local community in the project areas, the Ministry of Agriculture, the Ministry of Chiefs and Traditional Affairs, forest and farm producer groups, District Farmers Associations, Quasi-Governmental Institutions, Research Institutions, Academia and the Civil Society Organizations.

Key activities of this component include:

? Analyse current knowledge of diversified farm enterprise development and climate smart agriculture, including climate services, within the target areas, and an assessment of existing and past

projects and programs and plans (e.g. projects described above, knowledge held within government departments, CSAIP and the work of FAO) and identify relevant lessons for the project and opportunities for collaboration.

? Map existing climate services at each step of the food value chain, including, input suppliers (e.g. climate resilient varieties, irrigation recommendations, crop management and harvesting techniques), production (e.g. precipitation and temperature forecasts, extreme weather events, pest and disease forecasts), processing, storage, transportation and marketing advisory services.

? Through participatory approaches review past and present initiatives in the two regions as a basis for identifying climate resilient practices that will enhance the performance of crops, livestock and trees on farms, including identification of site-specific climate-resilient agriculture and agroforestry species and practices (e.g. for drought resistance, heat tolerance, pest and disease resistance and soil improvement). This information will inform the development of participatory community-based adaptation plans.

? Provide direct financial support towards installation of soil conservation and water management technologies (water harvesting) on participating FFPOs farms.

? Develop with FFPOs simple guidelines for the promotion, sustainable cultivation, and management of climate-resilient species, including harvesting and processing information. Provide financial support/seed funding towards implementation of these practices.

? Consistent with the implementation approach of the FAO Zambia supported scaling-up of the Climate-Smart Agriculture project, the project will provide both technical and direct financial support to FFPOs to develop suitable climate-resilient production options for diversified farm products. Through supporting farmer field schools (FFS) the project will enable FFPOs to develop community-managed seed banks, seed multiplication, tree nurseries, practice sustainable cultivation practices and harvesting techniques.

? Investigate and promote useful options both for organic soil conservation techniques (including those based around on farm tree planting and mulching) and soil moisture retention through participatory training (including the use of farmer field schools).

? Promote establishment of fodder banks using existing fast growing agroforestry tree species. The project will establish both off-field and farmer-managed tree nurseries. The project implementing partners will grow and distribute the tree seedlings and provide technical backstopping. Additionally, the project will provide tree seeds.

? Building technical capacity for the FFPOs to establish and manage tree and underutilized agricultural crop seed banks at community level. The project will provide financial support for the participating communities to purchase seeds.

? Identify, and as far as practicable, support the development of options for improved water provision (e.g., boreholes or small-scale river irrigation channels) and water conservation through

terracing and mulching to increase agricultural productivity, and share the learning through farmer field schools.

? Build the capacity of women and men from FFPOs for regular *risk management assessments* of their farm enterprises to proactively identify, prioritise, and adaptively manage challenges that need to be overcome to maintain business development and engage in insurance options.

If the above activities are achieved, then FFPOs will have diversified livelihood strategies based on the sustainable farm and woodland management and CSA (focused on climate-resilient crops, agroforestry and resilient seed systems).

If the assumptions for Component 3 are realised, and the activities completed successfully, then the following outputs will be achieved:

Output 3.1.1 - Knowledge, including traditional knowledge, on climate-resilient crops in target landscapes consolidated and guidelines for their sustainable management and promotion developed through participatory engagement of FFPOs.

Output 3.1.2 - Knowledge, practice, and implementation arrangements for soil conservation and water management technologies that enhance agricultural productivity installed on farm by FFPOs.

Output 3.1.3 - Climate-resilient crop production systems implemented through farmer field schools and direct farmer support.

In enhancing diversified on-farm livelihoods for climate resilience, the project will also seek opportunities to contribute to COVID-19 recovery and enhance synergies with Government efforts to foster resilient livelihoods, in line with the Government?s economic and social protection policies.

If the outputs are achieved, then the anticipated **Outcome 3.1** is - ***Diversified livelihood strategies based on the sustainable use of agrobiodiversity.***

Component 4: Project monitoring, evaluation, and dissemination of results

This component provides the basis for knowledge generation, sharing, and learning as a basis for building human capacity of farmers, FFPOs and extension workers to identify and implement climate adaptation measures. It is based on the following assumptions:

? The spread of useful practice is enhanced when a Monitoring and Learning (M&L) system uses simple questions to assess what worked or did not work and why ? that can be understood from the field to the boardroom.

? Knowledge generation can be enhanced by researching the more interesting findings or best practices identified within a regular M&L system to provide full narrative context and insights about what was deemed interesting and why.

? Tertiary forestry training institutions have a strong bearing on knowledge generation and sharing as they are in-charge of staff training.

? Forest and farm producers are generally risk averse and much more likely to adopt new practices if they see them operating successfully in the production systems of other farmers.

? FFPOs can effectively represent their own innovations in national and regional meetings to improve the perception of them as the agents of forest and farm climate resilience and solutions.

Key executing partners in this component are: WWF, the Forestry Department, the Department of Agriculture, the Environment Management Department, Research institutions, Academia, Civil Society Organisations, and the GEF-7 SFM/Dryland Sustainable Landscape Impact Program.

Key activities of this component include:

? In addition to using the FAO tracking adaptation in the agriculture sectors framework, the project will develop a sound results-based Monitoring and Learning (M&L) system that collates, analyses and presents lessons from quantitative and qualitative indicators on contributions to forest and agriculture landscape management for climate resilience, phrased as simple questions that are intelligible to all project partners. This will include further development and application of the SHARP tool.

? Undertake independent midterm and final evaluations to validate or refine opportunities to scale up best practices.

? Support curriculum review at Zambia Forestry College and School of Natural Resources at the Copperbelt University to include significant content on community forest management, including as an approach for climate adaptation, as well as NTFP value addition and marketing.

? Support Zambia Forestry College and School of Natural Resources at the Copperbelt University to develop professional short courses on CFM.

? Support the FD, the Agriculture Department, and FFPOs to analyse emerging best practices on climate resilient forest and agricultural landscape management to document and disseminate successful approaches. Present positive findings at annual local level traditional leadership forums and discuss how to scale up best practices.

? Undertake national, regional, or global knowledge exchange events (regional and global exchanges are to be organized by the DSL IP) to refine and endorse the most promising approaches for climate-resilient forest and agricultural landscape management.

? Support the development of the national environmental research strategy.

? Participate in the DSL IP Regional Exchange Mechanism (REM) that covers the Miombo/Mopane ecoregion, including by knowledge exchange, evidence based learning, South-South Cooperation, targeted training and capacity development, sharing technical expertise, supporting communities of practice and identifying value chain and investment opportunities.

If the assumptions for Component 4 are realised, and the activities completed successfully, then the following outputs will be achieved:

Output 4.1.1 - A sound results-based Monitoring and Evaluation system developed that includes participatory approaches.

Output 4.1.2 - Midterm review and final evaluation successfully conducted.

Output 4.1.3 - Best practices of NTFP management, small scale forest and farm enterprises, and climate smart agriculture successfully disseminated and scaled up.

Output 4.1.4 - Exchange visits for FFPOs, and key project implementing partners, organized to increase their knowledge and share experiences (international visits will be organized through the DSL IP REM).

If the outputs described above are achieved, then the anticipated **Outcome 4.1** of the project is - ***Mechanisms for adoption of best practice beyond the project sites through knowledge generation, monitoring, learning, and communication that enables transfer and upscaling of climate adaptations***.

4) Alignment with GEF focal area and/or Impact Program strategies

The project is aligned with the following areas of the GEF Programming Strategy on Adaptation to Climate Change for the Least Developed Countries Fund (LDCF) and Special Climate Change Fund (SCCF):

Climate Change Adaptation (CCA)-1: *Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation*. In particular, the project will contribute to the following LDCF CCA-1 Outputs:

Output 1.1.1: Physical and natural assets made more resilient to climate variability and change

By promoting sustainable soil and water management and climate-smart agriculture practices (including agroforestry, trees on farm, etc.), the project aims to make agricultural land more resilient to climate change. Additionally, the project will ensure that communities safeguard the forests and woodlands, which are an important source of climate change resilience in the mosaic landscapes through provision of ecosystem services such as water, microclimate, and pollination services, as well as food and income sources. This will be done by promoting community forestry management through empowering local communities to apply improved management practices to forests within the landscape.

Output 1.1.2: Livelihoods and sources of income of vulnerable populations diversified and strengthened and Output 1.2.2: Financial instruments or models to enhance climate resilience developed

The project will promote innovations and technologies in agriculture and forestry value chains by investing in simple technologies such as production, food processing equipment, and marketing. This will ensure that communities have diversified, resilient food and income sources. The project will ensure that the forestry food products are preserved as an alternative to agriculture food products (such as maize) which are highly impacted by climate change. The project will also support FFPOs to develop bankable business plans for climate-resilient underutilized products in order to improve and diversify income generation.

Output 1.1.4: Vulnerable natural ecosystems strengthened in response to climate change impacts

By promoting a landscape approach to planning and supporting the expansion of community forest management, the project anticipates that woodlands and forests in the target areas (one of the world?s key dryland forest ecosystems) will be brought under improved management and harmful practices such as over-harvesting and expansion of agricultural land into woodlands will be substantially reduced or eliminated. It is anticipated that community forestry will improve access and use rights and empower local communities to manage climate risks that are currently exacerbating the vulnerability of woodlands, for example by applying improved approaches to fire management and regulating the use of wood for charcoal.

CCA-2*:* *Mainstream climate change adaptation and resilience for systemic impact.* In particular, the project will contribute to the following LDCF CCA-2 Outcomes:

Outcome 2.1: Strengthened cross-sectoral mechanisms to mainstream climate adaptation and resilience

The project will promote a landscape approach to planning that will engage key government actors with local communities in both planning and implementation of the plans. The project anticipates policy relevant lessons for cross-sectoral action will be identified, cross-sectoral institutional partnerships will be established (both horizontally, e.g. between the Forestry Department and Department of Agriculture) and vertically (between national, provincial, district and local levels) (CCA-Outputs 2.1.1 and 2.1.2). The project will also support the development and scaling up of systems for effective and continuous monitoring, reporting and review of adaptation efforts (CCA-Output 2.1.3).

Outcome 2.2: Adaptation considerations mainstreamed into investments

By developing bankable business plans and by linking FFPOs to micro-finance through the group savings and loan structures, including Voluntary Savings and Lending Associations (VSLAs), the project aims to mainstream adaptation considerations into investments and improve climate resilience of forests and farms by strengthening local private sector actors (CCA-Outputs 2.2.1, 2.2.2 and 2.2.5).

Outcome 2.3: Institutional and human capacities strengthened to identify and implement adaptation measures

The project will strengthen the cross-sectoral, participatory management capacity within productive landscapes for climate resilience. It will use participatory assessments and community engagement at landscape level to reach a common understanding of landscape components and their actual and potential use including markets. In addition, capacities will be built among community leaders, forest and farm producer organizations, District Farmers Associations, government forestry and agriculture extension services, partner NGOs and other support institutions to implement gender sensitive participatory approaches at landscape level, including community forestry.

Furthermore, the project will develop capacity among small-scale forest and farm enterprises and producer associations to develop climate-resilient smallholder food systems by identifying and connecting communities to sustainable value chains for their resilient forestry and agriculture products.

Finally, the project will increase the resilience of communities to the impacts of climate change by investing in information technologies such as mobile phones that will be used to transmit climate related information to help communities plan. (CCA-Outputs 2.3.1 and 2.3.2)

5) Incremental/additional cost reasoning and expected contributions from the baseline, the GEFTF, LDCF, SCCF, and co-financing

Without the proposed intervention, climate change risks and hazards will continue unabated and are expected to increase in both frequency and severity, further exacerbating ecosystem and livelihood

vulnerability in the targeted areas. At the same time, it is highly likely that landscape degradation will continue apace within and beyond the Project sites, increasing both vulnerability and exposure of communities and ecosystems. Implementation of a landscape approach that integrates community forestry and sustainable agricultural systems will not be achieved at the scale necessary to build resilience to climate change or to improve livelihoods, due to lack of capacity to support communities to implement improved management approaches and link to viable market chains.

Furthermore, increasing impacts from climate change, including weather-related hazards (for example, recent devastating drought in southern Africa[67][65] and the armyworm outbreak[68][66]), are threatening food security of rural populations in the Project areas. The increasing frequency of climate-induced extreme events is rendering farming communities vulnerable as a result of reduced agriculture productivity, therefore poverty across the project landscape will likely increase in the absence of any meaningful intervention.

Rural poverty and climate change are some of the leading underlying causes of vulnerability in the Project sites. The high dependence of rural livelihoods on rain-fed agriculture makes most of the population highly vulnerable to climate variability. Drought has also resulted in heavy losses of livestock due to starvation. The intensity and severity of drought across the Project landscape is threatening millions of livelihoods as well as vast areas of forest.

Overall, the target sites will continue to see a decline in biodiversity and associated ecosystem services, including the water cycle, thereby eroding the resilience of the landscape, leaving the ecosystem extremely vulnerable to climate change impacts.

There will be a range of projects and programs that continue to address food security and nutrition, conservation agriculture, tree planting, and REDD+. Through these projects and programs, communities will gain knowledge on improved farming and forest management. However, much of this knowledge will not be shared beyond local sites nor engage local communities effectively or help government agencies to move beyond a sectoral approach. It is likely that there will be a continuation of poor coordination and sharing of knowledge between projects and programs and between government agencies as efforts tend to focus on specific sectors rather than take a multi-sectorial, integrated approach that is essential to addressing climate change adaptation.

With the proposed intervention, an integrated landscape approach that engages local communities in identifying their own forest, farm, and livelihood priorities and implementing management and market-oriented approaches will provide impetus to improve coordination between different sectors. A landscape focus will enable communities to improve livelihoods through diversification, enhance their resilience and adaptive capacities and become less vulnerable to climate risks and hazards.

Creation of jobs through small scale forest and farm-based enterprises, technology transfer, and strengthened community engagement will lead to strong local leadership and improved management of natural resources. Deforestation and forest degradation will decline through community forest

management thereby strengthening the resilience of the landscape and the communities whose livelihoods depend on it.

The capacity of target communities will be improved through building skills to enable them to conduct vulnerability assessments of their own landscapes and to make more informed management decisions.

The resilience of smallholder farmers and forest/farm producers to climate change and climate variability will be increased through the use of a value chain approach in agriculture and forestry value chains that will address risks posed across key stages of the value chain ? planning, inputs, production, and post-production.

The LDCF funding will provide crucial technical assistance for the implementation of community forest management, building the resilience of vulnerable ecosystems and communities to climate change.

The proposed intervention will build on existing knowledge and experience and support exchange of knowledge within Zambia and in the Southern African region, including through the project?s engagement with the DSL IP.

6) Adaptation benefits (LDCF/SCCF)

The overall aim of the project falls within the overarching goal of the GEF Programming strategy on adaptation to climate change for the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund for the period 2018-2022.

The project focuses on scaling-up implementation of national policy and laws that are relevant to climate adaptation in the forestry and agricultural sectors, with an emphasis on building the resilience of natural resources in the face of climate change.

The project will draw lessons from the projects and programs described in the ?baseline? including actions that have been demonstrated to reduce the vulnerability of fragile ecosystems through community forestry and CSA and improve the livelihoods of vulnerable communities.

The project will contribute to the following objectives of the Least Developed Countries Fund:

CCA-1: Reduce vulnerability and increase resilience through innovation and technology transfer for climate change adaptation.

In support of CCA-1, LDCF investment in Component 1 of the proposed project will provide support to create an enabling environment for integrated landscape level planning and implementation of community forestry and CSA to support CCA aims.

It will support the government at the **national and provincial level** to strengthen capacities to improve and accelerate implementation of the community forestry and CSA programmes at district level (Components 1, 2 and 3).

At **landscape level**, the LDCF investment will support local communities, District Farmer Associations, and district level government agencies to apply integrated landscape level planning for climate change adaptation (Component 1). It will also build the capacity of district level extension services to engage local communities more effectively and encourage them to adopt innovation and appropriate climate smart technologies. As mentioned previously, the integrated landscape approach to planning will promote improved management of woodlands and forests, and community forestry will enable local communities to identify and respond to climate change impacts.

At **local level**, LDCF investment will build the capacity of communities to reduce vulnerability by supporting local communities and FFPOs to identify climate smart forest and farm value chains and technologies (e.g. processing, packaging, quality control, aggregating and marketing), and to develop these into small-scale forest and farm enterprises to improve resilience. The focus will be on the effective engagement of communities, and the FFPOs within them, to generate sustainable revenues that remunerate the costs of sustainable, resilient forest and land management. The LDCF investment will also link FFPOs to micro-finance through group savings and loan structures.

CCA-2: Mainstream climate change adaptation and resilience for systemic impact.

Under Component 1 of this proposal, LDCF investment will provide support to the work of the Climate Change Department at **the national level,** by promoting more integrated approaches by the Forestry Department and Department of Agriculture to the delivery of relevant aspects of the NAPA and the NDC, as well as mainstreaming climate change adaptation into the extension activities of these departments at district level.

Under Components 2 and 3, LDCF investment will enable FFPOs to engage with the broader private sector to mainstream climate change adaptation and resilience into forest and farm value chains. It will also support district extension services to promote climate smart approaches that support adaptation and reduce vulnerability.

Under Component 4, LDCF investment will support the development and scaling up of systems for effective and continuous monitoring, reporting and review of adaptation efforts, support the identification and dissemination of policy relevant lessons for cross sectoral action and enable the establishment of cross sectoral institutional partnerships (e.g. between the Forestry Department and Department of Agriculture and between national, provincial, district and local levels).

In summary, climate change vulnerability of forests and farmlands will be reduced by bringing 200,000 hectares of forests and 100,000 hectares of agricultural land under sustainable and resilient management through community forest management (CFM) and climate-smart agriculture (CSA). Furthermore, it is anticipated that 144,000 people (18,000 households) of vulnerable people will be diversified and strengthened by promoting climate-resilient adaptation technologies and value chains. In this way, the project will contribute positively to domestic food security, increased resilience to climate change, income generation and diversification.

Co-benefits in GEF Focal Areas

Whilst the project is focused on adaptation benefits, its activities will also result in co-benefits in the following GEF focal areas:

Biodiversity

The project will strengthen the protection of biodiversity within one of the world?s key dryland forest ecosystems by promoting sustainable multifunctional dryland use at landscape scale. These woodlands provide important habitat for flora and fauna. The Miombo eco-region of southern Africa includes an estimated 8,500 species of higher plants, of which 334 are trees. Within the Miombo eco-region, Zambia has one of the highest diversity of trees and is the centre of endemism for *Brachystegia,* with 17 species. Overall diversity of woodlands wildlife is relatively high and is enhanced by the inclusion of habitat islands comprising wetlands within the woodlands. The Miombo woodland has a distinctive avifauna population, with many endemic species, including the White-backed Vulture, Zambian Barbet, Black-cheeked Lovebird, Miombo Grey Tit, and Sterling?s Woodpecker. The promotion of forest-based enterprise development is expected to increase the value of the forests relative to competing land uses and consequently lead to a reduction in deforestation and forest degradation across the landscape.

Climate change mitigation

The Project will reduce forest degradation through the promotion of community forest management and climate smart agriculture. The project will bring an estimated 200,000 ha of Miombo woodlands under improved forest management practices and 100,000 ha of agricultural land under climate-smart agriculture. Additionally, the Project activities related to promotion of innovation in forest value chains, as well as enhancing diversified farm-based livelihoods, will enhance the value of the natural forests in the project landscapes thereby leading to a reduction in deforestation and forest degradation.

Whilst the project activities are focused on climate adaptation, many of these activities, including improved management of farms and forests, will assist the GRZ to link mitigation concerns with sustainable development. Actions promoted by the project will contribute to mitigation of greenhouse gas (GHG) emissions through increased carbon sequestration and avoided deforestation.

Land degradation

The project will contribute to the reversal of land degradation including through restoration by promoting sustainable multifunctional dryland use at landscape scale for the provision of a range of ecosystem services including food production, water supply, carbon storage, and climate change mitigation, biodiversity protection, and other values. The project will also contribute to promoting innovative technologies and approaches that support the efficient use of land, soil, water, and vegetation in the landscape while assisting rural communities to secure use rights to woodlands through Community Forestry and other appropriate means and empowering women through improved access to ecosystem services and value-added market chains. As such, project activities in the targeted areas are expected to support efforts towards achieving GRZ?s Land Degradation Neutrality (LDN) targets.

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[1] ?Miombo Woodlands, Africa | WWF.?

[2] BirdWatch Zambia. Zambia?s flagship species https://www.birdwatchzambia.org/our-flagship-bird-species/

7) Innovativeness, sustainability, potential for scaling up and capacity development

Innovation

The Project is focused on developing capacity of FFPOs and extension services to apply an innovative integrated landscape approach that supports the scaling up of community forestry and climate smart agriculture (CSA) as means to mainstreaming climate change adaptation and resilience in forest and farm management practices, leading to reduced vulnerability and increase resilience in the face of climate change.

Component 1 focuses on the development and implementation of innovative integrated approaches to land use planning, including participatory approaches and the use of digital/mobile technologies, and promotion of community forestry.

Under Components 2 and 3 the project will promote innovative forest and CSA practices aimed at improving the resilience of woodlands and farms through adaptive management practices. Component 2, in particular, will promote innovations and technologies in agriculture and forestry value chains and will work with Forest and Farm Producer Organisations (FFPOs) to develop innovative business models.

Building capacity

Much of the focus on climate change in the forest sector of Zambia has so far been on REDD+ issues, with the aim of mitigating climate change. To date, the government has not strongly emphasized the role of adaptation for the forest sector. There has been limited support to building the capacity of forest dependent communities to identify and apply resilience strategies such as community forest management and small-scale enterprises for efficient utilization of forest resources.

In the agriculture sector, the Government is promoting CSA through the Zambia Climate-Smart Agriculture (CSA) Strategy Framework. The CSAIP notes that drought-tolerant seeds, agroforestry, and crop diversification seem particularly suitable for climate adaptation and building household resilience[69][67]. Similar to the situation with the forest sector, the key gap in the agriculture sector is lack of implementation of policy.

To date, the emphasis on climate adaptation has primarily been focused on a sectoral approach, for example, agriculture, water, energy, or forestry. Climate change adaptation requires coordinated policy responses because it is a cross-sectoral, intricate, long-term, knowledge-intensive, and a multi-layered governance challenge that encompasses many interdependencies and actors with unique goals, views, and approaches. Therefore, given the complexity of climate change adaptation, a multi-sectoral landscape approach is more likely to succeed than a sectoral, site-based approach.

Rather than re-inventing the wheel in Zambia, where there is well developed policy for climate change, forests and agriculture and significant experience with reforestation, rehabilitation, climate smart agriculture (CSA) and alternative livelihoods, the Project is focused on implementation.

The project focuses on a) an integrated landscape approach that brings sectors and communities together and b) building capacity of local communities and FFPOs to accelerate the implementation of community forestry and CSA. By empowering people and strengthening FFPOs, community forestry user groups and extension organizations and institutions the project will build system-wide capacities to implement key elements of government policy related to climate adaptation and resilience.

Under Component 1, the project will develop capabilities of district level government agency staff to work in a coordinated manner across agencies and with other partners, including FFPOs and NGOs, using a landscape approach that considers forests, farms and other resources in an integrated manner. Under Components 2 and 3 the project will strengthen the capacity of FFPOs and extension workers to build climate-resilient diversified livelihood strategies from farms and woodlands.

Sustainability

It is anticipated that the enhanced institutional and individual capacities described above will contribute to sustaining the project outcomes in the long term. Furthermore, community forestry plans, local adaptation plans and business plans will be developed and owned by local stakeholders and institutions, who are expected to continue their implementation once the project ends. Environmental sustainability will be ensured through resilient, sustainable harvesting and production practices. Economic sustainability will be pursued through the development of value chains that provide additional and diversified income sources to communities, thus providing market incentives for sustainable, climate-resilient forest and farm products. These value chains will be developed under the lead of local FFPOs, whose capacities to sustain and develop market opportunities will be strengthened. Finally, social sustainability is also expected to be ensured through empowerment of local institutions and communities, in particular women, and by promoting participatory approaches to natural resources management.

Scaling up

Sharing of lessons within the project area, with other relevant projects and programs, with decision makers at district, provincial and national level and more broadly in the Southern Africa region (through strong linkages with DSL IP) is a major focus of the project. Component 4 emphasizes monitoring, reporting and dissemination of information targeted at promoting sustainability, replication and scaling up of results.

Summary of changes in alignment with the project design with the original PIF

The key changes in the project design compared to the PIF include:

? Minor word changes to Project Objective and Outcomes.

? A consolidation of outputs to remove overlap and unnecessary detail.

? A focus on Eastern and Western Provinces and removal of Southern Province at the request of the GRZ to enable a more effective focus of the project.

? A stronger focus on supporting women and youth to develop value chains.

? Reduced focus on charcoal related activities from the PIF Component 2, based on feedback from target communities, replaced with an increased focus on woodland and forest value chains. It should be noted that this change does not mean the project should not include charcoal as a potential product in the value chain, but rather it should be treated as any other potential product insofar as the focus at local and district level will be on how to secure production rights for local producers so that they are incentivized to manage and enrich the production base and curtail or eliminate illegal harvesting and production. Moreover, the project has the potential to support national and provincial government to formulate and implement charcoal strategies and strengthen the enabling environment for sustainable charcoal production. The promotion of community forestry through the project also allows for the possibility of establishing woodlot plantations.

? Inclusion of water related activities in Component 3 to reflect comments on the PIF and to address requests made by stakeholders to the project development team.

? A revision of co-financing by FAO Zambia to reflect reality of current opportunities.

? A change to implementation arrangements following review of HACT assessments and discussions with the Forestry Department and FAO. WWF Zambia is now proposed to have overall executing and technical responsibility for the project, with FAO providing oversight as the GEF Agency. Both WWF Zambia and FAO will have close cooperation and coordination with the Forestry Department.

? Redesign of project implementation arrangements to better support the decentralized approach to government from national to provincial levels.

? Refocus the target for the area (hectares) to be brought under improved management to align with community stakeholder expectations and capacity.

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[1] World Bank, ?Zambia Overview.?

[2] The Borgen Project, ?10 Important Facts About Poverty in Zambia.?

[3] CAADP, ?Zambia National Agriculture Investment Plan (NAIP) 2014-2018 Under the Comprehensive Africa Agriculture Development Programme (CAADP) Final Draft. 2013.?

[4] UNDP, *Work for Human Development*; UNDP, ?Human Development Indices and Indicators 2018 Statistical Update.?

[5] UNDP, ?Human Development Indices and Indicators 2018 Statistical Update.?

[6] The SHARP baseline household and resilience assessment report is available as an appendix to this project. The SHARP survey collected information on different macro-domains - agronomic, economic, climatic, environment, social and government to better understand the livelihoods, socio-economic characteristics, resource management practices, among others, of the project?s potential beneficiaries. The SHARP survey involved six districts in three provinces, but the GRZ subsequently refocused the geographic scope of the project to four districts and two provinces.

[7] Republic of Zambia, ?Formulation of the National Adaptation Programme on Action on Climate Change (Final Repro).?

[8] Mwila, Ng?uni, and Phiri, ?Zambia: Second Report on the State of Plant Genetic Resources for Food and Agriculture.?

[9] Ministry of National Development Planning, ?Seventh National Development Plan (7NDP) 2017-2021.?

[10] World Bank, ?Climate-Smart Agriculture Investment Plan Zambia: Analyses to Support the Climate-Smart Development of Zambia?s Agriculture Sector.?

[11] Woodlands are defined as open stands of trees, usually over 7m tall, with an open canopy and a field layer dominated by grasses and herbs (Zambia NBSAP-2)

[12] The term woodlands and forest are used interchangeably in this project.

[13] Ecosystem services are the benefits that people obtain from ecosystems (Millennium Ecosystem Assessment, 2005. Ecosystems and Human Well-being: A Framework for Assessment). They include provisioning services ? e.g. timber, food, water, fuel ? regulating services ? e.g. regulation of climate and natural hazards such as floods ? and cultural services ? e.g. religious and cultural values, tourism opportunities; as well as the supporting services that are necessary for the supply of other ecosystem services ? e.g. nutrient cycling, soil formation, primary production.

[14] Ministry of Lands & Natural Resources., ?Preliminary Study on the Drivers of Deforestation and Potential for REDD+ in Zambia.?

[15] Government of the Republic of Zambia, ?Zambia?s Intended Nationally Determined Contribution (Indc) To The 2015 Agreement On Climate Change.?

[16] K?ttek (2006). World Map of the K?ppen-Geiger climate classification.

[17] Makondo, C. C., & Thomas, D. S. (2020). Seasonal and intra-seasonal rainfall and drought characteristics as indicators of climate change and variability in Southern Africa: a focus on Kabwe and Livingstone in Zambia.

[18] UNDP (2012). Climate change country profiles.

[19] FAO (2018). Zambia Study on Analysis of Extreme Weather Events Impacting Agriculture, Climate Downscaling and Climate Change Projections.

[20] World Bank Group (2020). Climate Change Knowledge Portal.

[21] CRED. (2020). EM-DAT. The International Disaster Database.

[22] UNDP (2012). Climate change country profiles

[23] Ministry Of National Development Planning, ?National Policy on Climate Change.?

[24] United Nations Office for Disaster Risk Reduction, ?United Nations Office for Disaster Risk Reduction 2018 Annual Report.?

[25] FAO (2018). Zambia Study on Analysis of Extreme Weather Events Impacting Agriculture, Climate Downscaling and Climate Change Projections.

[26] Slunge and ?lund Wingqvist, ?Zambia Environmental and Climate Change Policy Brief.?

[27] World Bank, ?Climate-Smart Agriculture Investment Plan Zambia: Analyses to Support the Climate-Smart Development of Zambia?s Agriculture Sector.?

[28] Ministry of National Development Planning, ?National Policy on Climate Change.?

[29] Republic of Zambia, ?Formulation of the National Adaptation Programme of Action on Climate Change (Final Report).?

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[33] Government of the Republic of Zambia, ?Zambia?s Intended Nationally Determined Contribution (INDC) to the 2015 agreement on climate change.?

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[42] IFAD, ?Case Study Chiefs and Traditional Leaders, Zambia. Gender, Targeting and Social Inclusion.?

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[47] Government of the Republic of Zambia. The National Strategy on Financial Education for Zambia 2019?2024 (NSFE II)

[48] NFMS, *National Forest Monitoring System*.

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[52] Bradley, Mickels-Kokwe, and Moombe, ?Scaling up Community Participation in Forest Management through REDD+ in Zambia.?

[53] World Bank, ?Climate-Smart Agriculture Investment Plan Zambia: Analyses to Support the Climate-Smart Development of Zambia?s Agriculture Sector.?

[54] GIZ, ?Sustainable Water Management.?

[55] ?Zambia Integrated Forest Landscape Program | BioCarbon Fund Initiative for Sustainable Forest Landscapes (ISFL).?

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[58] FAO, ?Zambia Study on Analysis of Extreme Weather Events Impacting Agriculture, Climate Downscaling and Climate Change Projections.?

[59] WFP, ?Climate Services. Data Accessed on 09/09/2020.?

[60] IRI, ?Enhancing National Climate Services. Targeted Climate Information for Impactful Decision Making.?

[61] See, for example, the Integrated Land Use Assessment I and II assessments

[62] ZNFCA are actively supporting farmers to value add their forest products especially herbs and foods and linking them to high value markets

[63] Agroforestry is addressed by both the Forestry Department and the Department of Agriculture and the project will involve both departments as far as appropriate.

[64] see Annex L

[65] ?Miombo Woodlands, Africa | WWF.?

[66] BirdWatch Zambia. Zambia?s flagship species https://www.birdwatchzambia.org/our-flagship-bird-species/

[67] https://earthobservatory.nasa.gov/images/146015/drought-threatens-millions-in-southern-africa

[68] IAPRI 2018. Fall Armyworm Outbreak in Zambia: Responses, Impact on Maize Production and Food Security

[69] World Bank, ?Climate-Smart Agriculture Investment Plan Zambia: Analyses to Support the Climate-Smart Development of Zambia?s Agriculture Sector.?

1b. Project Map and Coordinates

Please provide geo-referenced information and map where the project interventions will take place.

The location of the project sites and their georeferenced coordinates are shown in the maps below.

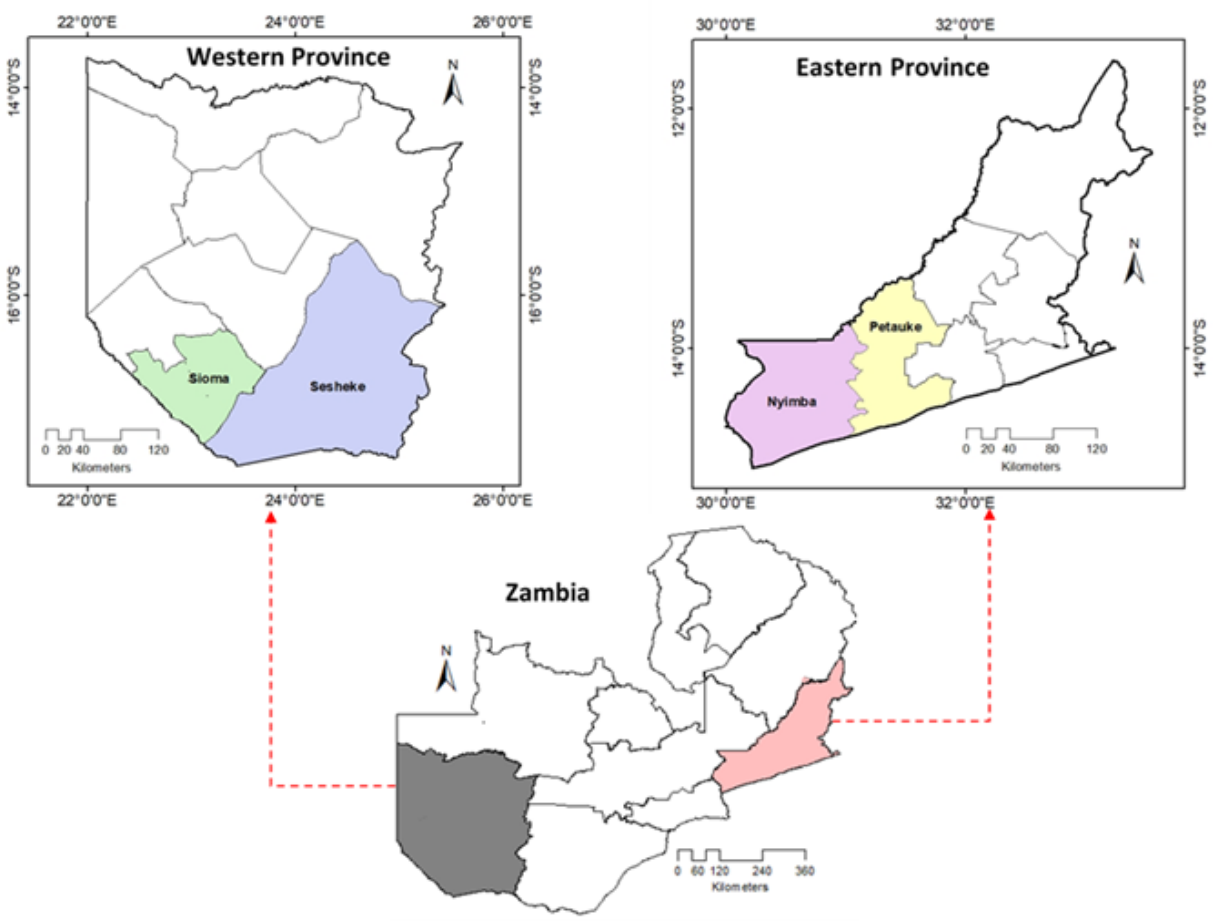

Figure 2: Geographical Location of the Project Sites in Zambia

1c. Child Project?

If this is a child project under a program, describe how the components contribute to the overall program impact.

2. Stakeholders

Select the stakeholders that have participated in consultations during the project identification phase:

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above, please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Please refer to the attached Stakeholder Engagement Plan.

In addition, provide a summary on how stakeholders will be consulted in project execution, the means and timing of engagement, how information will be disseminated, and an explanation of any resource requirements throughout the project/program cycle to ensure proper and meaningful stakeholder engagement

The design of this initiative is such that it recognizes the pivotal roles and responsibilities played by the diverse range of involvement of stakeholders at various stages of project design and implementation. Additionally, the role of multi-level stakeholder coordination in positively influencing natural resource management is widely acknowledged. In developing this proposal, broad-based stakeholder consultations were conducted and during project implementation consultation will involve local communities, traditional authorities, government agencies, private sector, and producer groups. A detailed stakeholder engagement plan is attached.

The preliminary list of key stakeholders and their expected roles and responsibilities during project implementation are given in Table 3 below.

Table 3: List of Key Stakeholders and their Expected Roles and Responsibilities

Stakeholder Group	**Stakeholder**	**Potential roles & responsibilities**
Ministry of Lands & Natural Resources	Forestry Department (FD)	Providing Overall Government Leadership, oversight and Coordination in the implementation of activities. FD will be coordinating the involvement of other Government Departments and other key stakeholders in project implementation. Through the Project Technical Committee, the Government Departments at National level will be kept involved and updated in the project activities. FD will play a pivotal role in facilitating the establishment of community forests across the project
	Climate Change Department (CCD)	The Department is responsible for climate change and natural resources policy formulation and review, standards setting, and coordinating the implementation of climate change projects. CCD will collaborate with FD on policy related matters
Ministry of Agriculture	Department of Agriculture (DA)	Agriculture is a key stakeholder that has strong community interaction in the project sites. The primary strength of the DA is its extensive operating network organized around camps and blocks that links directly into the community in the project sites. The DA has extensive experience in supporting and promoting seed multiplication, agroforestry, conservation farming as alternatives to the environmentally destructive conventional farming systems practiced across the project landscapes.

Stakeholder Group	Stakeholder	Potential roles & responsibilities
Ministry of Chiefs & Traditional Affairs	Chiefs & Traditional Affairs	In each of the project sites, there is an existing traditional structure with Chiefs being in-charge of the overall administration of the affairs of the landscape. Since the project will engage traditional leaders in the implementation of the activities, the Department of Chiefs and Traditional Affairs will coordinate with FD in facilitating the engagement of traditional leaders.
Ministry of Tourism	Department of National Parks & Wildlife (DNPW)	Among the four selected project sites, Sioma district in western province falls in a Game Management Area (GMA). Given the legal disposition of the GMAs, DNPW will play a critical role in Sioma district as it relates to the implementation of the project activities**.**
Ministry of Water Development Sanitation & Environmental Protection	Department of Environmental Management (DEM)	Department of Environment is the GEF focal point charged with the overall responsibility of ensuring that GEF proposals and activities in Zambia are consistent with national priorities and the country commitments under global environmental conventions.
Ministry of Commerce Trade & Industry	Department of Cooperatives	The Department of Cooperatives has a legal mandate of promoting and facilitating the formation and growth of cooperatives in Zambia as a way of stimulating income generation, job creation, and poverty reduction. Additionally, the Department is charged with the responsibilities of promoting local value addition ventures in all sectors of the economy. The Department will collaborate with FD in promoting livelihood diversification through value addition and in supporting local level forest-and farm-based enterprises to innovate through value addition.
Operational Partner	WWF Zambia	Project Executing Agency
Traditional leaders	Chief Nyampande (Petauke District), Chief Ndake (Nyimba District), Senior Chief Inyambo Yeta (Sesheke District), Chief Lukama (Sioma District)	The role of the traditional leaders is to provide support towards natural resources conservation in the chiefdom. Chiefs through their structures will also play an important role in providing guidance on the use of indigenous knowledge on cultural aspects of natural resources management. Therefore, the project will work in close collaboration with the traditional leadership throughout project implementation.
Local Communities	Nyampande, Ndake, Yeta, Lukama	Local communities will be the direct beneficiaries and play a direct central role in project implementation

Stakeholder Group	Stakeholder	Potential roles & responsibilities
Civil society Organisations (including, Non-Governmental Organizations and Farmers Organizations)	All Non-governmental Organizations (both local and international) actively involved in agriculture and natural resources management.	Civil Society Organizations have an essential role to play throughout project implementation, including capacity building, supporting local level forest- and farm-based enterprise development, managing gender-related activities, and identification of vulnerable groupings
Academia and/ Research institutions	Public and private Universities (University of Zambia, Copperbelt University, Mulungushi, Mukuba, APEX, etc.), and Research institutions (ZARI, NISIR, etc.)	The design of the project is such that it promotes innovation and knowledge sharing through research and development. Therefore, the role of academia and research institutions will be that of providing technical leadership on product value addition, knowledge generation to promote livelihood resilience
Private Sector	Local smallholder producers and small-scale enterprises Private sector associations/ organizations involved in harvesting, processing and trade in non-timber forest products and agricultural products (Kalahari Oils, COMACO, CAZ, ZHC, ZNFCA, etc.)	The project target areas have a limited number of functional small-scale forest- and agriculture-based private sector initiatives. With regards to Mungongo Oil, which has high potential in Western province, two major players are buying the nuts at the level of small-scale. In the case of honey, it is a potential value chain across all the project sites. In Eastern province, COMACO provides a ready market for comb honey. The Zambia National Commercial Bank (ZANACO) in partnership with the Cotton Association of Zambia (CAZ), the Zambia National Forestry Commodities (ZNFCA) and the FFF has been promoting financial literacy and access to finance for value addition in forest value chains (Herbal medicines, Forest fruits, and wild vegetables) among local communities throughout the two project sites. Therefore, the private sector will play the crucial role of providing market linkages for the producer groups during project implementation and access to finance for climate resilient crops and forest products.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier; Yes

Member of project steering committee or equivalent decision-making body; Yes

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Zambia has very clearly defined gender divisions, which is set in the socio-cultural context of various communities. Ownership and control of assets and resources (including natural resources) is predominantly in the hands of men. Traditionally, most women do not own or inherit land, even in matrilineal communities. Women?s control over use of income and participation in making decisions in the use of income is generally low, especially among rural households.

Customary land is owned by men even in matrilineal communities. Women own land through a male relative in matrilineal communities.

Men are the final authorities on what happens at household level and in the community. Whilst women tend to have a significant role in the production of farm and forest commodities, men tend to take over at the time of marketing the produced commodities. Attempts have been made by various government agencies and projects to engage women on these issues, but generally, women do not naturally engage, especially when discussions are held in public domain where men are present. Furthermore, women and youth farmers are generally the most financially excluded group, especially in terms of formal extension services.

Zambia?s national gender policy[1] notes that poverty among women continues to be a hindrance to their participation in decision making because they are less educated and skilled and are therefore dependent. It also notes that climate change adversely affects women whose livelihoods largely depend on natural resources for food, wood fuel, and water.

Overall, women in rural Zambia are highly vulnerable to the impacts of climate change because of their roles in managing the household, providing food and collecting fuel wood and water, their dependency on natural systems to supply ecosystem services and their extremely limited capacity to earn income and engage in markets and influence both household and community decisions. Women in the poorest households are disproportionately negatively affected by the impact of climate change and other root causes of environmental decline.

The Project supports the Government of Zambia to apply a gender responsive approach that promotes gender equity and equality in access to and control of natural assets, technologies, services, decision-making processes, products and income from forest/farm mosaic landscapes in order to enhance food security, wellbeing and resilience of rural households.

The project will seek to improve the capacity of key stakeholders to better understand the roles of women and men and their contributions to specific products and services, and to be more effective at

participatory design and implementation of gender-sensitive interventions that are appropriate to local knowledge and skills, resources, time availability, interest, and ingenuity.

Budget will be allocated to women?s empowerment and to support to women-led Forest and Farm Producer Organizations (FFPOs), targeting at minimum of 50 per cent of all participants to be women.

In addition, the project will build on the recommendations of the FAO National gender profile of agriculture and rural livelihoods for Zambia[2], the report on gender mainstreaming and climate resilience in Zambia?s cashew sector: Insights for adaptation planners[3], and promote gender equitable financial and technical support, including through community-based savings and lending initiatives, and through the dissemination of labor-saving and gender-sensitive technologies and practices.

A **Gender Action Plan** has been developed as a standalone document for the proposed project. Please find it attached below.

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[1] Ministry of Gender and Child Development, ?National Gender Policy 2014.?

[2] FAO, ?National Gender Profile of Agriculture and Rural Livelihoods ? Zambia.?

[3] FAO and UNDP, ?Gender Mainstreaming and Climate Resilience in Zambia?s Cashew Sector: Insights for Adaptation Planners.?

Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women empowerment?

Yes
Closing gender gaps in access to and control over natural resources; Yes

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

Does the project?s results framework or logical framework include gender-sensitive indicators?

Yes
4. Private sector engagement

Elaborate on the private sector's engagement in the project, if any.

The Project responds to priorities for private sector engagement articulated in the LDCF/SCCF strategy by targeting interventions at small scale enterprises with a view to building capacities of the private sector at the local level and linking these enterprises to local and national markets.

The direct beneficiaries of the project are small-scale farmers and value chain actors (60 per cent of those are women), representing local private sector within the project boundary.

Components 2 and 3 are specifically geared towards private sector engagement. Interventions in these components are targeted at enhancing local private sector capacity and fostering entrepreneurship through value chain development of forest and agricultural products as a means to building climate resilience in vulnerable communities. The interventions aim to link smallholder producers, and particularly women, to markets, introduce sustainable supply chains, and create improved and sustainable revenues from forest and agricultural commodities.

The exact role and means of engagement of the private sector should be determined by the project within the first year of operation, subject to proper due diligence. The aim is to build on and improve existing value chains and market where appropriate, whilst seeking to overcome the challenges and limitations that have faced smallholder engagement with the private sector. Engagement with the private sector may potentially include the following:

? National (and multinational) private sector enterprise stakeholders will be involved where necessary, for example, Umoyo, Kalahari Natural Oils, Sustainable Innovations Africa, COMACO and the Zambia Honey Council, and the work of these partners linked to the DSL IP projects implemented in other Southern African countries. Including:

o The Cotton Association of Zambia (CAZ), which focuses on supporting smallholder farmers with cotton, maize and soya and works with FFF integrating trees on farm, promoting tree nurseries, and bio energy plants, could be engaged to support financial literacy of FFPOs. CAZ and ZNFCA have an MOU with ZANACO bank to support access of smallholders to financial services and increase financial literacy. CAZ is a partner of the FFF.

o Kalahari Natural Oils or similar organisations could be engaged where necessary to train local people in organic harvesting and processing of Mungongo and Maketii seeds and Devil?s Claw, building on their existing work in South-western Zambia since 2006. Their role could be to enable local producers to become suppliers of high quality raw materials, thereby giving local people, especially women, an alternative to subsistence farming and additional cash income. Some of the costs will be covered by the project as part of capacity building for the producer groups.

o The Zambia Honey Council could be engaged through their activities to support training, organize honey producers, ensure producers have access to markets and earn fair income. Being a forum of honey producers, processors and buyers, the Zambia Honey Council is well positioned to coordinate key players in the honey value chain to help ensure that honey producers get a fair price for their produce and to ensure a market even after the project has closed. This approach will help facilitate additional investments and support the private sector, to replicate and scale up in a timely manner.

- The Zambia National Forestry Commodities Association could be engaged for promotion of sustainable practices including basic certification schemes and participatory guarantees.

5. Risks to Achieving Project Objectives

Elaborate on indicated risks, including climate change, potential social and environmental risks that might prevent the project objectives from being achieved, and, if possible, the proposed measures that address these risks at the time of project implementation.(table format acceptable):

Section A: Risks to the project

The project is not likely to face any risks that would result in catastrophic consequences for the project. The risks that have been identified can all be mitigated through effective management by the project and through the support of government staff and the PSC.

Table 4 provides an indication of the potential risks and the mitigation measures and controls that may be required to manage the risk.

The COVID-19 pandemic occurred at the end of the project design process and the implications for the project and for targeted stakeholders and partners is yet to be fully understood. Some potential mitigation actions are included in Table 5. The project may need to follow an adaptive approach as the full impacts of COVID-19 become apparent. This may include, but necessarily be limited to changes in the way stakeholders and project governance is engaged to comply with social distancing; adjustments to working arrangements with government and other project partners, careful monitoring and response to any changes in co-financing and or willingness of partners to collaborate.

Depending on the situation with COVID-19, the project should develop a set of policies and procedures to manage risks associated with COVID-19 including and mitigation measures to avoid risks to project and partner staff and to communities. It is possible that some of the proposed activities (e.g. farmer field schools and regional travel) will need to be delayed and/or modified.

Please also refer to the climate risk screening uploaded in the roadmap section.

Table 4 Risks

Description	Impact	Likelihood	Mitigation actions	Responsible party

The drought continues and deepens putting project interventions at risk	High	Moderate	Interventions will consider the likelihood of the drought worsening and or extending and will avoid or delay interventions that have a high probability of failure without adequate rainfall. This risk will also be mitigated by a comprehensive analysis at the start of the project to tailor interventions to local conditions, capabilities, and interests. Strengthening resiliency to anticipated climate and weather impacts will be embedded into planning and investments, using a systems-level, landscape approach	PMU
Crop pest and disease outbreaks put project interventions at risk	High	Moderate	Interventions will consider the likelihood of pest and disease outbreaks and work closely with the Department of Agriculture to identify interventions that are least likely to be affected by pests and diseases. This risk will also be mitigated by a comprehensive analysis at the start of the project to tailor interventions to local conditions, capabilities, and interests. Strengthening resiliency to anticipated climate and weather impacts will be embedded into planning and investments, using a systems-level, landscape approach	PMU

There is insufficient capacity or interest at district level to support the proposed transformational changes	High	Moderate	Key components of the project take place at district level and thus depend on the active engagement of the selected districts with project processes. This risk will be mitigated through a participatory process that engages district level staff and local leaders (Chiefs) as key agents of change. District staff and local leaders will be supported through capacity building and backstopped by project funded staff. The provision of continuous support and monitoring by the project team will provide rapid response support to emerging implementation challenges.	PMU overseen by PSC
Private sector fails to invest in value chains	High	Moderate	The project will seek commitments from the private sector to sustain the initiative. The involvement of partners will assist in mitigating this risk.	PMU

Weak community engagement	Low	Low	The project is designed to build resilience among forest-dependent communities and thus will require their full and active engagement. This risk will be mitigated through a participatory process that engages district level staff and local leaders (Chiefs) as key agents of change. Target communities themselves will select the combination of activities in which they will engage, and this will help ensure that interventions meet local needs and address local driving forces of deforestation and degradation. Moreover, the project will focus on livelihoods, and the necessary enabling environments, so that benefits accrue with minimum delay, to build trust and confidence with communities. The project will also apply an adaptive management approach that seeks to respond to changing circumstances and views of communities. The project has a significant component on awareness raising as a means of fostering community buy-in.	PMU, District staff, and community leaders
Fraud, theft, or mismanagement of project resources	High	Low	Effective project management and administration policies, procedures, and actions. Regular independent audit and spot/ monitoring checks of activities implementation.	PMU with PSC and FAO oversight

The impact of COVID-19 restrictions and economic downturn impact delivery of the project	High	High	Although the impact of COVID-19 is unclear at time of project design it is reasonably likely that mitigation measures may be required including: Changes to working arrangements for the project to enable activities to be undertaken at all levels. Expanded use of e-based communications with government partners and provincial/district officials and project technical and steering committees. Alternate plans for engaging stakeholders, including changing the timing of and approach to engagement. Close monitoring and adaptation to potentially reductions in co-financing and ability of government to access funds and resources. Adopting a more adaptive approach to project implementation that enables modifications to approach, target areas and stakeholder groups depending on emerging circumstances. Developing a project contingency plan for this and potentially other such events. A more detailed analysis is provided in the following section.	PMU with PSC and FAO oversight and in close collaboration with government COVID-19 focal points.

COVID-19

The COVID-19 pandemic is likely to disrupt some of the project activities such as meetings, and hence may affect the pace at which the project will be implemented.

Country Context

On March 18, 2020, the Ministry of Health announced the first two confirmed cases of COVID-19 in Zambia. The government responded with phased measures including a partial lockdown mainly restricting large gatherings including learning institutions. Wearing facemasks became mandatory. The country?s three international airports, however, remained open with arriving passengers encouraged to self-quarantine while body temperature recording was mandatory at the points of entry into the country. Following increasingly high cases recorded in some neighboring countries, the Government announced brief boarder closures and mandatory testing/quarantine of truck drivers. However, by September 2020, following a drop in daily COVID-19 cases recorded, several restrictions were eased and businesses such as restaurants, bars, casinos, and weekly markets were permitted to reopen. Learning institutions and churches reopened while public gatherings of more than 50 people were allowed as long as they observed the necessary measures of COVID-19 prevention. Zambia experienced a resurgence in a second wave of the disease in January 2021. The number of cases rose rapidly from an average of 65 cases per day in mid-December 2020 to 1,358 cases per day in January. However, the economy remained open and wearing of face masks has remained optional. As of 5th May 2021, the Country had recorded 91,804 confirmed COVID-19 cases and 1,254 deaths

Economic and individual livelihood effects

The COVID-19 pandemic has negatively affected all sectors of the country?s economy exacerbating the weak economic situation that the country was facing prior to the pandemic. According to the Consumer Unity & Trust Society (CUTS, 2020) the formal sector, the wholesale and retail and mining sectors have suffered the largest decline in contribution to GDP dropping by 2.24% and 1.45% respectively under the most conservative restrictions scenario.

At micro level, livelihoods of both urban and rural populations as well as the food security situation have been significantly negatively affected in terms of disruptions to income flow and in the food systems. An estimated 4.1 million people in Zambia have been directly and/or indirectly negatively affected by the COVID-19 pandemic. The effects range from socio-economic to cultural. According to UNOCHA (2020), an estimated 1.2 million people in Zambia?s urban and per-urban areas were now exceedingly poor. Four in every five households have experienced significant income reduction income reporting a drop in income from non-farm business, while some have also reported either a reduction or disappearance of wages. The most affected households were the daily income earners and farming households who constitute the majority of the lowest income category (less than USD 20 monthly household income). Among other factors, the brief border closures disrupted cross-border movement, which impacted the supply chain for important commodities, such as agricultural inputs and markets critical to smallholder producers.

Government Response

In response to the increasing cases during the first wave of the pandemic, the Government set up a number of strategic institutions with specific COVID-19 response mandates. These included the following: a council of ministers and permanent secretaries, a national epidemic preparedness committee, a prevention, control, and management committee. Furthermore, an Incident Management Structure (IMS) was set up at the Zambia National Public Health Institute (ZNPHI) following the declaration of the outbreak as a Public Health Emergency of International Concern (PHEIC).

To cushion the households and businesses affected by the pandemic, the Zambian government also pursued a number of economic and social protection policies including:

- ? Allow movement of cargo and not travelling passengers at the border points. Develop protocols for managing the entry of critical supplies at the border.
- ? Bank of Zambia?s approval of ZMW 10 billion (USD 540 million) for microfinance institutions and commercial banks
- ? Cash transfers for vulnerable households from the Disaster Management and Mitigation Unit (DMMU) of ZMW 400 to ZMW 800 (USD 21 to USD 42) per month
- ? Issuance of a COVID-19 bond of ZMW 2,671 million (USD 144 million), which would be used in part to pay pensioners
- ? Ministry of Finance to work with Ministry of Commerce, Trade and Industry and major retail outlets to promote domestically produced goods for chain stores
- ? Suspend excise duty on materials that are used as inputs in producing products such as sanitizers
- ? Defer payments of VAT, Customs Duty and Excise Duties for strategic importation (e.g. food, medicine, critical input for packing sector, capital goods).

Project Mitigation Measures

The COVID-19 pandemic occurred at the end of the project design process, and the implications for the project and targeted stakeholders and partners are yet to be fully understood. Consistent with GEF agenda

Item 15, some potential mitigation actions are listed in Table 4 above. In the short to medium term, COVID-19 is likely to impact Project implementation in many ways, including:

? **Modified working arrangements** to permit effective communication and coordination while social distancing among team members: In the short term, the project will promote the use of IT tools assuming problems of internet connectivity are resolved.

? **Reduced involvement by Government and other partnership actors** in project activities due to staff shortages, reorientation of institutional priorities, and social distancing: The project will constantly review and make adjustments to implementation and stakeholder engagement arrangements in the short to medium term.

? **Reduced co-financing support** resulting from the COVID-related economic downturn and/or the reorientation of available funding to actions directly related to COVID-19: Much of the secured project co-financing is coming from sources less likely to be affected. The project will carefully monitor and respond to any changes in co-financing and partners? willingness to collaborate.

? **Reduced opportunities for face-to-face interactions** with key project beneficiaries and representation due to social distancing: The project will follow an adaptive approach as the full impacts of COVID-19 evolve. This will include but is not necessarily limited to changes in stakeholders? engagement. Additionally, project governance will strictly comply with social distancing and other government-prescribed approaches, including adjustments to working arrangements with government and other project partners. Depending on the situation with COVID-19, some of the proposed activities that promote the pandemic spread, such as farmer field schools and regional travel, will be delayed and/or modified.

Finally, the Project will seek opportunities to contribute to COVID-19 recovery and enhance synergies with Government efforts to foster resilient livelihoods, in line with the economic and social protection policies described above. It will also explore innovative marketing mechanisms such as online distribution and marketing channels.

As the pandemic has affected the value chains for both agriculture and forestry products, which has further weakened the position of communities to tackle the impact of climate change, the project will directly support resilient recovery by promoting innovations and technologies in both agriculture and forestry value chains. By supporting the development of sustainable and diversified value chains, the project will contribute to inclusive economic opportunities as part of a ?building back better? approach. The project will also ensure that communities are updated with information on trends in COVID-19 and secure open markets are identified at both national and regional levels through provision of market analysis. It will explore innovative marketing mechanisms such as online distribution and marketing channels and direct marketing.

Furthermore, the project will directly support resilient recovery by building the capacity of women and men from FFPOs for regular risk management assessments (including risks arising from COVID-19) of their enterprises to proactively identify, prioritize and adaptively manage challenges that need to be overcome to maintain business development, including new processing hygiene procedures adapted to COVID-19.

The project will further support resilient recovery by ensuring that all project activities such as meetings and trainings are conducted with full adherence to the COVID-19 health guidelines and participants are supported with the necessary requirements such as masks and hand sanitizers.

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[1] https://www.worldometers.info/coronavirus/country/zambia/

[2] UNOCHA, 2020. COVID-19 Emergency Appeal Zambia (May - October 2020) (Revised July 2020) - Zambia. 2021. Retrieved 19 April 2021, from https://reliefweb.int/report/zambia/united-nations-covid-19-emergency-appeal-zambia-may-october-2020-revised-july-2020

[3] Finn, Arden; Zadel, Andrew. 2020. Monitoring COVID-19 Impacts on Households in Zambia, Report No. 1 : Results from a High-Frequency Phone Survey of Households. World Bank, Washington, DC. ? World Bank. https://openknowledge.worldbank.org/handle/10986/34459 License: CC BY 3.0 IGO.

[4] Mofya-Mukuka, R., Kabisa M., & Singongo, F. 2021. Monitoring Household Food Security and Nutrition in 30 SUN 2.0 Districts in Zambia during the COVID-19 pandemic: 4th Bi-Monthly Telephone Survey Report January 2021. Scaling up Nutrition Learning and Evaluation (SUNLE) Consortium. Lusaka

[5] GEF. The Impact of Covid-19 on GEF Project Preparation and Implementation: Overview of Responses from Across The GEF Partnership. 59th GEF Council Meeting December 7 ? 11, 2020

6. Institutional Arrangement and Coordination

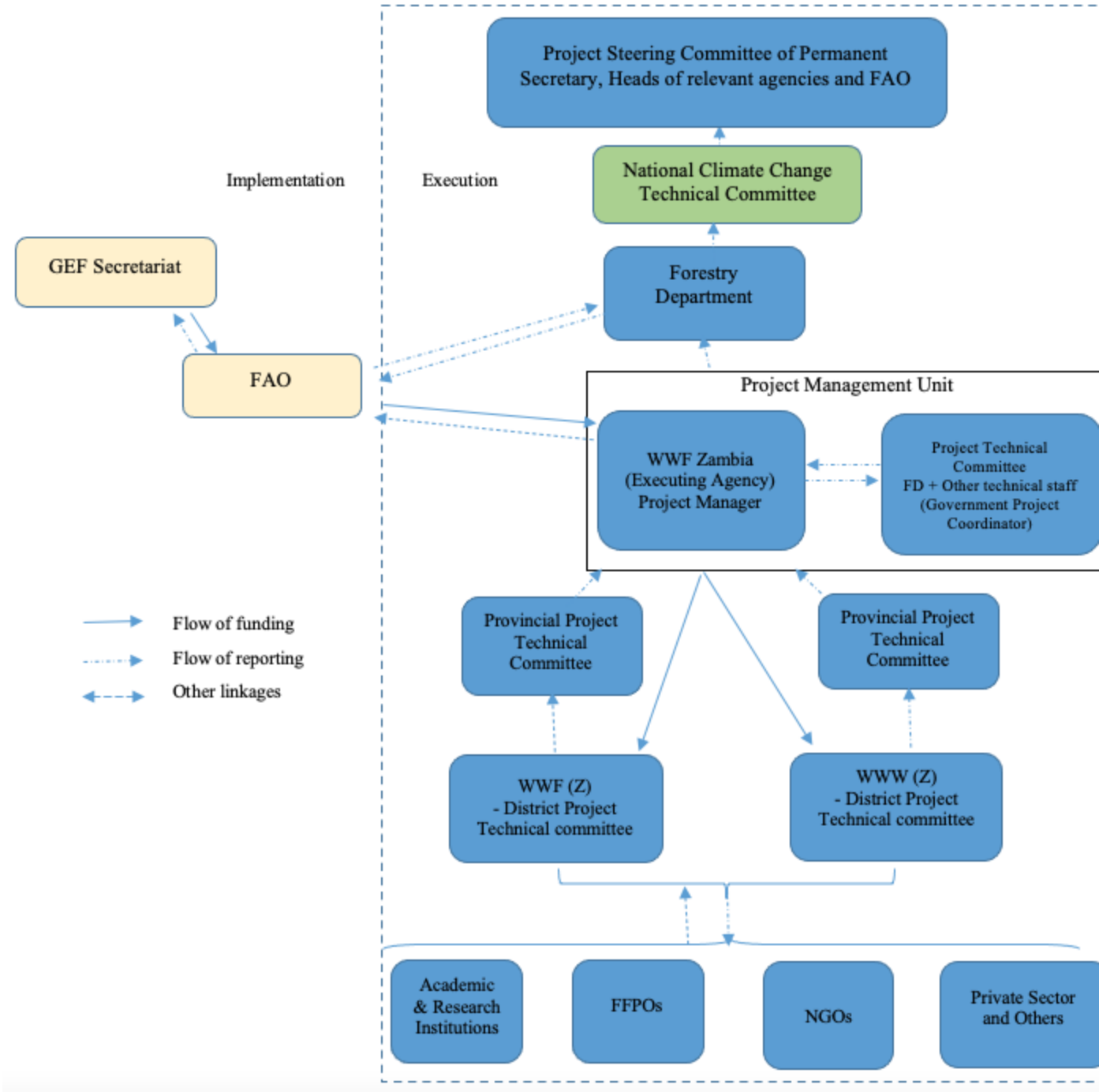
Describe the institutional arrangement for project implementation. Elaborate on the planned coordination with other relevant GEF-financed projects and other initiatives.

6.a Institutional arrangements for project implementation.

WWF Zambia will be the **executing agency** for the project, with FAO providing oversight as the GEF Agency. WWF Zambia will execute the project activities in close collaboration with the Forestry Department. A Project Management Unit, housed nationally at the Forestry Department will be set up and will consist of staff from both WWF (hired) and provided by Forestry Department as co-financing. This project will sit in the same premises as UNEP?s Ecosystem conservation and community livelihood enhancement in North Western Zambia project.

As Operational Partner (OP) of the project, WWF Zambia is responsible and accountable to FAO and the Government for the timely implementation of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements. FAO as the implementing agent will in manage the GEF resources and will be in charge of transferring funds to the OP.

The project implementation structure is as follows:



The Project will be coordinated within the framework of the existing coordination mechanisms for climate change projects/programmes in the Forestry Department, including UNEP?s Ecosystem conservation and community livelihood enhancement in North Western Zambia.

The government will designate a **National Project Coordinator** (NPC). Located in the Forestry Department, the NPC will be responsible for coordinating project activities with all national bodies related to the project components, as well as with the project partners, under the overall guidance of the **National Project Director** (NPD ? the Director of Forestry).

The Annual work plans and budgets will be approved by the **Project Steering Committee** (PSC) chaired by the Permanent Secretary Ministry of Lands and Natural Resources. The PSC will provide strategic (non-technical) guidance to the Project Management Unit (PMU).

The NPD or NPC will be the Secretary to the PSC.

The PSC will consist of Zambia?s Steering Committee of Permanent Secretaries (PS), chaired by the PS, Ministry of Lands and Natural Resources. The PSC will approve annual work plans and budgets of the project.

The PSC will meet at least twice per year to ensure: i) Close linkages between the project and other ongoing national projects and programmes relevant to the project; ii) Timely availability and effectiveness of co-financing support; iii) Sustainability of key project outcomes, including up-scaling and replication; iv) Effective coordination of government partner work under this project; vi) Approval of the six-monthly Project Progress and Financial Reports, the Annual Work Plan and Budget.

The Director Forestry (or designated person from the lead national institution) will chair the national **Project Technical Committee** (PTC) consisting of technical staff of FD and relevant Government Departments, which will be the main technical body of the project. The PM will be the secretary of the PTC. The PTC will be comprised of representatives from the Forestry Department, the Department of Agriculture, Department of Environmental Management, WWF Zambia, Local government, Traditional Affairs, government representatives from the two project provinces, FAO, and representatives from civil society/NGOs

The members of the PTC will each assume the role of a Focal Point for the project in their respective agencies/institutions. As Focal Points in their agency, the concerned PSC members will: i) ensure a fluid two-way exchange of information and knowledge between their agency and the project; ii) facilitate coordination and links between the project activities and the work plan of their agency; and iii) facilitate the provision of co-financing to the project.

The NPC will have a communication link with Zambia?s Steering Committee of Permanent Secretaries, the main advisory body to the Council of Ministers on climate change policy and programme coordination and implementation.

The project will make use of the two **Provincial Project Technical Committees** (PPTC) already established in each of the two project target provinces. The PPTC will meet at least twice per year to ensure effective planning, implementation, monitoring, and reporting of the project at provincial, district and local levels.

A designated person from the respective provincial government will chair the PPTC.

The PPTC will have the following responsibilities for their respective province: i) Oversight and assurance of technical quality of outputs; ii) Close linkages between the project and other ongoing provincial and district projects and programmes relevant to the project; iii) Timely availability and effectiveness of co-financing support; iv) Sustainability of key project outcomes, including up-scaling and replication; v) Effective coordination of government partner work under this project; vi) Making by consensus, management decisions when guidance is required by the National Project Coordinator.

In addition, the PPTC members from the two provinces will (i) technically oversee activities in their province; (ii) ensure a fluid two-way exchange of information and knowledge between the province, the project and district based government agencies; (iii) facilitate coordination and links between the project activities and the work plan of their province and associated districts; and (iv) facilitate the provision of provincially-based co-financing to the project.

In each of the four participating districts, the project will be implemented through the **District Project Technical Committee** (DPTC). Project funds and management will be through WWF Zambia. The DPTC members will be drawn from the relevant departments under the District Development Coordinating Committee (DDCC). The Forestry Department will chair the DPTC. The main functions of the DPTC, under the managerial guidance of the PPTC, technical advice of the PMU, and in close collaboration with the DDCC, are to ensure overall efficient management, coordination, implementation, and monitoring of the project at the district level through the effective implementation of the annual work plans and budgets (AWP/Bs). The DPTC will include a District Technical Assistant to be employed by WWF Zambia, who will work full-time for the project lifetime.

A **Project Management Unit** (PMU) will be co-funded by the GEF and established by WWF Zambia in Lusaka in office space provided by the Forestry Department. The main functions of the PMU, under the managerial guidance of the PSC, technical guidance of the PTC and in close collaboration with the PPTCs, are to ensure overall efficient management, coordination, implementation, and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU will include a PM who will work full-time for the project lifetime.

The **Project Manager & Technical Coordinator**, recruited by the Operational Partner (OP), will oversee daily implementation, management, administration, and technical supervision of the project on behalf of the Operational partner and within the framework delineated by the PSC. S/he will be responsible, among others, for:

- ? Overall technical lead for the implementation of all project outputs and activities and ensure technical soundness of project implementation.
- ? Coordination and close monitoring of the implementation of project activities.
- ? Close and effective coordination and collaboration with the Forestry Department and other Government departments;
- ? Provide technical guidance for the implementation of Outputs 1.1.1 and 1.1.2 with regard to landscape level planning and participatory assessments.
- ? Provide technical guidance for the capacity development of local institutions, including FFPOs, on climate-resilient value chains and crop production under Outputs 2.1.3 and Output 3.1.3.
- ? Lead technical knowledge exchange with the global DSL IP project.
- ? Supervise preparation of various technical outputs, e.g. knowledge products, reports and case studies.
- ? Ensure effective engagement of stakeholders as per Stakeholder Engagement Plan.
- ? Coordination with relevant initiatives;
- ? Supporting a high level of collaboration among participating institutions and organizations;
- ? Ensuring compliance with all Operational Partnership Agreement (OPA) provisions during the implementation, including on timely reporting and financial management;
- ? Coordination and close supervision of the implementation of project activities;
- ? Tracking the project?s progress and ensuring timely delivery of inputs and outputs;
- ? Providing technical support and assessing the outputs of the project national consultants hired with GEF funds, as well as the products generated in the implementation of the project;
- ? Approving and managing requests for provision of financial resources using provided format in OPA annexes;
- ? Ensuring accuracy and reliability of financial reports;
- ? Ensuring timely preparation and submission of requests for funds, financial and progress reports to FAO as per OPA reporting requirements;
- ? Maintaining documentation and evidence that describes the proper and prudent use of project resources as per OPA provisions, including making available this supporting documentation to FAO and designated auditors when requested;
- ? Implementing and managing the project?s monitoring and communications plans;
- ? Organizing project workshops and meetings to monitor progress and preparing the Annual Budget and Work Plan;

- ? Submitting the six-monthly Project Progress Reports (PPRs) with the AWP/B to the PTC, PSC and FAO;
- ? Preparing the first draft of the Project Implementation Review (PIR);
- ? Supporting the organization of the mid-term and final evaluations in close coordination with the FAO Budget Holder and the FAO Independent Office of Evaluation (OED);
- ? Submitting the OP six-monthly technical and financial reports to FAO and facilitate the information exchange between the OP and FAO, if needed;
- ? Informing the PSC, PTC, and FAO of any delays and difficulties as they arise during the implementation to ensure timely corrective measure and support.

In addition, the PMU will include the following staff:

? Project Manager & Technical Coordinator (WWF)

? M&E Knowledge Management Expert (WWF)

? SHARP survey expert / collect mobile (training and monitoring) (WWF)

? Youth Coordinator (WWF)

? District Technical Assistant (x4) (WWF)

? Gender officer (WWF)

? Technical Assistant - community forestry expert (WWF)

? Business incubation specialist (WWF)

? Finance coordinator (WWF)

? Procurement specialist (WWF)

? 2 Drivers (WWF)

In addition to the Government's National Project Coordinator, relevant Forestry Officers and Agriculture Officers will be part of the PMU.

The Food and Agriculture Organization (FAO) as the GEF Implementing Agency (IA) for the Project, will provide project cycle management and support services as established in the GEF Policy. As the GEF IA, FAO holds overall accountability and responsibility to the GEF for delivery of the results. In the IA role, FAO will utilize the GEF fees to deploy three different actors within the organization to support the project (see Annex J for details):

? The Budget Holder, FAO Representative in Zambia, will provide oversight of day to day project execution and will be supported by the Head of Programmes (Assistant FAO Representative) and the Operations Specialist.

? The Lead Technical Officer, drawn from the FAO Sub Regional Office for Southern Africa (SFS), will provide oversight/support to the projects technical work in coordination with government representatives participating in the PTC.

? The HQ Technical Officer (FAO Forestry Department)

? The Funding Liaison Officer(s) within FAO (HQ, CBC) will monitor and support the project cycle to ensure that the project is being carried out and reporting done in accordance with agreed standards and requirements.

FAO responsibilities, as the GEF Implementing Agency, will include:

? Administrate funds from GEF in accordance with the rules and procedures of FAO.

? Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers, Operational Partners Agreement(s), and other rules and procedures of FAO.

? Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned.

? Conduct at least one supervision mission per quarter.

? Reporting to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, the Mid Term Review, the Terminal Evaluation, and the Project Closure Report on project progress.

? Financial reporting to the GEF Trustee.

6.b Coordination with other relevant GEF-financed projects and other initiatives.

The Project will learn from and/or work with the following GEF-funded and GCF-funded projects:

GEF closed projects (learn from):

Promoting Climate Resilient Community-based Regeneration of Indigenous Forests in Zambia?s Central Province (5435).

Implemented by the United Nations Development Programme (UNDP) with the Ministry of Lands, Natural Resources and Environmental Protection (MLNREP), Forestry Department. Budget US$ 33,015,090. Duration: 2015-closed.

The project objective was to promote climate-resilient, community-based regeneration of indigenous forests in Zambia?s Central Province.

Sustainable Land Management in the Zambian Miombo Woodland Ecosystem (1330)

Implemented by the World Bank with the Land Husbandry Section of the Ministry of Agriculture, Food and Fisheries (MAFF). Budget US$ 1,350,000. Duration 2001-2008.

The goals of the Project were: (i) a reduction of carbon emissions from unsustainable slash-and-burn agricultural practices in the Miombo woodlands; (ii) the conservation of globally significant biodiversity; and (iii) improvement of the food security of the local population.

There are useful lessons that Project will seek to learn for Component 2.

Building the Resilience of Local Communities in Zambia through the Introduction of Ecosystem-based Adaptation (EbA) into Priority Ecosystems, including Wetlands and Forests (8034)

Implemented by the United Nations Environment Programme (UNEP) with the Ministry of Land, Natural Resources. Budget US$ 21,724,400. Duration: closed.

The project aimed to increase the capacity of government and local communities in Zambia living around wetlands and forests to adapt to climate change using Ecosystem-based Adaptation (EbA) .

The project will seek to learn from project 8034 for Components 1 and 2.

Adaptation to the effects of drought and climate change in Agro-ecological Zone I and II in Zambia (3689)

Implementing agency UNDP with the Department of Agriculture. Budget US$ 13,699,000. Duration Project closed in 2015.

The Project's goal was to improve food security in Agro ecological Region I and II through enhanced adaptive capacity to respond to the risks posed by the effects of climate variability and global warming. Specifically, the objective was to develop the adaptive capacity of small-scale farmers and rural communities to withstand climate change.

Although this project is closed it may provide useful lessons for Component 2. The project will seek these lessons from project reports and the terminal evaluation report[1].

GEF projects under implementation (work with):

Strengthening Management Effectiveness and Generating Multiple Environmental Benefits within and around the Greater Kafue National Park in Zambia (4639)

Implemented by the United Nations Environment Programme with the Ministry of Lands and Natural Resources (Forestry Department) & Ministry of Tourism (Department of National Parks & Wildlife). Budget US$ 13,148,864. Duration 2012 ? 2020.

The project aims to ensure that the biodiversity and carbon sinks of Zambia ? particularly those critical forest landscapes in selected protected areas (including core National Parks and buffer Game Management Areas).

The project is relevant to the proposed project?s components 1 and 2 and it will seek to learn lessons from the project.

GEF projects under development:

Ecosystem conservation and community livelihood enhancement in North Western Zambia (10192)

Implementing agency, the United Nations Environment Programme with the Ministry of Lands and Natural Resources (Forestry Department). Budget US$ 42,338,585. Duration - concept approved 2019, project design underway, no project documents were made available.

The project development team established contact with the UNEP project development team. If the UNEP project is approved, the Project will seek to build strong coordination between the two projects. Relevant to all components.

GEF-7 Sustainable Forest Management (SFM) Dryland Sustainable Landscape Impact Programme (DSL IP).

The geographical scope of the Project falls within the heart of the Southern Africa Miombo woodlands, which is an ecoregion that forms part of the GEF-7 Sustainable Forest Management (SFM) Dryland Sustainable Landscape Impact Programme (DSL IP).

The overarching goal of the DSL IP is to ensure resilience of agroecological systems and forests in the drylands by reversing degradation in these systems, building sustainable livelihoods through SFM/SLM practices and improved market access through effective private sector engagement, and improving coherence in delivery across sectors through a landscape-level approach. The vision of the DSL IP is to maintain overall ecosystem integrity while concomitantly ensuring robust and adaptive collaboration across all key sectors and stakeholders, including the private sector, from local to national level.

The Project is fully aligned with the objectives of the DSL IP, and this will enable the participation of Zambia in the activities of DSL IP such as regional knowledge sharing of tools, exchange of good practices and other innovative approaches. Both initiatives are implemented in the Miombo-Mopane landscapes.

The Project will work closely with the DSL IP to share lessons and information, collaborate on training including farmer field schools and identify and promote policy relevant findings.

The project will maintain close linkages with other relevant projects and programmes including the World Bank funded project Zambia Integrated Forest Landscape Programme in Eastern Zambia, and the following projects in Western Province: WWF Silowana Complex Landscape Project, and the Pilot Programme for Climate Resilience (PPCR) Zambia [Including: Strengthening Climate Resilience in the Kafue Basin (SCRIKA) and Strengthening Climate Resilience of Agricultural Livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA) which are part of the PPCR]. The key focus will be on sharing lessons on the implementation of community forestry, climate-smart agriculture, and agro-forestry (Components 2 and 3).

The project will engage with relevant NGOs and other organisations to promote coordination and cooperation and as far as possible avoid duplication, including with ActionAid, FFF, We Effect, TNC Zambia, Zambia National Farmers Union (ZFNU) district chapters, Zambia Cotton Association (CAZ agroforestry unit), Zambia National Forest Commodities Association, Zambia Bureau of Standards (ZABS), Copperbelt University (School Natural Resources), University of Zambia (School of Agricultural Sciences), Zambia Forestry College, CIFOR and COMACO. As appropriate, the project will consider engaging relevant NGOS and other organisations to deliver key activities under the supervision of the PMU.

GCF projects under implementation (work with):

GCF Project Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia.

Implementing agency is UNDP, budget US$33,400,000, duration 2018-2025

The project supports the Government of Zambia to strengthen the capacity of farmers to plan for climate risks that threaten to derail development gains, promote climate resilient agricultural production and diversification practices to improve food security and income generation, improve access to markets, and foster the commercialization pf climate-resilient agricultural commodities.

This project has some geographic overlap in Western Province with the proposed project and also considerable relevance to the Project and as such the project will seek to establish regular interaction to share lessons on climate resilient production and improved access to markets, and potentially use the GCF project demonstration sites for farmer to farmer exchange (Component 3 and 4).

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[1] see https://www.thegef.org/project/adaptation-effects-drought-and-climate-change-agro-ecological-zone-1-and-2-zambiaw)

7. Consistency with National Priorities

Describe the consistency of the project with national strategies and plans or reports and assesments under relevant conventions from below:

NAPAs, NAPs, ASGM NAPs, MIAs, NBSAPs, NCs, TNAs, NCSAs, NIPs, PRSPs, NPFE, BURs, INDCs, etc.

Zambia?s 7th National Development Plan

The Project supports several outcomes of the 7th National Development Plan, including a Diversified and Export-Oriented Agriculture Sector by enhancing woodland and agriculture value chains and promoting small-scale agriculture; Reduced Inequalities by reducing gender inequality and enhancing income opportunities for poor and marginalized groups; and Improved Health and Health-Related Services by enhancing food security and nutrition.

Climate Change

Zambia?s national policy on climate change envisages that climate change actions shall consider the important role ecosystems play in addressing the impacts of climate change. The Project will contribute to the following Specific objectives of the Climate Change Policy:

? To promote and implement sustainable land-use management practices in order to contribute to reducing GHG emissions from land use and land use change and forestry.

? To promote mainstreaming of climate change into policies, plans, and strategies at all levels in order to account for Climate Change risks and opportunities in decision making and implementation.

? To strengthen the institutional and human resource capacity in order to effectively and efficiently address all aspects of climate change at international, national, provincial, district, and local levels.

? To promote investments in climate resilient and low carbon development pathways in order to generate co-benefits and provide incentives for addressing climate change more effectively.

? To engender Climate Change programmes and activities in order to enhance gender equality and equity in the implementation of climate change programmes.

The Project will contribute to the following measures:

? Promote the adoption of appropriate Climate Smart Agricultural (CSA) technologies for different agro-ecological zones.

? Promote landscape-based livelihood diversification.

? Reduce forest degradation and loss of forest ecosystems.

? Strengthen the fire management and soil conservation.

? Promote stakeholder participation and partnerships that integrate climate change in natural resources management at all levels.

? Enhance the capacity of rural economies to diversify by promoting alternative income generating activities that are climate resilient.

? Promote consideration of gender aspects and the role and needs of youth and persons with disabilities in capacity-building activities.

? Promote gender differentiation and implementation of gender specific measures on climate change.

? Improve the participation of women, youth, and children in climate change programmes.

? Facilitate the development, deployment, diffusion, transfer, and promotion of access to affordable, environmentally sound technologies.

? Promote identification and utilization of available climate-friendly technologies for mitigation and adaptation that meet low-carbon and climate-resilient development needs.

? Promote use of indigenous knowledge and local innovation on climate change.

? Encourage protection of local innovation and intellectual property rights.

REDD+ Strategy

Zambia developed its National REDD+ Strategy to effectively address the drivers of deforestation and forest degradation in line with the REDD+ mechanism. The REDD+ strategy is built around a vision of realizing a prosperous climate change resilient economy by 2030, anchored upon sustainable management and utilization of Zambia?s natural resources towards improved livelihoods. The main goal of the strategy is to contribute to national reductions in greenhouse gas emissions by improving forest and land management, and to ensure equitable sharing of both carbon and non-carbon benefits among stakeholders. The objectives of the REDD+ strategy are:

- ? By 2030, threatened and unsustainably managed national and local forests are effectively managed and protected to reduce emissions from deforestation and forest degradation and contribute with ecosystem services across selected landscapes.
- ? By 2030, selected high value forests in open areas are effectively managed and monitored.
- ? By 2030, all timber concession areas have management plans that are enforced and monitored with the full participation of local communities.
- ? By 2030, good agricultural practices that mitigate carbon emissions adopted.
- ? By 2030, regulated production of wood fuel (charcoal & firewood) and its improved utilization in place.
- ? By 2020, appropriate and affordable alternative energy sources widely adopted.
- ? By 2020, threatened and sensitive protected areas legislated as "no-go areas? for mining and infrastructure development.
- ? By 2025, mining industry contributing to management of surrounding indigenous forests and establishment of forest plantations for own timber needs.
- ? By 2025, land and resource rights on customary land legislated and secured.
- ? By 2020, relevant institutions capacitated to enable them to plan, manage, implement and monitor REDD+ programme activities.

The project design is such that it is in conformity with the vision, goal, and objectives of the national REDD+ strategy.

The project is also in full alignment with Zambia?s submissions under the UNFCCC.

Zambia?s **Nationally Determined Contribution (NDC)** highlights how climate change has already adversely affected food security and livelihoods, especially of rural communities and projects how the majority of GDP losses from climate impacts is expected to be attributed to the agriculture sector. Through the NDC, Zambia places importance and priority on adaptation to the effects of climate change in order to enhance the resilience of its population, ecosystems, infrastructure and productive systems. The NDC outlines the adaptation measures and sectors identified by the NAPA and notes that in terms of implementation, Zambia will take a landscape approach to enhance synergies between adaptation and mitigation actions. Specifically, the Project will contribute to the implementation on a number of prioritized adaptation measures and planned actions of the NDC, particularly within the programmes targeting ?adaptation of strategic productive systems? as well as ?enhanced capacity building, research, technology transfer and finance for adaptation?. This also includes the targeting and implementation of key activities, such as: 1) Promote CSA practices through conservation agriculture, agroforestry, use of drought tolerant varieties, water use efficiency management and fertilizer use efficiency management. 2) Promote crop land races of cassava, maize, sorghum, finger millet, beans, cowpea, and their wild relatives. 3) Capacity building in Climate Smart Agriculture (CSA) and Sustainable Forest Management (SFM) through trainings for farmers, extension, and technical staff.

Zambia has also initiated its **National Adaptation Plan (NAP)** process to outline the country?s priority areas for long term adaptation programming and mainstreaming of climate change adaptation into the existing national planning processes. Priority adaptation actions are aimed at: 1) guaranteeing food

security through diversification and promotion of Climate Smart Agriculture (CSA) practices for crop, livestock and fisheries production including conservation of germplasm for land races and their wild relatives and; 2) enhancing decentralized climate information services for early warning and long-term projections on the effects of climate change to support sustainable management of the production systems, infrastructure development and public health. The proposed Project is aligned to both priority areas.

The project will support Zambia?s **Technology Needs Assessment (TNA)** for Climate Change Adaptation by helping to address the barriers for transfer and diffusion of adaptation technologies in the Water sector and Agriculture and Food Security sector, including through conservation farming with agro-forestry, promotion of crop diversification and new varieties and capacity building and stakeholder organization (notably agro-forestry and farmer field schools). The project?s support to water management will be mainly through catchment management under community forest management.

The project responds directly to the prioritized adaptation measures outlined in Zambia?s **National Adaptation Programme of Action (NAPA)** on Climate Change, particularly those in the following areas: ?Agriculture and Food Security sector- improving post-harvest storage and marketing of produce and promotion of improved crop and livestock management practices.? ?Natural Resources, Wildlife and Forest Sector - improved extension services to ensure sustainable land and forest management, promotion of community forest management, forest fire management at the community level, targeting afforestation and re-afforestation programmes to control siltation of streams and rivers as well as to provide fuel wood to minimize encroachment of the forests, promotion of community woodlots for the provision of fuel wood and as sources of alternative cash income.?

The Project responds directly to Zambia?s national communication to UNFCCC which seeks to enhance the country?s capabilities to mitigate and adapt to the adverse impact of climate change in a more sustainable manner. The project also responds directly to Zambia?s voluntarily land degradation neutrality (LDN) targets.

Biodiversity conservation

The Project will support the following strategic goals of Zambia?s Second National Biodiversity Strategy and Action Plan (NBSAP-2):

? Reduce the direct pressures on biodiversity and promote sustainable use.

? Improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity.

? Enhance the benefits to all from biodiversity and ecosystem services.

? Enhance implementation of NBSAP2 through participatory planning, knowledge management, and capacity building.

The Project will contribute to the following measures within the National Biodiversity Strategy and Action Plan 2:

? Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use.

- o By 2025, areas under agriculture, aquaculture, and forestry (forest reserves, parks, Game Management Areas, forest concessions, open areas) are managed sustainably, ensuring conservation of biodiversity.

? Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity.

- o 12. By 2025, the genetic diversity of cultivated plants and farmed and domesticated animals and of wild relatives, including other socioeconomically as well as culturally valuable species, is maintained, and strategies have been developed and implemented for minimizing genetic erosion and safeguarding their genetic diversity.

? Strategic Goal E: Enhance implementation of NBSAP2 through participatory planning, knowledge management, and capacity building

- o 16. By 2020, the traditional knowledge, innovations, and practices of local communities relevant for the conservation and sustainable use of biodiversity are respected, fully integrated and reflected in the implementation of the Convention with the full and effective participation of local communities, at all relevant levels

Community forestry

The Forests Act (2015) and the Community Forest Management Regulations (2018) define a procedure for how members of a community, who derive their livelihood from a nearby forest, may apply for recognition by the Forestry Department as a community forest management group (CFMG).[1]

The Act and the regulations devolve significant rights to community forest groups to manage forests and engage in forestry value chain development (ibid).

A major focus of the Project is to support the implementation of community forestry within the targeted landscapes. Enabling local communities to take effective control of communal forests is a key element of reducing forest degradation and deforestation. Effectively managed community forestry may also help reduce or eliminate illegal harvesting of trees for charcoal.

Agriculture

The Project will support the following objectives of Zambia?s National Agriculture Policy:[2]

? Continuously improve agricultural input and product markets so as to reduce marketing costs of agribusiness, including small-scale farmers and farmer groups.

? Improve access to productive resources and services for small-scale farmers, especially women and young farmers, in outlying areas to enable them to increase production of staple foods, including fruits and vegetables, for own consumption and the surplus for income generation.

The project will support Zambia?s Climate-Smart Agriculture (CSA) Strategy Framework and the Climate Smart Agricultural Investment Plan[3] which aims to identify knowledge gaps about CSA?s local- and national-level benefits, specifically under climate change, inform policy development, and prioritize investment opportunities. .

Gender

The Project supports the ultimate objective of Zambia?s National Gender Policy[4] to create ?A nation where there is gender equity and equality for sustainable development.?

More specifically, the Project supports the following objectives of the Gender Policy:

? To increase the participation of women in decision making at all levels of development in the Public and private sectors.

? To reduce extreme poverty and destitution among vulnerable groups, especially women and Girls.

? To promote mechanisms for mitigating adverse effects of climate change.

? To promote equitable allocation of productive resources to women and men.

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[1] Bradley, Mickels-Kokwe, and Moombe, ?Scaling up Community Participation in Forest Management through REDD+ in Zambia.?

[2] Ministry of Agriculture and Co-Operatives, ?The National Agriculture Policy 2012-2030.?

[3] World Bank, ?Climate-Smart Agriculture Investment Plan Zambia: Analyses to Support the Climate-Smart Development of Zambia?s Agriculture Sector.?

[4] Ministry of Gender and Child Development, ?National Gender Policy 2014.?

8. Knowledge Management

Elaborate the "Knowledge Management Approach" for the project, including a budget, key deliverables and a timeline, and explain how it will contribute to the project's overall impact.

The project includes a component on Monitoring, Evaluation, and Knowledge Management. A project-funded specialist on monitoring, evaluation, and knowledge management will develop a communications and knowledge management strategy within the first six months of the project inception. The strategy will

draw on the extensive experience in knowledge management and communication of FAO, government, and all project partners.

The communications and knowledge management strategy will focus on the following key targets:

? Stakeholders involved directly with the project, including local communities, the project?s partners, provincial, district, and local government and non-governmental organisations (NGOs, CBOs) and the private sector.

? Wider civil society in Zambia.

? The GEF-7 SFM/Dryland Sustainable Landscape Impact Programme (DSL IP) implemented in other countries in Southern Africa through the DSL IP Regional Exchange Mechanism (REM).

The proposed project strategy on knowledge management will involve publication, promotion, and dissemination of high-quality knowledge products in accessible formats by all stakeholders through knowledge sharing workshops, peer-to-peer networking, quarterly briefings, seminars, best practice case study reports, impact publications, as knowledge management strategy. The project knowledge management strategy will emphasize curation and dissemination of lessons learnt and best practices from past and on-going projects and from the project itself amongst key project stakeholders. The project will also focus on enhancing uptake and dissemination of knowledge and learning generated through independent evaluations. As part of strengthening knowledge retention, the project will support enhanced handover processes to mitigate risk of knowledge loss due to staff turnover and when consultants leave after completion of their respective assignments. To enhance strong partnerships and promote improved knowledge exchange and learning, the project will encourage peer-to-peer networking among the participating community producer groups. Capacity building conducted under Components 1, 2 and 3 will include lessons learned from the FAO Climate Smart Agriculture project, FAO Forest and Farm Facility project, and government CFM projects, WWF?s adaptation and resilience program and other national initiatives as well as international best practices. Additionally, the project will establish series of regular seminars on "hot topics" in CFM, CSA, for example the mainstreaming themes of gender, youth, climate, and nutrition, drawing on existing knowledge, evidence, and experience in the country and at regional levels. As experiences from implementation of the proposed project become available, these will continuously be internalized into the Zambian government meeting agenda of the National Climate Change Committee.

The communication and knowledge management strategy will seek to maximize the potential for lessons learned by the project to be used to:

? Adapt project management and implementation.

? Influence national, provincial and local climate change adaptation practices.

Knowledge and communication outputs will be in English and in local languages as appropriate.

The project will develop broad based and participatory platforms for learning, dialogue, and influencing.

The M&E and Knowledge Management Specialist, will maintain close contact with the GEF-7 Sustainable Forest Management (SFM) DSL IP to share knowledge and, as far as practicable, harmonize approaches and timing with DSL IP and its child projects.

The KM budget, key deliverables and timeline are shown below.

Knowledge Management Plan

Key Deliverables	**Responsible Parties**	**Timeframe**	**GEF Budget (USD)**
Develop a communications and knowledge management strategy Implement strategy	Project Management Unit (PMU)	Within the first six months of the project inception Throughout project implementation	M&E and Knowledge Management Expert 75,000
Exchange visits and farmer-to-farmer experiences and knowledge sharing within Zambia	PMU	Years 2 and 4	53,000
Exchange visits experiences and knowledge sharing with other countries/South-South cooperation	PMU	Years 2 and 4	80,000
Communications material for knowledge exchange	PMU	Years 1-5	80,000
Participation in Regional Knowledge Events (DSL)	PMU	Years 1-5	60,000
Total Budget			**348,000**

9. Monitoring and Evaluation

Describe the budgeted M and E plan

For the purposes of the project, monitoring is defined as the continuous or periodic process of collecting and analyzing data to measure the performance of the project and its associated activities. Evaluation is defined as the systematic and independent assessment of the project, along with their design, implementation, and results, with the aim of determining the relevance, efficiency, effectiveness, impact, and sustainability of the project.

The M&E and Knowledge Management Specialist will finalize the design of the M&E plan, adapting it to the existing national M&E framework, within the first quarter of project implementation and oversee all M&E activities in accordance with FAO?s Evaluation policy and procedures, as adapted for GEF projects.

Outcome and output Indicators, baseline conditions, targets and means of verification are included in Annex A1, the Project Results Framework as well as in the GEF tracking tool and core indicators worksheets.

The project will ensure transparency in the preparation, conduct, reporting, and evaluation of its activities. This includes full disclosure of all non-confidential information and consultation with major groups and representatives of local communities. The disclosure of information shall be ensured through posting on websites and dissemination of findings through knowledge products and events (workshops, meetings, traditional ceremonies, trade shows). Project reports will be broadly and freely shared, and findings and lessons learned made available.

The relevance of the COVID-19 pandemic to the project?s M&E activities could not be fully determined at time of project design. The project will need to be prepared to factor relevant COVID-19 restrictions and impacts into the M&E plan and activities. This may include gathering relevant information on key farm and forest value chain parameters, including impacts on markets and supply chains and the impact of COVID-19 on labor shortages. The project should collect disaggregated data and undertake analysis by sex, age and location to assess the gendered impact of COVID-19 on target communities and on their ability to engage in project activities.

The **M&E plan** will include: i) an updated project results framework, with clear indicators per year; ii) an updated baseline, if needed, and identification of tools for data collection (including sample definition and the role of SHARP as an M&E tool); iii) a narrative that describes roles and responsibilities for data collection and processing, reporting flows, an explanation of the monitoring matrix, and a brief analysis of who, when and how each indicator will be measured; iv) updated project implementation arrangements, if needed; v) a clear description of the data and analyses that are to be provided to the mid-term review and final evaluation; vi) a calendar of annual project implementation reviews.

Table 6 Indicative budget and activity elements of the Monitoring and Evaluation Plan

Activity	Responsible	Timing and frequency	Budgeted costs (GEF)
Recruit and retain M&E and Knowledge Management Specialist	PMU	First Quarter year 1	USD 75,000
Periodic reporting to PTC and PSC and updating of GEF tracking tools	PMU	Twice per year	Covered by above
Refining approaches for monitoring	PMU	Year 1	
Periodic monitoring	PMU	Annually	
Inception workshop and report	PMU	First quarter year 1	Budgeted separately under Component 4

Field based monitoring and evaluation activities that collect and share gender disaggregated data SHARP survey expert / collect mobile (training and monitoring) International travel SHARP survey	PMU	Continuously	USD 15,000 USD 4,500
Mid-term review	FAO OED	Year 3	USD 40,000
Final Evaluation	FAO OED	Year 5	USD 50,000
Total			**USD 184,500**

The day-to-day monitoring of the project?s implementation will be the responsibility of the PM and will be driven by the preparation and implementation of an Annual Work Plan and Budget (AWP/B) followed up through six-monthly Project Progress Reports (PPRs). The preparation of the AWP/B and six-monthly PPRs will represent the product of a unified planning process between the main project stakeholders. The AWP/B will identify the actions proposed for the coming project year and provide the necessary details on output and outcome targets to be achieved, and the PPRs will report on progress with implementation of actions and the achievement of output and outcome targets. Specific inputs to the AWP/B and the PPRs will be prepared based on participatory planning and progress reviews with relevant stakeholders and coordinated and facilitated through project planning and progress review workshops. These contributions will be consolidated by the PM in the draft AWP/B and the PPRs.

An annual project progress review and planning meeting should be held with the participation of the project partners to finalize the AWP/B and the PPRs. Once finalized, the AWP/B and the PPRs will be submitted to the FAO LTO for technical clearance, and to the Project Steering Committee (PSC) for revision and approval. The AWP/B will be developed in a manner consistent with the Project Results Framework to ensure adequate fulfillment and monitoring of project outputs and outcomes.

Following the approval of the Project, the AWP/B will be adjusted (either reduced or expanded in time) to synchronize it with the annual reporting calendar. In subsequent years, the AWP/Bs will follow an annual preparation and reporting cycle. Adjustments may be required as a result of the impact of the COVID-19 pandemic and any necessary social distancing requirements.

Reporting schedule. Specific reports to be prepared under the monitoring and evaluation plan include: (i) a Project inception report; (ii) Annual Work Plans and Budgets (AWP/B); (iii) Project Progress Reports (PPRs); (iv) Annual Project Implementation Reviews (PIR); (v) Technical reports; (vi) Co-financing reports; and (vii) A Final Report. In addition, the GEF-7 Core Indicator Worksheet will be updated and used to compare progress against the baseline.

Project Inception Report. After FAO internal approval of the project, an inception workshop will be held. Immediately after the workshop the PM will prepare a project inception report in consultation with the FAO Representation in Zambia and project partners. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed operating conditions that may affect project implementation (including the impact of COVID-19). It will also include a detailed first year AWP/B. The draft inception report will be circulated to FAO Representation in Zambia and the PSC for review and comment before finalization, but no later than three months after project start-up. The report will be cleared by the FAO BH, LTO and the FAO/GEF Coordination Unit. The BH will upload it to the FPMIS.

Annual Work Plan and Budget(s) (AWP/Bs). The PM will present a draft AWP/B to the PSC no later than 10 December of each year. The AWP/B should include detailed activities to be implemented by project Outputs using monthly timeframes and including target and milestone dates for Output and Outcome indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should be included together with all monitoring and supervision activities required during the year. The FAO Representation in Zambia will circulate the draft AWP/B and consolidate and submit FAO comments. The AWP/B will be reviewed by the Provincial Project Technical Committees (PPTCs) and Project Technical Committee (PTC) and will incorporate any comments. The final AWP/B will be provided to the PSC for approval and to FAO for final no-objection. The BH will upload the AWP/Bs to the FPMIS

Project Progress Reports (PPR). The PPRs are used to identify constraints, problems or bottlenecks that impede timely implementation, and opportunities that arise, along with proposed actions. PPRs will be prepared based on the systematic monitoring of output and outcome indicators identified in the Project Results Framework (Annex A), AWP/Bs and the M&E Plan, as well as monitoring of any relevant external factors that may affect the project (e.g. COVID-19). Each semester the PM will prepare a draft PPR and will collect and consolidate comments from the FAO PTF. The PM will submit the final PPRs to the FAO Representation in Zambia every six months, prior to 10 June (covering the period between January and June) and before 10 December (covering the period between July and December). The July-December report should be accompanied by the updated AWP/B for the following Project Year (PY) for review and no-objection by the FAO PTF. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PIU, LTO and the FLO. After LTO, BH and FLO clearance, the FLO will ensure that project progress reports are uploaded to the FPMIS in a timely manner.

Annual Project Implementation Review (PIR). The PM, under the technical supervision of the LTO and BH and in coordination with the national project partners, will prepare a draft annual PIR report covering the period July (the previous year) through June (current year) no later than July 1st every year. The LTO will finalize the PIR and will submit it to the FAO-GEF Coordination Unit for review by July 10th. The FAO-GEF Coordination Unit, the LTO, and the BH will discuss the PIR and the ratings. The LTO is responsible for conducting the final review and providing the technical clearance to the PIR(s). The LTO will submit the final version of the PIR to the FAO-GEF Coordination Unit for final approval. The FAO-GEF Coordination Unit will then submit the PIR(s) to the GEF Secretariat and the GEF Independent Evaluation Office as part of the Annual Monitoring Review of the FAO-GEF portfolio. The PIR will be uploaded to FPMIS by the FAO-GEF Coordination Unit

Technical reports. Technical reports will be prepared as part of the project outputs and will document and disseminate lessons learned. Drafts of all technical reports must be submitted by the PM to the PSC via the FD and FAO Representation in Zambia, which in turn will be shared with the LTO for review and approval and to the FAO-GEF Coordination Unit for information and comments before finalization and publication. Copies of the technical reports will be distributed to the Liaison Committee and the PSC and other project stakeholders, as appropriate. These reports will be uploaded to the FAO FPMIS by the BH.

Co-financing reports. The PM will be responsible for collecting the required information and reporting on in-kind and cash co-financing provided by all the project co-financiers and other new partners not foreseen in the Project Document. Every year, the PM will submit the report to the FAO Representation in Zambia before July 10th covering the period July (the previous year) through June (current year). This information will be used in the PIRs.

Core Indicators worksheet. In compliance with GEF policies and procedures, at project mid-term and completion, the PM will report results achieved against the core indicators and sub-indicators used at CEO Endorsement/ Approval.

Mid-term Review (MTR): An independent Mid-term Review (MTR) will be undertaken in the third year of project operation by FAO. The MTR will serve a dual purpose of accountability and learning. It will document lessons and identify good practices and challenges that can inform the implementation of the project for the remaining period.

The MTR will provide guidance on issues requiring decisions and actions. It will also provide initial lessons learned on project design, implementation, and management.

As far as practical, the findings of the MTR will be considered in the implementation of the project for the remaining period.

The organization, terms of reference, and timing of the MTR will be decided after consultation between the parties to the project document. The Terms of Reference for the MTR will be prepared by FAO and the review process will be managed by FAO Office of Evaluation Division (OED). The relevant GEF Focal Area Tracking Tools will be completed during the mid-term review cycle.

Final Evaluation (FE): An independent Final Evaluation (FE) will take place prior to the final PSC meeting. The FE will be managed by the FAO Office of Evaluation (OED). The FE serves a dual purpose of accountability and learning.

The FE will document lessons and identify good practices and challenges that can inform the design and implementation of ongoing and future similar projects. The FE will contribute to GEF IEO databases for aggregation and analysis.

The review will adhere to the UNEG Norms and Standards and be in line with the OED Manual and methodological guidelines and practices.

Both the MTR and FE will adopt a consultative and transparent approach with internal and external stakeholders. Triangulation of evidence and information gathered will underpin its validation and analysis and will support the conclusions and recommendations. An evidence-based approach will be used, taking

into consideration the project?s Theory of Change (ToC) when assessing the extent to which the implementation of activities is leading to the achievement of the results.

The MTR will focus on evaluating relevance and effectiveness, including:

? The assumptions underpinning the ToC, including the causal pathways that link Project activities to impacts.

? Effectiveness - The extent to which the planned outputs have been achieved and the strengths and weaknesses of the project M&E plan and its implementation.

? Efficiency - The extent to which project and co-funding resources were used effectively.

? Impact ? Recognising that assessing impact is often complicated and it is difficult to attribute cause and affect relationships, the evaluation will attempt to assess the changes in conditions of people and ecosystems that result from the project.

? Sustainability - The extent to which conditions in Zambia supports replication (scaling up) and continuity of activities in the country.

? The level of country ownership of Project outcomes, stakeholder involvement, and partnership/co-financing.

The Terms of Reference for the FE will be prepared by FAO, and the independent review will be managed by FAO?s OED.

The PSC will consider the findings and recommendations of the evaluations and propose any adjustments to the project design and implementation strategy for the remaining duration of the project.

Final Report: Within two months prior to the project?s completion date, the PM will submit a draft final report to the PSC and FAO Representation in Zambia. The main purpose of the final report is to give guidance to authorities (ministerial or senior government level) on the policy decisions required for the follow-up of the Project, and to provide the GEF with information on how the funds were utilized. The final report should provide a concise account of the main products, results, conclusions, and recommendations of the Project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for ensuring sustainability of project results. Work is assessed, lessons learned are summarized, and recommendations are expressed in terms of their application to the integrated landscape mosaic management in the four project districts, as well as in practical execution terms. This report will specifically include the findings of the final evaluation. A project evaluation meeting will be held to discuss the draft final report with the PSC before completion by the Project Coordinator and approval by the BH, LTO, and FAO-GEF Coordination Unit.

10. Benefits

Describe the socioeconomic benefits to be delivered by the project at the national and local levels, as appropriate. How do these benefits translate in supporting the achievement of global environment benefits (GEF Trust Fund) or adaptation benefits (LDCF/SCCF)?

The project sites are an integral part of the Miombo ecoregion, which is vulnerable to climate change. Miombo woodlands are home to globally important biodiversity and generate a wide range of goods and services that support the livelihoods of vulnerable rural communities. Unfortunately, the project sites are highly vulnerable to climate change and local communities have limited capacity to adapt without external interventions.

As mentioned above, the project will contribute to reducing climate change vulnerability of forests and farmlands by bringing 200,000 hectares of forests and 100,000 hectares of agricultural land under sustainable and resilient management through community forest management (CFM) and climate-smart agriculture (CSA). Furthermore, it is anticipated that 144,000 livelihoods (18,000 households) of vulnerable people will be diversified and strengthened by promoting climate-resilient adaptation technologies and value chains. In this way, the project will contribute positively to domestic food security, increased resilience to climate change, income generation and diversification.

In addition to the adaptation benefits described above, the project will generate socio-economic benefits at local and regional level, such as: (i) enhancing local food security, (ii) women empowerment, (iii) market development for climate resilient agriculture and forestry products, (iv) empowerment of local institutions, and (v) promoting participation of local communities in decision-making processes. It is anticipated that these benefits will contribute to sustaining adaptation benefits in the long term by enhancing incentives and capacities for sustainable, climate-resilient forest and farm livelihoods and landscape management. The socio-economic benefits are described in more detail below.

Food security. By investing in simple technologies such as food processing equipment that will be used by communities to ensure that the forestry food products are preserved as an alternative to agriculture food products which are highly impacted by climate change. Diversification of on-farm livelihoods and the preservation of agrobiodiversity will also help safeguard local food security. The project will enable communities to be more resilient as they will be food secure even in times of floods or droughts.

Women empowerment. Forest resources are particularly important to the lives of rural women who have little access to disposable income and yet take greater responsibility for educating the children and meeting other domestic expenses. In Zambia, for example, women collect a variety of forest products, including mushrooms, orchids, thatching grass, honey, fiber, medicines, and firewood from the forests for sale in the urban markets. Without a doubt, NTFPs play a crucial role in the livelihoods of the rural women through their contributions on the household economics and food security in times of agricultural production failure. These forest products serve as a natural buffer in times of poor agricultural production induced by climate change. Therefore, by increasing preservation of these forests, the project will not only contribute towards increased resilience of local women?s in dealing with the effects of climate change, but also generate socio-economic benefits and empowerment for women.

Market development. By developing value chains for resilient forestry and agriculture products, the project will also improve the incomes of communities and develop local market opportunities. By supporting FFPOs to develop bankable business plans for climate-resilient underutilized products, the project will enable communities to improve their incomes hence becoming more resilient to the impacts of climate

change. Finally, by supporting FFPOs to access finance through the development of group savings and loan structures, the project will enable communities to invest in climate resilient forest and farm-based livelihood options. Local entrepreneurs will be supported to develop climate-resilient production options into small-scale farm enterprises.

Empowerment of local institutions. The project will empower and develop capacities of local institutions include FFPOs and private sector associations. It will also empower local government and civil society organization to implement participatory landscape planning processes, and will build their capacity in the use of digital technologies and climate related information. The GRZ aims to coordinate its development activities through District Development Coordinating Committees (DDCCs). To be effective, these cross-sectoral mechanisms require substantial strengthening to integrate climate adaptation and resilience and to enhance integrated planning and actions related to natural resources management.

Promoting participation of local communities in decision-making processes. Through the landscape-level planning process as well as the community forestry activities, the project will empower and promote the participation of local communities in decision-making processes related to the management of natural resources. By strengthening the management capacity within productive landscapes for climate resilience, the projects will ensure that institutional and human capacities are enhanced to identify and implement adaptation measures. The project will use participatory assessments and community engagement at landscape level to reach a common understanding of landscape components and their actual and potential use including markets. In addition, capacities will be built for community leaders, forest and farm producer organizations, District Farmers Associations, government forestry and agriculture extension services, partner NGOs and other support institutions to implement gender sensitive participatory approaches at landscape level, including community forestry.

Decent Rural **Employment**

In rural Zambia, decent work is predominantly associated with livelihoods based on agriculture, livestock, and forests (including woodlands).

Decent work can be considered to include ?opportunities for work that is productive and delivers a fair income, security in the workplace and social protection for families, better prospects for personal development and social integration, freedom for people to express their concerns, organize and participate in the decisions that affect their lives and equality of opportunity and treatment for all women and men.?[1]

The project has a strong focus on improving rural livelihoods through CSA and community forestry and their associated practices by generating and distributing livelihood benefits from the woodlands through the commercial activity of FFPOs and linking smallholder FFPOs to financial institutions and markets will incentivize local communities to manage woodlands sustainably and improve community-level resilience.

Table 7 provides a summary of how the project will support decent rural employment, based on the four pillars described in FAO?s guidance material.[2]

Table 7 project support to decent rural employment

Prioritized Groups
- Small-scale farm and forest producers, including contributing family workers - Small-scale processors and aggregators of farm and forest products - Women and youth within the above categories - Specific vulnerable groups (e.g., land poor and landless people, disabled people, elderly people, and single-adult households)
Pillar 1: Employment-creation and enterprise-development
- Participatory analyses with vulnerable groups and their FFPOs on specific rural employment issues related to farms and forests - Consider the impact of technology options on the number and quality of jobs created - Ensure that relevant groups within the targeted rural areas are involved effectively in consultations - Women and men small-scale farm and forest producers and their FFPOs supported in accessing fair markets and sustainable value chains - Women and men small-scale farm and forest producers and their FFPOs supported in accessing training, financial services, and other productive assets, with priority to rural businesses owned by women and youth - Provide Market Analysis and Development training on how to develop viable market options for forest and farm products. - Support FFPOs to develop suitable climate-resilient production options for diversified farm products - Support interested communities (including Community Resource Boards) to secure legal rights to community forests under the Forest Act (2015) - Support FFPOs to develop group savings and loan structures (from the profits of their existing value chains), including Voluntary Savings and Lending Associations (VSLAs) - Implement training for government agencies and project partners to enable them to undertake participatory approaches with local target communities and FFPOs
Pillar 2: Social protection
- Empowering FFPOs that directly represent the poor to achieve scale efficiencies in markets and strong collective voice in inputs to planning, policy and management decisions - Promoting financial literacy programmes among smallholder producers - Introduce traceability standard measures in the targeted agricultural and forest value chains - Seek a no cost partnership with relevant government HIV and AIDS programs to undertake awareness raising among project participants - Asses, document and disseminate institutional innovations and good practices of organized collective action, including through FFPOs, with strong impacts on social protection
Pillar 3: Standards and rights at work
- Support FFPOs to expand, associate and federate so that they spread best practice - Socially responsible agricultural and forest production supported, specifically to reduce gender and age-based discrimination - Promote compliance with national labor legislation in the rural areas - Address the constraints of women, youth and other specific groups workers in getting organized, notably through FFPOs and community forestry

Pillar 4: Governance and social dialogue
- Promote the inclusive participation of local people, particularly women, in sustainable climate-smart farm and woodland management - Support local communities in strengthening democratic organizations and networks of producers and workers, particularly in the informal food and forest economy - Support interested communities (including Community Resource Boards) to secure legal rights to community forests under the Forests Act (2015) - Build capacity of FD and Department of Agriculture extension services to empower forest and farm producers to organize into legalized associations and women to undertake leading positions - Undertake national, regional, or global knowledge exchange events with FFPOs to refine and endorse the most promising approaches for climate-resilient forest and agricultural landscape management.

[1] https://www.ilo.org/global/topics/decent-work/lang--en/index.htm

[2] FAO, 2010. *Rural Employment, Guidance Material #1: Guidance on How to Address Decent Rural Employment in FAO Country Activities (2nd ed.).* http://www.fao.org/3/i1937e/i1937e.pdf

11. Environmental and Social Safeguard (ESS) Risks

Provide information on the identified environmental and social risks and potential impacts associated with the project/program based on your organization's ESS systems and procedures

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

Measures to address identified risks and impacts

Elaborate on the types and risk classifications/ratings of any identified environmental and social risks and impacts (considering the GEF ESS Minimum Standards) and any measures undertaken as well as planned management measures to address these risks during implementation.

In line with FAO's Environmental and Social Safeguards, the project has been screened against Environmental and Social risks and rated as Moderate risk (see Annex N uploaded below and Table 5). The project has moderate potential negative environmental and/or social impacts. The project has however put in place mitigation measures reduce the occurrence of the identified risks.

The following FAO safeguards were triggered. In summary:

? Safeguard 2 Biodiversity, Ecosystems And Natural Habitats. The project will lead to the use of the use of more water, chemicals or machinery than previously in project sites that have very low rainfall and infertile soils.

? Safeguard 3 Plant Genetic Resources for Food and Agriculture. The project will introduce crops and varieties previously may not be previously grown in certain areas where the project will be implemented. However, the improved varieties that will be introduced are those that are legally acceptable in Zambia.

? Safeguard 7 Decent Work. This project will be implemented in rural areas of Zambia. Hence project will operate in sectors or value chains that are dominated by subsistence producers and other vulnerable informal agricultural workers, and more generally characterized by high levels ?working poverty?

Table 5 Environmental and Social Risk

Description	Impact	Likelihood	Mitigation Actions	Indicator / Mean(s) of Verification	Responsible party
The project becomes a source of conflict or inequity	High	Low	The project will be established through a consultative process and decisions made with a bottom-up consultation as much as possible.	Type and extent of conflict or inequity. Project reports Grievances reported	PMU, PSC, FAO oversight Local/Traditional leadership
Introduction of invasive species	Moderate	Low	There is a risk of introducing invasive species by accident during project interventions. Care will be taken in the selection of species to avoid invasive species. Rigorous application of environmental, social safeguards, and use of FAO social standards	Type of species introduced compared to know invasiveness. Lists of species used by the project	PMU
The project worsens livelihood situations of target communities and or creates or worsens gender inequities	High	Low	Rigorous application of environmental, social safeguards, and use of FAO social standards. Regular monitoring and evaluation of gender-disaggregated socio-economic indicators.	Changes in gender equity Project reports	PMU, FAO oversight

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted

Title	Module	Submitted
Zambia - Climate Risk Screening Summary	CEO Endorsement ESS	
Zambia LDCF_ESMP_Risk_Management_Plan	CEO Endorsement ESS	
Environmental and Social Risk Identification ? Screening Checklist	CEO Endorsement ESS	

ANNEX A: PROJECT RESULTS FRAMEWORK (either copy and paste here the framework from the Agency document, or provide reference to the page in the project document where the framework could be found).

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Objective: To increase the resilience of productive landscapes and rural communities through innovations and technology transfer for climate change adaptation							
Component 1: Strengthening the management capacity within productive landscapes for climate resilience							
Outcome 1.1 Community managed forests and agricultural landscapes are resilient to climate change	Ha of forests under community forest management (= ha of land under climate-resilient management (core indicator CCA 1)) Note: Game management plans and Community Forest Management plans will be harmonized in project areas under GMA?s	Climate resilient management is not currently undertaken	100,000	300,000	Project report GIS generated maps	Communities are willing and able to manage community forests Charcoal producers, NTFP collectors, and farmers abide by community forest management rules	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output.1.1.1 Community leaders, forest and farm producer organisations, government forestry and agriculture extension services, partner NGOs and other support institutions have the skills to implement gender sensitive participatory approaches at landscape level, including community forestry (including the use of digital/mobile tools and technologies).	Number of women and men trained (disaggregated by stakeholder group)	Participatory approaches are used by some NGOs, but overall skills are limited	1,000	2,500	Gender disaggregated data summarized in project reports	Government agencies, NGOs and other partners are willing and able to collaborate in the project. Extension staff and local communities will be willing to adopt participatory approaches that are gender sensitive.	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 1.1.2 Participatory assessments and community engagement at landscape level to reach a common understanding of landscape components and their actual and potential use.	Number and type of participatory assessments and community engagements completed (gender disaggregated)	No assessments or community engagement has been undertaken in relation to landscape level management	32	75	Project reports	Communities are willing to participate in assessment process and able to identify opportunities and priorities for community forest management, forest, and agriculture product development and local organisation	PMU District forest and Agriculture officers Community facilitators

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 1.1.3 Target communities, and the FFPOs within them, implement community forestry management and other climate adaptation measures including, as appropriate: landscape level planning, participatory climate risk assessments, woodland restoration, water catchment management, and agroforestry.	Number of community forest management groups (CFMG) operating effectively	There are several community forests in the planned project area, but these do not exist in every location. In general community forests, management plans have not incorporated landscape level issues	32	75	Project reports Copies of management plans CFMG reports and minutes	Communities are willing to assume management roles for community forests.	PMU Forest Department staff
Component 2: Promoting innovations and technologies in agriculture and forestry value chains.							
Outcome 2.1: Improved resilience and efficiency of value chains based on innovative business models, technologies, and practices.	(i) Number of people with improved business arrangements (ii) Number of jobs created by small scale NTFP enterprises at community landscape level.	Value chains exist, but are generally rudimentary, provide low value returns to individuals and enterprises, and business skills are weak	500 people ~ 3,000 jobs created at community landscape level.	1100 people (of which 50% women) ~ 10,000 jobs created at community landscape level.	Project reports Training reports	FFPOs are willing to adopt new approaches and engage in markets	PMU Forest Department

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.1.1 Knowledge, including traditional knowledge, on agriculture and forest product use and marketing consolidated.	Type and volume of knowledge of agriculture and forest product use	Nil	1 synthesis of knowledge published in local languages (Publication to be produced)	1 synthesis of knowledge published in local languages (Publication to be produced)	Project reports Copies of knowledge products	Project and government technical staff will timely and regularly share knowledge and lessons learned.	PMU
Output 2.1.2 Climate-resilient agriculture and forest product value chains are identified and selected and bankable business plans for climate-resilient underutilized products and their related technologies developed by the targeted forest and farm producer organizations (FFPOs).	Number and type of bankable business plans developed by FFPOs (gender disaggregated)	No business plans exist	32	75	Project reports Copies of business plans	Participating households in the project area are committed to participating in project activities and are adopting natural resources based business practices that enhance climate-resilience.	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 2.1.3 Targeted FFPOs have developed their agriculture and forest-based production into small-scale enterprises that are networked and represented by regional or national producer associations.	Number and type of small-scale agriculture and forest enterprises successfully operating (gender disaggregated)	Very few successful small-scale enterprises currently operate	32	75	Project reports	FFPOs are willing to engage in small-scale forest and farm enterprises	PMU
Component 3: Enhancing diversified farm-based livelihood strategies for climate resilience							
Outcome 3.1 Diversified livelihood strategies based on the sustainable use of agrobiodiversity	Number of people benefitting from diversified on-farm livelihoods/sustainable value chains based on agrobiodiversity.		36,000 people (4,500 households) of which 60% will be women	72,000 people (9,000 households) of which at least 60% will be women	Project reports	Participating local communities are willing to diversify their livelihoods	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 3.1.1 Knowledge, including traditional knowledge, on climate-resilient crops in target landscapes consolidated and guidelines for their sustainable management and promotion developed through participatory engagement of FFPOs.	Type and volume of knowledge of climate resilient crops consolidated Number of guidelines developed	NIL Nil	1 synthesis of knowledge published in local languages 1	1 synthesis of knowledge published in local languages 1	Copies of knowledge products Project reports Project reports	Farmers are willing to share traditional knowledge, and that knowledge remains relevant in the face of climate change	PMU
Output 3.1.2 Knowledge, practice and implementation arrangements for soil conservation and water management technologies that enhance agricultural productivity installed on farm by FFPOs	Number of soil conservation and water management technologies implemented on farms	Nil	200	600	Project reports Interviews with FFPOs Interviews with value chain actors	All households in the targeted project landscape are willing to adopt climate-smart agricultural practices.	Ministry of Lands & Natural Resources Ministry of Agriculture,

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 3.1.3 Climate-resilient crop production systems implemented through farmer field schools and direct farmer support.	Number of households benefiting from farmer field schools and/or other farmer support	Nil	4,500	9,000	Project reports	Participating households in the project area are committed to participating in project activities and are adopting climate-smart agricultural practices.	PMU
Component 4: Project monitoring, evaluation, and dissemination of results							

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Outcome 4.1: Best practice within and beyond the project sites shared through knowledge generation, monitoring, learning, and communication	Number and type of best practices shared Number of people receiving and sharing knowledge on best practices. Mid-term review completed Final Evaluation completed	Nil	3 60,000 (Number of people receiving and sharing knowledge on best practices)	4 144,000 (18,000 households)	Knowledge products (writeups, bulletins, brochures, blog, webposting s etc.) Project reports	Project and government technical staff will timely and regularly share knowledge and lessons learned. Willingness of the local communities I the project sites to participate in the project activities. Research and academia will generate adaptable best practice models.	PMU
Output 4.1.1 A sound results-based Monitoring and Evaluation system developed that includes participatory approaches	Functioning M&E system that is suited to national and local contexts	Nil	1	1	Project M&E strategy Project reports M&E baseline and follow up	The project is able to develop a cost effective, efficient and relevant participatory approach to M&E	PMU

Results chain	Indicators	Baseline	Mid-term target	Final target	Means of verification	Assumptions	Responsible for data collection
Output 4.1.2 Midterm review and final evaluation successfully conducted	Reviews completed	NA	Mid term review noted by PSC and recommendations considered	Final Evaluation completed	Mid term review Final evaluation PSC minutes Action plans	Project provides review teams useable and timely information	FAO OED WWF
Output 4.1.3 Best practices of NTFP management, small scale forest and farm enterprises, and climate smart agriculture successfully disseminated	Number and nature of awareness in form of best practices disseminated.	NIL	4	8	Project reports Copies of disseminated materials	Project materials are relevant and useful to stakeholders	PMU
Output 4.1.4 Exchange visits for key stakeholders organized to increase their knowledge and share experiences	Exchange visits (local, national and international) for key stakeholders organized to increase their knowledge and share experiences Number of women and men participating in exchange visits	Nil	3	5	Reports from events by project sponsored participants Project reports	Exchange visits adds value to project outcomes	PMU

ANNEX B: RESPONSES TO PROJECT REVIEWS (from GEF Secretariat and GEF Agencies, and Responses to Comments from Council at work program inclusion and the Convention Secretariat and STAP at PIF).

Comments on the PIF were received from STAP, Germany, and the United States.

The following changes were made to address STAP comments:

? Climate adaptation and resilience-related components of the project have been strengthened by adding activities and referring to existing knowledge and approaches.

? A Theory of Change has been included.

? A more detailed and relevant risk assessment has been included and commentary on possible impacts of COVID-19 added.

? Details of how the project outputs can be scaled up have been added.

? The STAP suggest that customary management schemes do not work under the changing circumstances, therefore they will need to be fundamentally changed to stop overexploitation of resources before protective measures can produce results. The project development team only partially agrees with this view - customary management can be adaptive, and the project design has included a focus on customary chiefs and traditional leaders to encourage them to be positive change agents.

? A detailed gender action plan and background information has been included.

? A section on knowledge management has been included, an M&E and knowledge management specialist has been included in the PMU, and the requirement to develop a knowledge management strategy in year 1 has been added.

Based on the comments from Germany and the United States, the following changes have been made:

? Clearer descriptions of how implementation will benefit vulnerable people added.

? Activities related to water resource management included.

? Clearer linkages to existing activities in the agricultural sector in Zambia added.

? Clear requirements added for the project to coordinate with and complement existing projects in Zambia and to learn from past projects.

? A clear explanation of how the project supports national policies and priorities has been added.

? Details on how at the government and individual level will be built to improve community managed forests and agricultural landscapes provided.

? Grievance mechanisms added.

? A proposed mechanism for cross ministerial (steering committee of PSs) coordination included.

? Clear mechanisms for knowledge management and communication included.

Summary of changes in alignment with the project design with the original PIF

The key changes in the project design compared to the PIF include:

? Minor word changes to Project Objective and Outcomes.

? A consolidation of outputs to remove overlap and unnecessary detail.

? A focus on Eastern and Western Provinces and removal of Southern Province at the request of the GRZ to enable a more effective focus of the project.

? A stronger focus on supporting women and youth to develop value chains.

? Reduced focus on charcoal related activities from the PIF Component 2, based on feedback from target communities, replaced with an increased focus on woodland and forest value chains. It should be noted that this change does not mean the project should not include charcoal as a potential product in the value chain, but rather it should be treated as any other potential product insofar as the focus at local and district level will be on how to secure production rights for local producers so that they are incentivized to manage and enrich the production base and curtail or eliminate illegal harvesting and production. Moreover, the project has the potential to support national and provincial government to formulate and implement charcoal strategies and strengthen the enabling environment for sustainable charcoal production. The promotion of community forestry through the project also allows for the possibility of establishing woodlot plantations.

? Inclusion of water related activities in Component 3 to reflect comments on the PIF and to address requests made by stakeholders to the project development team.

? A revision of co-financing by FAO Zambia to reflect reality of current opportunities.

? A change to implementation arrangements following review of HACT assessments and discussions with the Forestry Department and FAO. WWF Zambia is now proposed to have overall executing and technical responsibility for the project, with FAO providing oversight as the GEF Agency. Both WWF Zambia and FAO will have close cooperation and coordination with the Forestry Department.

? Redesign of project implementation arrangements to better support the decentralized approach to government from national to provincial levels.

? Refocus the target for the area (hectares) to be brought under improved management to align with community stakeholder expectations and capacity.

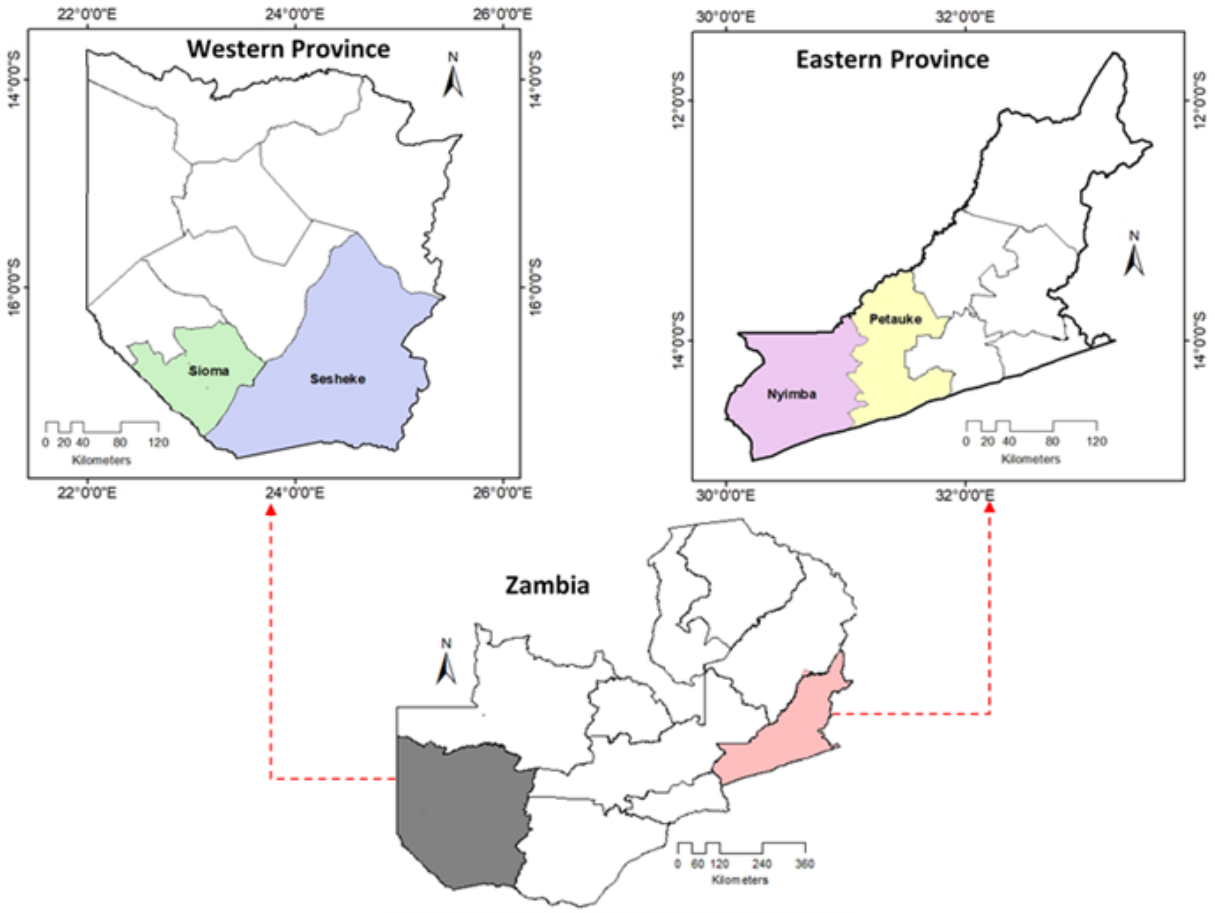
ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

PPG Grant Approved at PIF: USD 200,000	
Project Preparation Activities Implemented	***GETF/LDCF/SCCF Amount (USD)***

	Budgeted Amount	*Amount Spent To date*	*Amount Committed*
(5011) Salaries Professional	9,448	-	9,448
(5013) Consultants	93,600	88,601	4,999
(5014) Contracts	-	24,387	(24,387)
(5020) Locally Contracted Labour	5,300	-	5,300
(5021) Travel	53,926	75,580	(21,654)
(5023) Training	31,250	5,728	25,522
(5024) Expendable Procurement	1,476	958	518
(5028) General Operating Expenses	5,000	4,746	254
Total	**200,000**	200,000	0

ANNEX D: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.



ANNEX E: Project Budget Table

Please attach a project budget table.

Please refer to the project budget table uploaded in the Roadmap section.

FAO Cost Categories	Unit	No. of units	Unit cost	Component 1 Total	Component 2 Total	Component 3 Total	Component 4 Total	M&E	PMC	Operational Partner Managed	FAO Managed	Total GEF	Year 1	Year 2	Year 3	Year 4	Year 5
5011 Salaries Consultants																	
Forest Landscape Expert (training and	days	0	500														
5011 Sub-total international consultants				0	0	0	0	0	0	0	0	0	0	0	0	0	0
Project Manager & Technical Coordinator (Note: National Project Coordinator and Project Assistant at Forestry Department is provided as PMC co-financing)	Months	60	3'300	44'500	44'500	44'500	43'729		20'771	198'000		198'000	39'600	39'600	39'600	39'600	39'600
M&E Knowledge Management Expert	Months	60	2'500	18'750	18'750	18'750	18'750	75'000		150'000		150'000	30'000	30'000	30'000	30'000	30'000
SHARP survey expert / collect mobile	days	50	300					15'000		15'000		15'000	15'000				
Youth Coordinator	Months	60	2'500	50'000	50'000	50'000				150'000		150'000	30'000	30'000	30'000	30'000	30'000
District Technical Assistant (x4)	Months	240	2'500	150'000	150'000	150'000	150'000			600'000		600'000	120'000	120'000	120'000	120'000	120'000
Gender Officer	Months	12	2'500	7'500	7'500	7'500	7'500			30'000		30'000	6'000	6'000	6'000	6'000	6'000
Technical Assistant - community forestry	Months	60	2'500	37'500	37'500	37'500	37'500			150'000		150'000	30'000	30'000	30'000	30'000	30'000
Business incubation specialist	Months	60	2'500	37'500	37'500	37'500	37'500			150'000		150'000	30'000	30'000	30'000	30'000	30'000
Finance coordinator	Months	60	2'100						126'000	126'000		126'000	25'200	25'200	25'200	25'200	25'200
Procurement specialist	Months	60	2'100						126'000	126'000		126'000	25'200	25'200	25'200	25'200	25'200
2 drivers	Months	120	700	28'000	28'000	28'000				84'000		84'000	16'800	16'800	16'800	16'800	16'800
5011 Sub-total national consultants				373'750	373'750	373'750	294'979	90'000	272'771	1'779'000	0	1'779'000	367'800	352'800	352'800	352'800	352'800
5013 Consultants																	
Business incubation expert (NTFPs,	Days	50	350	5'833	5'833	5'833				17'500		17'500	3'500	3'500	3'500	3'500	3'500
Climate smart agriculture Consultant	Days	50	350	4'375	4'375	4'375	4'375			17'500		17'500	3'500	3'500	3'500	3'500	3'500
CFM Consultant	Days	100	350	35'000						35'000		35'000	7'000	7'000	7'000	7'000	7'000
Water Harvesting Expert	Days	100	350			35'000				35'000		35'000	7'000	7'000	7'000	7'000	7'000
Agriculture product value chain	Days	100	350			35'000				35'000		35'000		35'000	0	0	0
Forest product value chain consultant	Days	100	350		35000					35'000		35'000		35'000			
5013 Sub-total national consultants				45'208	45'208	80'208	4'375	0	0	175'000	0	175'000	21'000	91'000	21'000	21'000	21'000
5013 Total consultants				418'958	418'958	453'958	299'354	90'000	272'771	1'954'000	0	1'954'000	388'800	443'800	373'800	373'800	373'800
5650 Contracts																	
Mid term review	Lump sum	1	40'000					40'000			40'000	40'000			40'000	0	0
Final evaluation	Lump sum	1	50'000					50'000			50'000	50'000					50'000
Audit costs	Year	5	7'500						37'500		37'500	37'500	7'500	7'500	7'500	7'500	7'500
Spot Check costs		5	3'500		0	0			17'500		17'500	17'500	3'500	3'500	3'500	3'500	3'500
Terminal report cost	Lump sum	1	6'500						6'500		6'500	6'500					6'500
Stengthining FFPOs in good governance	Lumpsum	1	180'000		180'000					180'000		180'000	36'000	36'000	36'000	36'000	36'000
Creating linkages with other initiatives by	Lump sum	1	54'000	13'500	13'500	13'500	13'500			54'000		54'000	10'800	10'800	10'800	10'800	10'800
Install water security infrastructure and	Site interventions	20	10'000			200'000				200'000		200'000	66'667	66'667	66'667		
5650 Sub-total Contracts				13'500	193'500	213'500	13'500	90'000	61'500	434'000	151'500	585'500	124'467	124'467	164'467	57'800	114'300
5021 Travel																	
International travel SHARP survey	Trips	1	4500					4'500		4'500		4'500	4'500				
National travel experts	Lump sum	1	200000	66'667	66'667	66'667				200'000		200'000	40'000	40'000	40'000	40'000	40'000
National travel PMU members	Lump sum	1	200000	60'000	60'000	80'000				200'000		200'000	40'000	40'000	40'000	40'000	40'000
National Steering committee meetings (2	meetings	10	4000	13'333	13'333	13'333				40'000		40'000	8'000	8'000	8'000	8'000	8'000
National Technical committee meetings (2	meetings	10	4000	13'333	13'333	13'333				40'000		40'000	8'000	8'000	8'000	8'000	8'000
Provincial steering committee meetings (4	meetings	18	4000	24'000	24'000	24'000				72'000		72'000	14'400	14'400	14'400	14'400	14'400
Travel for training/workshops and	Lump sum	1	200000	50'000	50'000	50'000	50'000			200'000		200'000	40'000	40'000	40'000	40'000	40'000
5021 Sub-total travel				227'333	227'333	247'333	50'000	4'500	-	756'500	0	756'500	154'900	150'400	150'400	150'400	150'400
5023 Training / meetings / workshops																	
Inception workshop	Workshop	1	25000				25'000			25'000		25'000	25'000				
Participation to Regional Knowledge	meetings	5	12000	15'000	15'000	15'000	15'000			60'000		60'000	12'000	12'000	12'000	12'000	12'000
SHARP training	Training	1	24500	24'500						24'500		24'500	24'500				
Training sessions for Master Trainers,	Lump sum	1	50000	16'667	16'667	16'667				50'000		50'000	10'000	10'000	10'000	10'000	10'000
Training sessions for government	Lump sum	2	70000	46'667	46'667	46'667				140'000		140'000	28'000	28'000	28'000	28'000	28'000
Participatory stakeholder consultations at	Consultations	4	15000	60'000						60'000		60'000	20'000	20'000	20'000		
Community forestry and land tenure	Workshops	4	4000		16'000					16'000		16'000	5'333	5'333	5'333		
Community forestry and land tenure	Workshops	20	2000		40'000					40'000		40'000	13'333	13'333	13'333		
Community forestry management training	University training	20	5000		100'000					100'000		100'000	33'333	33'333	33'333		
Community forestry workshops at site	Workshops	20	3000		60'000					60'000		60'000	20'000	20'000	20'000		
Climate adaptation training	Workshops	20	3000	30'000	15'000	15'000				60'000		60'000	12'000	12'000	12'000	12'000	12'000
Training of women to improve	Lump sum	1	30000	30'000						30'000		30'000	6'000	6'000	6'000	6'000	6'000
Training for FFPOs in forest product value chains, business plans, risk and small scale enterprise (Forestry), including seed funding/financial support to FFPOs	Lump sum	2	80000		160'000					160'000		160'000	32'000	32'000	32'000	32'000	32'000
Training for FFPOs in farm product value chains, business plans, risk and small scale enterprise (Agriculture), including seed funding/financial support to FFPOs	Lump sum	2	80000		160'000					160'000		160'000	32'000	32'000	32'000	32'000	32'000
Training in financial literacy and VSLAs	Lump sum	1	85000		42'500	42'500				85'000		85'000	17'000	17'000	17'000	17'000	17'000
Exchange visit and famer to famer	Lump sum	1	53000				53'000			53'000		53'000		26'500	0	26'500	0
Developing and delivering training	Training Program	1	40'000	40'000						40'000		40'000	40'000				
Developing and delivering training	Lumpsum	2	40'000		80'000					80'000		80'000	40'000	40'000			
Developing and delivering training	Lumpsum	1	58'000	19'333	19'333	19'333				58'000		58'000	29'000	29'000			
Participatory rural appraisals at the	Sessions	4	10'000	20'000	20'000					40'000		40'000	13'333	13'333	13'333		
Development of landscape level planning	Action Plans	4	25'000	100'000						100'000		100'000	33'333	33'333	33'333		
Establishment of FFPOs farmer field	Site interventions	4	40'000			160'000				160'000		160'000	53'333	53'333	53'333		
Support to community groups and FFPOs for climate smart agriculture activities	Site interventions	4	30'000			120'000				120'000		120'000	40'000	40'000	40'000		
Market analysis and development training and business development	Lumpsum	8	40'000		160'000	160'000				320'000		320'000	106'667	106'667	106'667		
Technical support to produce methodological and operational guidance for landscape level approaches (including the use of digital/mobile technologies)	Lumpsum	1	50'000	50'000						50'000		50'000	50'000				
Suvey for landscape approaches	Lumpsum	1	50'000	16'667	16'667	16'667				50'000		50'000	25'000	25'000			
Identification and formation of community	Lumpsum	1	20'000	20'000						20'000		20'000	20'000				
Training of women and youths in	Lumpsum	4	20'000		40'000	40'000				80'000		80'000		40'000	40'000		
Exchange visit experiences and	Lumpsum	1	80000				80'000			80'000		80'000		40'000	0	40'000	0
5023 Sub-total training				488'833	1'007'833	651'833	173'000			2'321'500	0	2'321'500	741'167	688'167	527'667	215'500	149'000
5024 Expendable procurement																	
Communications material for knowledge	Lumpsum	1	80'000				80'000			80'000		80'000	16'000	16'000	16'000	16'000	16'000
Equipment for tree nurseries	Lumpsum	1	100'000	100'000						100'000		100'000	20'000	20'000	20'000	20'000	20'000
Equipment needed for forest assesment	Lumpsum	1	45'000		45'000					45'000		45'000	9'000	9'000	9'000	9'000	9'000
Equipment needed for forest	Lumpsum	1	100'000		100'000					100'000		100'000	20'000	20'000	20'000	20'000	20'000
Inputs for climate smart agriculture	Lumpsum	1	180'000			180'000				180'000		180'000	36'000	36'000	36'000	36'000	36'000
Equipment needed for water interventions	Lumpsum	1	200'000		100'000	100'000				200'000		200'000	40'000	40'000	40'000	40'000	40'000
Visibility (radio, sign-board,...)	Lumpsum	1	25'000				25'000			25'000		25'000	5'000	5'000	5'000	5'000	5'000
5024 Sub-total expendable procurement				100'000	245'000	280'000	105'000			730'000	0	730'000	146'000	146'000	146'000	146'000	146'000
6100 Non-expendable procurement																	
Furniture for PMU (Note: Office space at national level and in each district is provided through PMC co-financing)	Lumpsum	1	15000	5'000	5'000	5'000				15000		15000	15'000				
Video Cameras and sound equipment	Lumpsum	1	18000				18'000			18000		18000	18'000				
Vehicles (Note: 2 additional vehicles are provided through PMC co-financing)	Lumpsum	2	55000		82'500	27'500				110000		110000	110'000				
Procurement linked to activities identified	Lumpsum	4	110'000		330'000	110'000				440'000		440'000	88'000	88'000	88'000	88'000	88'000
Laptops and computer equipment for	Lumpsum	1	10000	2'500	2'500	2'500	2'500			10000		10000	10'000				
6100 Sub-total non-expendable procurement				7'500	420'000	145'000	20'500	-	-	593'000	0	593'000	241'000	88'000	88'000	88'000	88'000
5028 GOE budget																	
Publication design and layout and	Lumpsum	1	20'000				20'000			20'000		20'000	4'000	4'000	4'000	4'000	4'000
Office supplies	Lumpsum	1	20'000	5'000	5'000	5'000	5'000			20'000		20'000	4'000	4'000	4'000	4'000	4'000
Miscellaneous	Lumpsum	1	39'200	9'800	9'800	9'800	9'800			39'200		39'200	7'840	7'840	7'840	7'840	7'840
6300 Sub-total GOE budget				14'800	14'800	14'800	34'800			79'200	0	79'200	15'840	15'840	15'840	15'840	15'840
TOTAL				1'270'925	2'527'425	2'006'425	696'154	184'500	334'271	6'868'200	151'500	7'019'700	1'812'173	1'656'673	1'466'173	1'047'340	1'037'340

ANNEX F: (For NGI only) Termsheet

Instructions. Please submit an finalized termsheet in this section. The NGI Program Call for Proposals provided a template in Annex A of the Call for Proposals that can be used

by the Agency. Agencies can use their own termsheets but must add sections on Currency Risk, Co-financing Ratio and Financial Additionality as defined in the template provided in Annex A of the Call for proposals. Termsheets submitted at CEO endorsement stage should include final terms and conditions of the financing.

ANNEX G: (For NGI only) Reflows

Instructions. Please submit a reflows table as provided in Annex B of the NGI Program Call for Proposals and the Trustee excel sheet for reflows (as provided by the Secretariat or the Trustee) in the Document Section of the CEO endorsement. The Agencys is required to quantify any expected financial return/gains/interests earned on non-grant instruments that will be transferred to the GEF Trust Fund as noted in the Guidelines on the Project and Program Cycle Policy. Partner Agencies will be required to comply with the reflows procedures established in their respective Financial Procedures Agreement with the GEF Trustee. Agencies are welcomed to provide assumptions that explain expected financial reflow schedules.

ANNEX H: (For NGI only) Agency Capacity to generate reflows

Instructions. The GEF Agency submitting the CEO endorsement request is required to respond to any questions raised as part of the PIF review process that required clarifications on the Agency Capacity to manage reflows. This Annex seeks to demonstrate Agencies? capacity and eligibility to administer NGI resources as established in the Guidelines on the Project and Program Cycle Policy, GEF/C.52/Inf.06/Rev.01, June 9, 2017 (Annex 5).