GEF-8 PROJECT IDENTIFICATION FORM (PIF)

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General Project Information

Project Title

Resilient communities, land restoration and sustainable ecosystem management

Region	GEF Project ID
Zambia	11212

Country(ies)	Type of Project
Zambia	FSP

GEF Agency(ies):	GEF Agency ID
FAO	744302

Executing Partner	Executing Partner Type
Ministry of Green Economy and Environment	Government
WeForest	CSO
WorldFish Center	CSO
Self-Help Africa	CSO

GEF Focal Area (s)	Submission Date
Multi Focal Area	4/12/2023

Project Sector (CCM Only)

AFOLU

Taxonomy

Forest, Biomes, Focal Areas, Biodiversity, Drylands, Land Degradation, Land Degradation Neutrality, Land Productivity, Land Cover and Land cover change, Carbon stocks above or below ground, Sustainable Land Management, Improved Soil and Water Management Techniques, Integrated and Cross-sectoral approach, Sustainable Livelihoods, Sustainable Forest, Sustainable Pasture Management, Income Generating Activities, Sustainable Agriculture, Drought Mitigation, Restoration and Rehabilitation of Degraded Lands, Community-Based Natural Resource Management, Ecosystem Approach, Food Security, Climate Change, Climate Change Adaptation, Private sector, Complementarity, Climate resilience, Community-based adaptation, Mainstreaming adaptation, Ecosystem-based Adaptation, Least Developed Countries, Livelihoods, Climate Change Mitigation, Renewable Energy, Agriculture, Forestry, and Other Land Use, Grasslands, Tropical Dry Forests, Mainstreaming, Agriculture and agrobiodiversity, Influencing models, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Transform policy and regulatory environments, Stakeholders, Communications, Education, Awareness Raising, Public Campaigns, Strategic Communications, Behavior change, Local Communities, Type of Engagement, Information Dissemination, Partnership, Participation, Consultation, Private Sector, Individuals/Entrepreneurs, SMEs, Large corporations, Civil Society, Academia, Community Based Organization, Non-Governmental Organization, Beneficiaries, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Participation and leadership, Access and control over natural resources, Capacity Development, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Innovation, Knowledge Generation, Professional Development, Training, Course, Seminar, Workshop, Learning, Theory of change, Adaptive management, Indicators to measure change, Knowledge Exchange, Peer-to-Peer, Field Visit, Targeted Research

Type of Trust Fund	Project Duration (Months)

MTF	60
GEF Project Grant: (a)	GEF Project Non-Grant: (b)
11,810,092.00	0.00
Agency Fee(s) Grant: (c)	Agency Fee(s) Non-Grant (d)
1,062,908.00	0.00
Total GEF Financing: (a+b+c+d)	Total Co-financing
12,873,000.00	91,200,000.00
PPG Amount: (e)	PPG Agency Fee(s): (f)
300,000.00	27,000.00
PPG total amount: (e+f)	Total GEF Resources: (a+b+c+d+e+f)
327,000.00	13,200,000.00
Project Tags	
CBIT: No NGI: No SGP: No Innovation: No	

Project Summary

Provide a brief summary description of the project, including: (i) what is the problem and issues to be addressed? (ii) what are the project objectives, and if the project is intended to be transformative, how will this be achieved? iii), how will this be achieved (approach to deliver on objectives), and (iv) what are the GEBs and/or adaptation benefits, and other key expected results. The purpose of the summary is to provide a short, coherent summary for readers. The explanation and justification of the project should be in section B "project description".(max. 250 words, approximately 1/2 page)

1. Zambia's Southern and Central provinces are particularly vulnerable to the impacts of climate change, including increased temperatures, reduced rainfall, and more frequent and severe droughts. These impacts have serious implications for agriculture, food security, and the livelihoods of local communities. In recent years, the region has experienced longer and more intense dry spells, leading to decreased crop yields and increased water scarcity. This has resulted in increased food insecurity, particularly for rural communities who depend on rain-fed agriculture for their livelihoods. While local communities rely largely on the natural resources supplies by local ecosystems for climate resilience, these continued to be threatened by both anthropomorphic and climatic drivers. Consequently, the flow of ecosystem services to rural communities in these two provinces is under pressure, increasing their vulnerability to the impacts of climate change, and forcing them to further rely on and reinforcing unsustainable behaviours and practices that result in further land degradation.

2. While Zambia's natural forests are still considered to be relatively intact, deforestation and forest degradation rates are amongst the highest around the world. Since 2000, Zambia has lost ~1.58 million ha of tree cover. Uncontrolled deforestation and forest degradation, therefore, stand in the way of Zambia meeting its Land Degradation Neutrality (LDN) targets, particularly as ~52,453 km^2 of its land is already considered degraded and unavailable for any productive use. Significant land degradation has already occurred across the Central and Southern Provinces and continues to intensify. Main drivers include unsustainable agricultural practices, woodfuel harvesting and charcoal production. The resulting biophysical changes are increased deforestation, forest degradation, soil erosion, drying of perennial rivers, and biodiversity loss.

3. The Central and Southern Provinces are important biodiversity areas, being covered by ecosystems with irreplaceable endemism; Miombo and Mopane woodlands, respectively. Both of these ecosystems host significant biodiversity that is important for local livelihoods and economies. However, the

biodiversity remains under threat from degradative practices. ==The Miombo woodlands are home to 8,500 higher plants, 54% of which are endemic. 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. **Miombo woodlands are also classified as one of five global biodiversity hotpots due to their irreplaceable endemism**. Ecosystem services from the Miombo woodlands are critical to the livelihoods of the poor. Biodiversity in Miombo woodlands is being lost as the woodlands are converted to species-poor farmlands and plantations. Currently, the Miombo woodlands are regarded as the last agricultural frontier in an era of land scarcity. Meanwhile, climatic, atmospheric and other environmental changes may alter the growth rates of woodland flora, impacting species composition and productivity[1]. Mopane woodlands fall within the Zambezian regional centre of endemism[2]. This is one of the most important areas for large mammal diversity and biomass in southern Africa, including some of the most significant remaining populations of black rhinoceros and elephant as well as white rhinoceros, hippopotamus, buffalo, blue wildebeest, giraffe, greater kudu, and nyala. Agriculture, cattle farming, and resource-use activities continue heavily impact the remaining natural habitat[3].==

4. In this context, the project's objective ==is to enhance climate change adaptation in local communities, reduce land degradation and enhance biodiversity conservation through an integrated climate-resilient landscape management approach in the Central and Southern Provinces of Zambia.== This will be achieved through four interrelated components. These include: i) enabling environment for climate change adaptation approaches that reduce ecosystem degradation and strengthen (LDCF and TF-LD); ii) climate-resilient restoration of degraded landscapes in the Central and Southern Provinces (LDCF and TF-BD); iii) climate-resilient natural resource-based livelihoods (LDCF); and iv) Monitoring, Evaluation, Learning and Knowledge (MELK) for climate change adaptation and improved natural resource management (LDCF). The project's success is dependent on a transformational approach aimed at supporting a shift away from adaptation practices that are environmentally degradative practices to those which promote adaptation while at the same time ensuring ecosystem health and biodiversity conservation. This will be achieved through a multi-trust fund (MTF) approach that:
    - ==incentivises a shift towards improved climate-resilient natural resource management practices that enhance adaptation in local communities, reduce land degradation and conserve biodiversity through sustainable, innovative and whole-of-society approaches;==
    - ==promotes a climate-resilient integrated landscape-level approach to natural resource management that also mainstreams ecosystem restoration and biodiversity conservation; and==
    - ==focuses on youth as the core agents of climate change adaptation and addressing land degradation and biodiversity loss by fostering behavioural change from the primary school level and equipping them to take up livelihoods that preserve rather than degrade ecosystems.==

5. Global Environmental Benefits (GEBs) that will be delivered through the project include:
    - conservation of globally significant biodiversity;
    - improved provision of agro-ecosystem and forest ecosystem goods and services; and
    - conservation and sustainable use of biodiversity in productive landscapes.

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[1] Gumbo, D.J., et al. 2018. Sustainable management of Miombo woodlands – Food security, nutrition and wood energy. Rome, Food and Agriculture Organization of the United Nations.
[2] Source: https://www.intechopen.com/chapters/53527
[3] Source: https://www.oneearth.org/ecoregions/zambezian-mopane-woodlands/

Indicative Project Overview

Project Objective

The main objective of the proposed project is to enhance climate change adaptation in local communities, reduce land degradation and enhance biodiversity conservation through an integrated climate-resilient landscape management approach in the Central and Southern Provinces of Zambia.

Project Components

Component 1: Enabling environment for climate change adaptation that also supports reduced ecosystem degradation and strengthened biodiversity

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
1,959,578.00	15,132,269.00

Outcome:

Outcome 1.1: Strengthened enabling environment for climate-resilient natural resource management

Output:

Output 1.1.1: Institutional and technical capacity building supported for natural resources governance at the local level
Output 1.1.2: CFMGs strengthened and established, and forums set up to promote gender-inclusive collaborative community-level natural resources management
Output 1.1.3: Dialogues on policy coherence and implementation of sustainable natural resources management
Output 1.1.4: Climate-responsive integrated land use/landscape management plans for the two target areas
Output 1.1.5: Social cash transfer scheme piloted for the incentivization of improved natural resource management practices

Component 1: Enabling environment for reduced ecosystem degradation, strengthened biodiversity and enhanced climate resilience

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
1,511,730.00	11,585,013.00

Outcome:

Outcome 1.2: Youth-driven behaviour change to support the uptake of practices that improve climate resilience, reduce deforestation and enhance biodiversity

Output:

Output 1.2.1: Awareness-raising programme targeting behaviour change in youth implemented

Component 2: Restoration of degraded landscapes in the Central and Southern Provinces

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing ($)	Co-financing ($)
2,764,054.00	21,344,605.00

Outcome:

Outcome 2.1: Priority ecosystems restored and sustainably managed to enhance natural resource supplies under climate change conditions

Output:

Output 2.1.1: Climate-resilient ecosystem restoration interventions implemented across 90,000 ha of degraded ecosystems in the Central and Southern Provinces
Output 2.1.2: Improved, climate-resilient management interventions implemented across 200,000 ha of degraded landscapes in the Central and Southern Provinces

Component 2: Restoration of degraded landscapes in the Central and Southern Provinces

Component Type	Trust Fund
Investment	GET
GEF Project Financing ($)	Co-financing ($)
1,793,383.00	13,937,756.00

Outcome:

Outcome 2.2: Reduced biodiversity loss from woodfuel harvesting and efficient use of energy and material by local communities

Output:

Output 2.2.1: Alternative fuel and energy sources introduced in project target districts to reduce dependencies on woodfuel and associated land degradation and biodiversity loss

Component 3: Climate-resilient and sustainable natural resource-based livelihoods

Component Type	Trust Fund
Investment	LDCF
GEF Project Financing ($)	Co-financing ($)
2,350,163.00	18,148,454.00

Outcome:

Outcome 3.1: Sustainable transition to natural resource-based livelihoods that enhance climate resilience of local communities

Output:

Output 3.1: Local communities supported to transition to gender-responsive natural resource-based livelihoods that reduce deforestation and promote climate resilience

Output 3.2: Key value chains and market linkages for climate-resilient natural resource-based livelihoods strengthened

Output 3.3: Trainings on entrepreneurial, and business and financial management for local stakeholders involved in climate-resilient natural resource-based livelihoods and value chains

Component 4: Monitoring, Evaluation, Knowledge and Learning (MELK)

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
632,597.00	4,885,047.00

Outcome:

Outcome 4.1: Adaptive management, scaling up and replication of integrated approaches to reduce degradation, enhance biodiversity and improve climate resilience

Output:

Output 4.1: Long-term research programme to assess the project's impact implemented

Output 4.2: Knowledge and lessons learned generated and communicated across stakeholder groups to support scaling up

M&E

Component Type	Trust Fund
Technical Assistance	GET
GEF Project Financing ($)	Co-financing ($)
70,896.00	547,475.00

Outcome:

Lessons and learning from the project is captured, developed, reported and disseminated

Output:

Effective and participatory Monitoring, Evaluation and Learning (MEL) implemented

M&E

Component Type	Trust Fund
Technical Assistance	LDCF
GEF Project Financing ($)	Co-financing ($)
165,306.00	1,276,526.00

Outcome:

Lessons and learning from the project is captured, developed, reported and disseminated

Output:

Effective and participatory Monitoring, Evaluation and Learning (MEL) implemented

Component Balances

Project Components	GEF Project Financing ($)	Co-financing ($)
Component 1: Enabling environment for climate change adaptation that also supports reduced ecosystem degradation and strengthened biodiversity	1,959,578.00	15,132,269.00
Component 1: Enabling environment for reduced ecosystem degradation, strengthened biodiversity and enhanced climate resilience	1,511,730.00	11,585,013.00
Component 2: Restoration of degraded landscapes in the Central and Southern Provinces	2,764,054.00	21,344,605.00
Component 2: Restoration of degraded landscapes in the Central and Southern Provinces	1,793,383.00	13,937,756.00
Component 3: Climate-resilient and sustainable natural resource-based livelihoods	2,350,163.00	18,148,454.00
Component 4: Monitoring, Evaluation, Knowledge and Learning (MELK)	632,597.00	4,885,047.00
M&E	70,896.00	547,475.00
M&E	165,306.00	1,276,526.00
Subtotal	**11,247,707.00**	**86,857,145.00**
Project Management Cost	168,800.00	1,303,512.00
Project Management Cost	393,585.00	3,039,343.00
Total Project Cost ($)	**11,810,092.00**	**91,200,000.00**

Please provide justification

N/A

A. PROJECT RATIONALE

Briefly describe the current situation: the global environmental problems and/or climate vulnerabilities that the project will address, the key elements of the system, and underlying drivers of environmental change in the project context, such as population growth, economic development, climate change, sociocultural and political factors, including conflicts, or technological changes. Describe the objective of the project, and the justification for it. (Approximately 3-5 pages) see guidance here

Climate vulnerabilities and global environmental problems

<u>Climate change</u>

1. Zambia has a humid, sub-tropical climate, varying across its climatic zones. The Central and Southern provinces experience humid tropical and hot semi-arid climates respectively[1]. The country has three distinct seasons: August to November is characteristically warm and dry, most rainfall occurs from November to April, and May to August is mostly cooler and dry. Average monthly temperatures recorded from August to November range from 22 to 27°C, whereas average monthly temperatures from June to August range from 15 to 20°C[2]. Zambia's mean annual precipitation equals 970 mm[3] and the average monthly precipitation from November until April ranges from 150 to 300 mm[4]. A summary of climate risk and vulnerability relevant to the project is presented below. A detailed climate risk screening report is available in Annex H.

2. **Extreme weather events such as droughts and floods have increased in intensity and frequency since 1960**. These have resulted in considerable economic losses for Zambia's economy, agricultural sector, the manufacturing sector, as well as damage to infrastructure. It is expected that the intensity and frequency of extreme weather events such as flooding and droughts, would increase under future climate scenarios[5]. It is also likely that average annual temperatures will show an increasing trend, while average monthly precipitation is expected to decrease[6].

Temperature

3. **Average annual, as well as monthly minimum and maximum temperatures have shown an increasing trend since 1901[7].** Since 1960, an average increase of 1.3°C has been recorded, with the mean temperatures from September to November, showing the greatest increase. In addition, from 1960 to 2003, a 12% increase in the number of hot days and nights was recorded[8]. Under the SSP 2 4.5 mid-emission scenario, average temperatures are expected to increase on by ~0.9°C by 2040 (baseline period 1981-2010), with the southern and western regions of the country being worst affected. The number of days with extreme temperatures is also expected to increase[9]. Models indicate that the number of days per annum with maximum temperatures above 35°C, relative to a baseline period of 1981–2010, will increase on average by 9.7 days by 2040 (SSP2 4.5 scenario)[10]. Such temperature increases will contribute to more intensified and frequent droughts in the country.

Precipitation

4. **Average monthly rainfall has shown a decreasing trend since 1980[11], particularly during the wet season (November to April)**. The intensity and frequency of flooding as well as droughts have increased over the same period[12]. Mean average annual precipitation has decreased by 2 mm per month, each decade, since 1960[13]. Such decreases are expected to continue, contributing to a general drying trend across the country. Under a mid-emission scenario (SSP2 4.5), near term (2021–2040) total precipitation is expected to decrease on average by 1.8% across Zambia (baseline period 1981 to 2010)[14]. Rainfall from September to November is likely to decrease most dramatically[15]. However, precipitation is likely to increase in intensity over the December to February period, with periods of drought interspersed. Hence, the frequency and intensity of flooding are likely to increase during this period in the future. However, interannual, as well as seasonal variation in rainfall, is also expected to intensify by 2050[16].

Climate change vulnerabilities and impacts

5. **The annual occurrence of natural hazards across Zambia from 1980 to 2020 has been predominated by flooding, epidemics, and droughts**. The frequency of flood events has increased since 1995, with six major flood events affecting close to 1 million people per event. Zambia has experienced four major drought events since 1990, with each event affecting close to 1 million people[17]. Major natural hazards which have affected Zambia over the last four decades have resulted in losses estimated at US$13.8 billion[18]. This includes significant losses for Zambia's economy, agricultural and manufacturing sectors, infrastructure damage, as well as loss of biodiversity and ecosystem degradation[19].

6. **Increasing temperatures, and erratic precipitation, are likely to exacerbate the incidence of water scarcity, wildfires, extreme heat, aridity, and decreased soil moisture**. Climate change is likely to lead to an increase in extreme heat and water scarce conditions by 2050, which is of particular relevance for the southern regions of Zambia. All regions across Zambia are at high risk of wildfires by 2050 because of a general increase in drought and extreme heat conditions[20]. CORDEX Africa model predictions suggest that soil moisture will decrease, while aridity, the occurrence of extreme rainfall events, runoff and water discharge will increase over most of the country by 2040[21]. Such changes are expected to lead to intensified drought and flood events[22]. The resultant impacts will include agricultural yield reductions, changes in the extent and composition of ecosystems, a decline in the provision of ecosystem services, biodiversity loss and decreases in the productivity of natural resource-based livelihoods.

7. **In terms of impacts on livelihoods, the climate resilience of Zambia's crop and livestock production sectors has been adversely impacted by persistent poverty, a fragile local economy, as well as considerable reliance on rainfed subsistence agriculture**. Smallholder farmers also have poor access to mechanization, irrigation technologies, skills training in sustainable agriculture techniques, weather monitoring data, early warning systems, credit financing and insurance, which reduces their capacity to adapt to climate change impacts. Crop production is primarily based on monoculture (rain-fed maize) leaving it highly vulnerable to the impacts of climate change[23]. In the targeted provinces, livestock is often used as draft power for farm mechanization. Reliance on monoculture, however, does not usually produce sufficient feed. Therefore, livestock and crop production (for the most part rainfed) in the targeted provinces are particularly vulnerable to droughts. These areas continue to be affected by increased desertification because of poor water catchment management, ecosystem degradation, overgrazing, poor land use planning and unsustainable natural resource management[24].

8. In recent years, Zambia's fisheries sector has seen increased investment in aquaculture development[25], including in the Central and Southern Provinces. The promotion of the aquaculture section is premised on the idea that increased production of farmed fish could help improve the food and nutrition insecurity situation in many rural communities. However, Zambia's aquaculture and artisanal fisheries are at high risk of climate change impacts such as flooding and drought due to unsustainable water resource management, water pollution, unsustainable fishing practices and aquatic ecosystem degradation. Wetlands, streams and lakes essential to the productivity of the country's capture fisheries have been increasingly exposed to degradation due to the expansion of human settlements, agriculture land and human population increase. Such factors have increased sedimentation of water ways and has contributed to the degradation of aquatic ecosystems. Water scarcities and decreased water quality has thus ensued, which has contributed to reducing the climate change resilience of fisheries across Zambia. A lack of water catchment management and monitoring, as well as poor water resource management have also contributed to reducing the adaptive capacity of fisheries to climate change impacts[26].

Climate change impacts and vulnerabilities in the Central and Southern Provinces[27]

9. In addition to what has already been presented above, key climate change impacts and vulnerabilities for the Central and Southern Provinces are expanded on herein. Projections from CIMP6 indicate major annual precipitation decreases (40-90 mm) for RCPs 2.6 and 8.5 across the Southern Province by 2040-2059 compared to the 1995-2014 period. For the same period, climate models also project

changes in 5-day cumulative rainfall of +3 to +11 mm (RCP 2.6) and +11 to +18 mm (RCP 8.5) in Central Province, -4 to +4mm (RCP2.6) and +36 to +42 mm (RCP 8.5) in the South[28]. Climate hazards anticipated in the medium term (2041-2060) for the Central and Southern Provinces include an increase of at least 15 days per year with maximum temperatures above 35°C and an increase in the occurrence with drought with more areas experience a change in the Standardized Precipitation Index (SPI) of below -20%.

10. Over the past decades, Zambia has been exposed to changes in annual mean precipitation and temperature, including extreme temperatures and more frequent dry spells. As a result, there has been an increase in frequency and intensity of drought and flooding events, particularly along the central and southern regions where most of the country farms are located and providing livelihoods to more than 70% of the population, particularly to small-scale farmers (less than 5 ha) representing 85% of the farmers in Zambia[29],[30]. Thereby, with negative impacts on livelihoods' health and food security, as well as on the infrastructure, ecological and agricultural systems found therein[31]. **Exposure** of agricultural systems and ecosystems of the Central and Southern Provinces includes: areas where crop, grass and forest cover is above 30%; and biodiversity in protected areas. In terms of **vulnerability**, the following factors are key contributors in the Central and Southern Provinces: a HDI score of below 0.6; a MPI score of below 0.6; food insecurity prevalence of above 30%; and more than 30% of the population employed in the agriculture sector. Factors contributing to poor **adaptive capacities** amongst local populations include: long distances to major roads and markets; limited support from the government for climate change adaptation; limited access to basic needs such as water, sanitation and electricity; limited access to information through ICTs, phones or other means; and limited economic means to adapt to climate change and associated hazards.

Biodiversity loss and land degradation

11. The climate change impacts on and vulnerabilities of local communities in Zambia Central and Southern Provinces are further compounded by the degradation of ecosystems and landscapes, and unsustainable livelihood and natural resource management practices. As such, the natural resource base is becoming increasingly depleted as rural communities increasing rely on them to support their climate resilience.

12. **Ecosystem degradation and its drivers**: Although Zambia's Forest cover is still considered to be relatively intact, the country has one of the highest rates of forest cover loss globally. In the last two decades, Zambia lost ~1.58 million ha of tree cover through deforestation and forest degradation. This figure represents a ~7% decrease in tree cover since 2000[32]. Unabated deforestation and forest degradation, therefore, stand in the way of Zambia meeting its Land Degradation Neutrality (LDN) targets[33]. Key causes of deforestation and forest degradation are anthropogenic activities and natural disasters, threatening the country's natural resource base. Primary anthropogenic threats to forests integrity in the areas targeted by this project are entrenched to cope with low incomes in rural areas and include unsustainable woodfuel harvesting, charcoal production[34], and extractive agricultural production practices. More generally, the list of most common practices causing land degradation is long: monocropping sustained over time, ploughing, low restitution of organic-based plant nutrients, limited use of soil building leguminous crop/tree species, burning of crop residues, use of varieties not adapted to the agro-climatic conditions on farms, planting asynchronous relative to the prevailing weather conditions, and overgrazing. Major problems associated with these practices are soil erosion, and loss of soil organic matter, which take away the intrinsic fertility of soils, and their capacity to retain water during dry spells, thus cascading in a downward cycle of low resilience of smallholder farmers to more frequent droughts, low yields, and poverty[35]. These anthropogenic threats are exacerbated by ongoing climatic change and its impacts, including *inter alia* increasing average temperatures, rises in the intensity and frequency of extreme weather events (droughts and floods), a general drying trend, delayed and variable start in the onset of the rain season[36]. This renders agriculture, the only livelihood source for more than 70% of the rural population, progressively less productive[37]. The result is further conversion of forest land for agricultural extensification, contributing to increasing rates of deforestation and forest degradation. The continued loss of forest ecosystems is also contributing to local reductions

in biodiversity (both terrestrial and aquatic), as critical habitats are lost or transformed, and corridors critical to the movement of fauna between ecosystems and habitats become fragmented. Furthermore, uncontrolled wildfires add stress to the brittle equilibrium of the savanna ecosystem. The loss of biodiversity, land and ecosystem degradation, coupled with the impacts of climate change and desertification, present a daunting challenge to sustainable development in Zambia that can only be addressed through behaviour changes, and the availability of technical alternatives that are accessible and practical to implement by resource-poor farmers.

13. **Land productivity and degradation:** A recent review of land productivity in Zambia indicates that ~52,453 km^2 of its land is considered degraded and is, therefore, unavailable for any productive use[38]. Crop cultivation and livestock production are identified as the main culprits responsible for land degradation. Therefore, population growth and increasing demand for food production are placing pressure on the land through overgrazing, over-browsing, deforestation, and land fragmentation as more forest land continues to be cleared for agriculture. As mentioned above, this exposes soil to wind and water erosion, resulting in further land degradation. Additionally, soil erosion leads to the siltation of streams, rivers, and dams, contributing to the degradation of freshwater ecosystems and their biodiversity. Although land degradation is pervasive across the Zambian landscape, the situation continues to worsen in the Central and Southern Provinces.

14. **Rural livelihoods and natural resource dependence:** The dependence of rural communities on the local natural resource base is closely linked to the availability of formal employment opportunities in an area. As formal employment opportunities decline, the dependence on natural resources for livelihood sustenance increases. Low domestic earnings further force most households to intensify non-agricultural income-generating activities as a risk avoidance strategy, especially in the agricultural off season. Non-agricultural income-generating activities such as charcoal production are slowly becoming popular, as the demand for this fuel continues to increase in urban areas. The activity is, to a varying extent, increasing the pressure on the domestic woodfuel resource. Charcoal production alone does not effectively lead to complete loss of vegetation, but when followed by farming and late bushfires, it prevents forest regeneration. The production of charcoal is the primary driver of deforestation in the Central and Southern Provinces, particularly during the agricultural off season, when incomes need to be supplemented. Furthermore, during poor agriculture harvests due to climate change-related droughts and floods, additional livelihood activities such as charcoal production and illegal timber harvesting escalate as adaptation coping mechanisms. In both provinces, charcoal production is currently the main source of employment for the majority of households. The main supply areas are the peri-urban areas in Lusaka. With ever-rising electricity tariffs, most households in the cities have opted to use charcoal as a domestic energy source. Unfortunately, this has increased pressure on forest resources, leading to increased deforestation and eventual land degradation in most places.

15. **Drivers of land degradation:** In the proposed project sites land degradation is more severe relative to other provinces of Zambia. The observable biophysical changes caused by the combination of the social-ecological processes described above[39] in the last three decades are increased deforestation, forest degradation, soil erosion, drying of perennial rivers, and biodiversity loss. Forest cover loss throughout the proposed sites has been chiefly driven by weak forest tenure systems, promoting *de facto* open access, and a land tenure system overlapping with customary rights in such a way to exclude most smallholder farmers from formal land titles and the rights to occupy the land they actually use. Furthermore, farmers typically lack the organization at the village or block level to develop structured plans to utilize communal lands as additional sources from income. This situation disincentives farmers from investing in sustainable practices or modernizing their farms and is an important root cause for the widespread use of unsustainable practices. Currently, there are no formal land management or natural resource use plans in neither of the two provinces. Consequently, the rich biodiversity that underpins the flow of ecosystem services to rural communities in these two provinces is still threatened by the encroachment of woodlands for agriculture, inappropriate use of fire, and the excessive harvesting of forest products. These threats' relative magnitude and urgency were discussed

and reviewed in a series of stakeholder consultations and workshops held in Lusaka in February 2023 to inform the development of this PIF.

<u>Project intervention area</u>

16. The focal geographies relevant to the proposed project lie in Zambia's Central and Southern Provinces (Figure C1 and Table C1, Annex C). Within the Central Province, a belt running from Mumbwa through Nangoma, Shibuyunji, Chibombo and Kapiri Mposhi districts was selected as the site for project activities. In the Southern Province, the area of focus runs from Gwembe through Siavonga, ending in the Chikankata and Sinazongwe districts. These two belts were prioritized as having the greatest immediate need to restore the degraded forest and agro-ecological landscapes, strengthen biodiversity and enhance the climate resilience of local communities. The restoration of the degraded ecosystems in the two provinces will help Zambia advance a nationwide agenda for land restoration and sustainable ecosystem management in the semi-arid parts of the country, while at the same time contributing to the county's biodiversity and climate change adaptation priorities. The selection of the specific districts within the two provinces took into consideration the important conditioning influence of connected agro-ecosystems. This includes important ecosystem connectivity between the districts' water sources and the negative impacts of land degradation on downstream areas. The two sites lie within two significant forest ecosystems that play important roles in the livelihoods and climate resilience of the local communities.

17. The Central Province site lies within the Dry Miombo Forest ecosystem, while the Southern Province site lies within the Mopane Woodlands ecosystem. Both of these ecosystems host significant biodiversity that is important for local livelihoods and economies. However, the biodiversity remains under threat from degradative practices. The rich biodiversity of the Miombo woodlands requires proper management. In terms of plant diversity alone, they are home to 8,500 higher plants. Close to 54% of these are endemic to the woodlands alone. 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[40]. **Miombo woodlands are also classified as one of five global biodiversity hotpots due to their irreplaceable endemism.** Consequently, a range of protected areas including national parks, game controlled areas and forest reserves have been established across the Miombo countries. At a continental level the Miombo acts as a buffer zone (Tanzania, DRC, Zambia), protecting the biodiversity values of the ecologically important adjacent rain forests. A wealth of literature attests to the importance of ecosystem services from the Miombo woodlands to the livelihoods of the poor. As the woodlands are now being integrated into global markets, capital and global land-use systems, the demand for their biological resources is going to increase accordingly, e.g., commercial timber. It is estimated that nearly 100 million people are dependent on the Miombo woodlands for their goods and services. Biodiversity in Miombo woodlands is being lost as the woodlands are converted to species-poor farmlands and plantations. Currently, the Miombo woodlands are regarded as the last agricultural frontier in an era of land scarcity. Meanwhile, climatic, atmospheric and other environmental changes may alter the growth rates of woodland flora, impacting species composition and productivity. These changes will result in trade-offs and conflicts between the beneficiaries of different ecosystem services, some of which may impact on the drivers of change[41].

18. Similar to Miombo woodlands, Mopane woodlands are also considered **ecosystems with irreplaceable species endemism**, falling within the Zambezian regional centre of endemism[42]. This is one of the most important areas for large mammal diversity and biomass in southern Africa, including some of the most significant remaining populations of black rhinoceros and elephant as well as white rhinoceros, hippopotamus, buffalo, blue wildebeest, giraffe, greater kudu, and nyala. Agriculture, cattle farming, and resource-use activities heavily impact the remaining natural habitat. The most widespread threat is poaching and exploitation of wildlife[43].

Without- and with-project scenarios

19. **Without the proposed project**, the socio-ecological pressures described above will continue to interact at the target sites to generate cumulative environmental impacts, including land degradation and biodiversity loss. The continued use of unsustainable farming practices together with the ongoing expansion of livelihoods and behaviours that rely on and promote the overexploitation of natural resources will be compounded by the impacts of climate change as vulnerable communities increase their dependence on these practices as a coping mechanism in the absence of adaptive capacity — on a scale of low, moderate, high, and very high, the climate risk within the project area is <u>high</u> without project intervention (see Annex H). The use of degradative practices will continue into future generations as the youth-driven behaviour change necessary to transition towards sustainable natural resource management is not realised. As a result, land degradation will be amplified through deforestation, contributing to biodiversity loss and reducing ecosystem service and natural resource supplies critical to the livelihoods and climate resilience of local communities. This will contribute to increased poverty, loss of livelihoods, food and water insecurity, health problems, and increased susceptibility of local communities to climate risks and hazards.

20. **With-project scenario**. Given the global environmental problems and climate vulnerabilities described above, the restoration of degraded and conservation of remaining forests along with the sustainable management of the surrounding agro-ecological landscapes in Zambia's Central and Southern Provinces are key to addressing land degradation, attenuating biodiversity loss and enhancing the climate resilience of local communities — the climate risk within the project area is <u>moderate</u> with project intervention (see Annex H). The attainment of this scenario will be supported through the demonstration of a youth-centric and gender-responsive approach that includes: i) strengthening the enabling environment (policy, planning, governance and capacity); ii) enhancing the productivity and climate resilience of natural resource-based livelihoods, as well as creating linkages to and greening associated markets and value chains; iii) implementing an incentivized ecosystem restoration approach using a combination of active and passive (natural regeneration) methods; and iv) building the knowledge required for adaptive management, scaling up and replication.

21. The proposed project will integrate climate change adaptation across its interventions to ensure that the restored ecosystems, natural resource base and communities who rely thereon for their lives and livelihoods are resilient to the ongoing and anticipated impacts of climate change. There are limited options for attaining food and nutritional security in Zambia other than promoting sustainable agricultural production systems and management of ecosystems at the landscape level. Restoring degraded ecosystems will ensure that they continue to provide vital services under changing climatic conditions. This will consequently guarantee that agriculture production and other natural resource-based livelihoods remain environmentally viable and climate resilient for the Zambian farmer, while at the same time contributing to reduced ecosystem degradation and enhanced biodiversity.

Barriers to the achievement of the with-project scenario

1. **Weak natural resources governance at the local level:** Government institutions charged with the legal responsibilities of managing natural resources in Zambia have a very weak capacity to enforce the law, implement policy and provide technical support to local communities. This is aggravated by weak or non-existent community-level natural resource management groups.
2. **Policy and legal inconsistencies related to the management of natural resources:** constrain the adoption of sustainable land and ecosystem management strategies and practices that reduce degradation, biodiversity loss and climate vulnerabilities. For example, while the forest policy and legislation are inclined towards attaining sustainable biodiversity management, those related to agriculture promote clearing of forests as a way confirming ownership. A good case in point is that agricultural land that remains uncleared of forest cover is considered as undeveloped land and may result in the government reassigning that piece of land[44].
3. **Lack of clarity around land and forest use rights in communal areas:** About 96% of the land in Zambia is *de facto* open access as it falls under the customary tenure system. Therefore, lack of clarity around rights to land use and forest use are fundamental root causes of land degradation in the proposed project areas, 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, thereby significantly contributing to land degradation.

4. **Limited success and uptake of climate-smart and sustainable agricultural practices:** Climate-smart agriculture has long been promoted in Zambia, including in the two target provinces, but its sustained adoption has been limited. This has resulted in limited accrual of climate change adaptation benefits and the continued proliferation of unsustainable and degradative livelihoods. Many factors including tree seedling availability, increased labour demands, low knowledge, skills, and government's farmer fertilizer support systems have all contributed to low adoption rates[45].

5. **Lack of diversified livelihood opportunities in rural areas (for the youth in particular) leading to low adaptive capacities and an overexploitation of natural resources:** Zambia's rural areas offer few livelihood and income-earning opportunities outside semi-subsistence farming, forcing communities, especially youth, to rely heavily on forest/woodland and land resources, and limiting long-term behaviour change towards sustainable natural resource management. Natural resource utilization involving charcoal production offers an escape root for most idle youths to generate some income to sustain their families. In Central and Southern Provinces, the charcoal industry employs over 70% of the rural youths, particularly during the agriculture off-season (June to October)[46],[47].

6. **Lack of demonstration of schemes to incentivize sustainable forest management and restoration in Zambia:** Historically, the incentivization of sustainable forest management and restoration in Zambia have largely been unsuccessful because of high reliance on support that agriculture receives in form of input supply schemes from government's farmer support programme. Budgetary support towards environmental management is usually insignificant relative to the agricultural sector[48]. When inputs are no longer provided, sustainable practices are often abandoned for those that are more lucrative and degradative (such as charcoal production), inhibiting long-term behaviour change.

7. **Limited integration of natural resources management and climate change adaptation into school curricula and youth development programmes, constraining youth-driven behaviour change towards non-degradative behaviours:** the success of sustainable natural resource management and ecosystem restoration is largely hindered by a lack of awareness amongst children and youth on the benefits thereof, resulting in a proliferation of degradative behaviours amongst populations who rely on natural resources for their livelihoods.

8. **Inadequate knowledge, data and information to inform good decision-making related to sustainable forest and land management and climate change adaptation at the local level:** While much research has been a carried out and a large amount of information and data to support the sustainable forest and land management, and climate change adaptation, the transfer of such knowledge to communities in rural areas in a format that is applicable in the local context and builds on traditional knowledge is largely absent.

9. **Lack of integration of climate change impacts and data into the design and implementation of agricultural livelihoods and natural resources management:** Overall, agrometeorological services are available (not necessarily accessible) for farmers in Zambia. For example, the Community Agrometeorological Participatory Extension Services (CAPES) has been established in some villages near Monze (Southern province). CAPES aims to introduce and communicate seasonal climate forecasts to farmers through interactions between the farmers, researchers, and extension practitioners. In addition, the Zambian Meteorological Department produces crop weather bulletins that include information on rainfall, agrometeorological conditions, 10-day weather forecasts and maps on total rainfall, as well as information relevant for maize, including water requirements satisfaction index and soil water index. Despite of these efforts, the level of uptake of these services remains low for numerous reasons, including: i) lack of a two-way communication system between producers of information and users; ii) low gender participation in the co-development, co-design and co-production of weather informed agricultural advisories; and iii) insufficient tailoring of climate services to users' needs and preferences, thus reducing the level of uptake and use of the information.

Enablers and assumptions to support the achievement of the with-project scenario
- Capacity and governance strengthening activities improve institutional, technical and coordination capacity.

- Local traditional leaders and communities actively support the project and its interventions.
- Incentivisation of climate-resilient sustainable natural resource management is successfully piloted by the project.
- Livelihoods and alternative fuel and energy sources are embraced and taken up by beneficiaries.
- The youth are interested in actively get involved in the project's activities, stimulating behaviour change towards the climate-resilient and sustainable use of natural resources.
- Demand for charcoal production in urban areas is addressed by ongoing initiatives, mitigating the growth of charcoal production as a livelihood.
- Over time, knowledge is generated by the project and gradually adopted for decision making and results in scaling up.
- Political support for the project remains consistent throughout its implementation.

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B. PROJECT DESCRIPTION

Project description

This section asks for a theory of change as part of a joined-up description of the project as a whole. The project description is expected to cover the key elements of good project design in an integrated way. It is also expected to meet the GEF's policy requirements on gender, stakeholders, private sector, and knowledge management and learning (see section D). This section should be a narrative that reads like a joined-up story and not independent elements that answer the guiding questions contained in the PIF guidance document. (Approximately 3-5 pages) see guidance here

Project Description

Theory of change

1. The main objective of the proposed project is to enhance climate change adaptation in local communities, reduce land degradation and enhance biodiversity conservation through an integrated climate-resilient landscape management approach in the Central and Southern Provinces of Zambia. This will be achieved by addressing the global environmental problems and climate vulnerabilities described in Section A through four interrelated components. These include: i) enabling environment for climate change adaptation approaches that reduce ecosystem degradation and strengthen (LDCF and TF-LD); ii) climate-resilient restoration of degraded landscapes in the Central and Southern Provinces (LDCF and TF-BD); iii) climate-resilient natural resource-based livelihoods (LDCF); and iv) Monitoring, Evaluation, Learning and Knowledge (MELK) for climate change adaptation and improved natural resource management (LDCF). Global Environmental Benefits (GEBs) that will be delivered through the project include:
   - conservation of globally significant biodiversity;
   - improved provision of agro-ecosystem and forest ecosystem goods and services; and
   - conservation and sustainable use of biodiversity in productive landscapes.

2. The project's success is dependent on a transformational approach aimed at supporting a shift away from adaptation practices that are environmentally degradative practices to those which promote adaptation while at the same time ensuring ecosystem health and biodiversity conservation. This will be achieved through a multi-trust fund (MTF) approach that:
   - incentivises a shift towards improved climate-resilient natural resource management practices that enhance adaptation in local communities, reduce land degradation and conserve biodiversity through sustainable, innovative and whole-of-society approaches;
   - promotes efficient alternative fuel and energy sources to reduce dependencies on woodfuel and associated land degradation and biodiversity loss;
   - promotes a climate-resilient integrated landscape-level approach to natural resource management that also mainstreams ecosystem restoration and biodiversity conservation; and
   - focuses on youth as the core agents of climate change adaptation and addressing land degradation and biodiversity loss by fostering behavioural change from the primary school level and equipping them to take up livelihoods that preserve rather than degrade ecosystems.
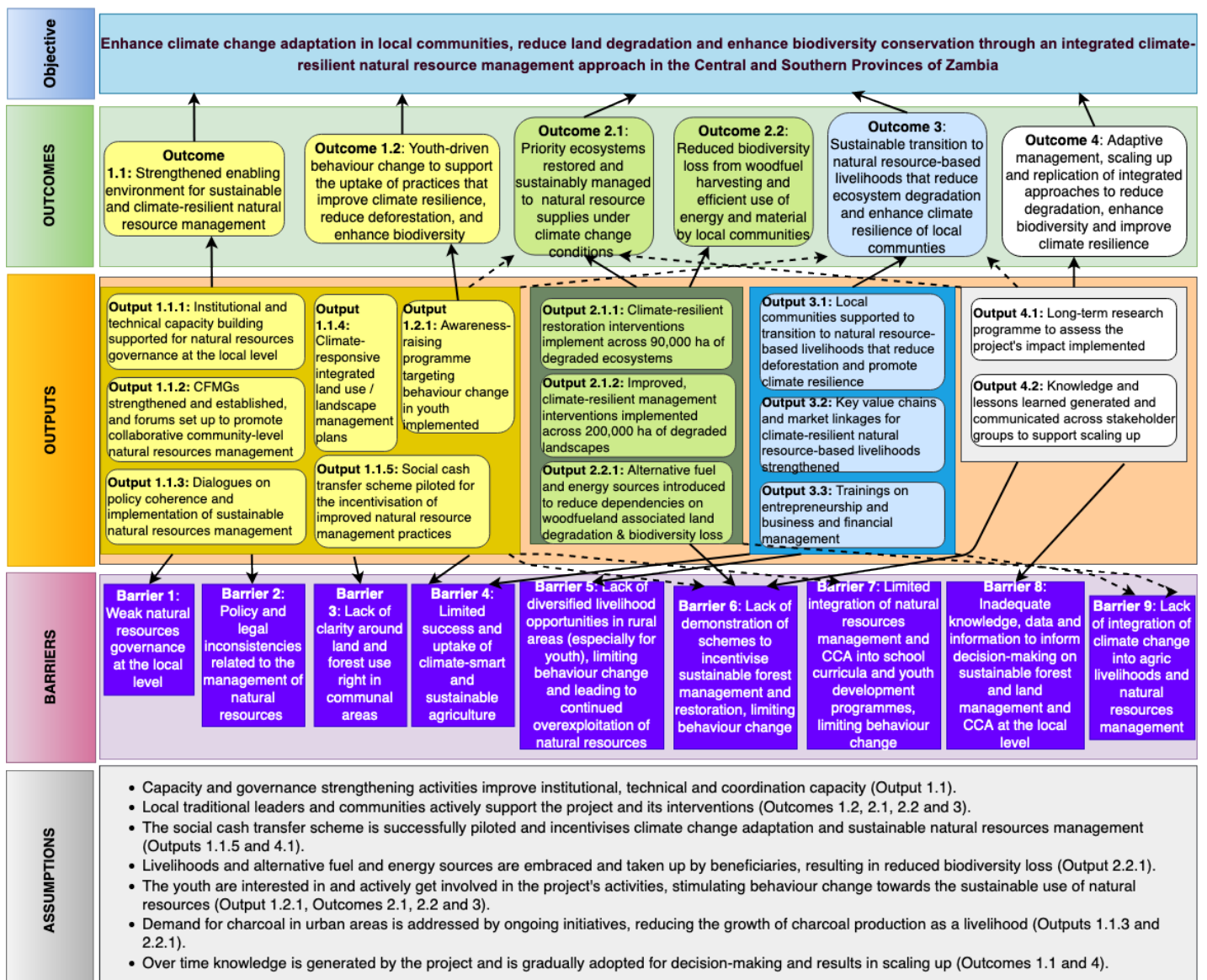
Objective

Enhance climate change adaptation in local communities, reduce land degradation and enhance biodiversity conservation through an integrated climate-resilient natural resource management approach in the Central and Southern Provinces of Zambia

OUTCOMES

- **Outcome 1.1:** Strengthened enabling environment for sustainable and climate-resilient natural resource management
- **Outcome 1.2:** Youth-driven behaviour change to support the uptake of practices that improve climate resilience, reduce deforestation, and enhance biodiversity
- **Outcome 2.1:** Priority ecosystems restored and sustainably managed to natural resource supplies under climate change conditions
- **Outcome 2.2:** Reduced biodiversity loss from woodfuel harvesting and efficient use of energy and material by local communities
- **Outcome 3:** Sustainable transition to natural resource-based livelihoods that reduce ecosystem degradation and enhance climate resilience of local communities
- **Outcome 4:** Adaptive management, scaling up and replication of integrated approaches to reduce degradation, enhance biodiversity and improve climate resilience

OUTPUTS

- **Output 1.1.1:** Institutional and technical capacity building supported for natural resources governance at the local level
- **Output 1.1.2:** CFMGs strengthened and established, and forums set up to promote collaborative community-level natural resources management
- **Output 1.1.3:** Dialogues on policy coherence and implementation of sustainable natural resources management
- **Output 1.1.4:** Climate-responsive integrated land use / landscape management plans
- **Output 1.1.5:** Social cash transfer scheme piloted for the incentivisation of improved natural resource management practices
- **Output 1.2.1:** Awareness-raising programme targeting behaviour change in youth implemented
- **Output 2.1.1:** Climate-resilient restoration interventions implement across 90,000 ha of degraded ecosystems
- **Output 2.1.2:** Improved, climate-resilient management interventions implemented across 200,000 ha of degraded landscapes
- **Output 2.2.1:** Alternative fuel and energy sources introduced to reduce dependencies on woodfueland associated land degradation & biodiversity loss
- **Output 3.1:** Local communities supported to transition to natural resource-based livelihoods that reduce deforestation and promote climate resilience
- **Output 3.2:** Key value chains and market linkages for climate-resilient natural resource-based livelihoods strengthened
- **Output 3.3:** Trainings on entrepreneurship and business and financial management
- **Output 4.1:** Long-term research programme to assess the project's impact implemented
- **Output 4.2:** Knowledge and lessons learned generated and communicated across stakeholder groups to support scaling up

BARRIERS

- **Barrier 1:** Weak natural resources governance at the local level
- **Barrier 2:** Policy and legal inconsistencies related to the management of natural resources
- **Barrier 3:** Lack of clarity around land and forest use right in communal areas
- **Barrier 4:** Limited success and uptake of climate-smart and sustainable agriculture
- **Barrier 5:** Lack of diversified livelihood opportunities in rural areas (especially for youth), limiting behaviour change and leading to continued overexploitation of natural resources
- **Barrier 6:** Lack of demonstration of schemes to incentivise sustainable forest management and restoration, limiting behaviour change
- **Barrier 7:** Limited integration of natural resources management and CCA into school curricula and youth development programmes, limiting behaviour change
- **Barrier 8:** Inadequate knowledge, data and information to inform decision-making on sustainable forest and land management and CCA at the local level
- **Barrier 9:** Lack of integration of climate change into agric livelihoods and natural resources management

ASSUMPTIONS

- Capacity and governance strengthening activities improve institutional, technical and coordination capacity (Output 1.1).
- Local traditional leaders and communities actively support the project and its interventions (Outcomes 1.2, 2.1, 2.2 and 3).
- The social cash transfer scheme is successfully piloted and incentivises climate change adaptation and sustainable natural resources management (Outputs 1.1.5 and 4.1).
- Livelihoods and alternative fuel and energy sources are embraced and taken up by beneficiaries, resulting in reduced biodiversity loss (Output 2.2.1).
- The youth are interested in and actively get involved in the project's activities, stimulating behaviour change towards the sustainable use of natural resources (Output 1.2.1, Outcomes 2.1, 2.2 and 3).
- Demand for charcoal in urban areas is addressed by ongoing initiatives, reducing the growth of charcoal production as a livelihood (Outputs 1.1.3 and 2.2.1).
- Over time knowledge is generated by the project and is gradually adopted for decision-making and results in scaling up (Outcomes 1.1 and 4).

Figure 1: Theory of change diagram.

Detailed project description

Component 1: Enabling environment for climate change adaptation that also supports reduced ecosystem degradation and strengthened biodiversity

Outcome 1.1: Strengthened enabling environment for climate-resilient natural resource management

Output 1.1.1: Institutional and technical capacity building supported for natural resources governance at the local level

3. To strengthen natural resources management at the local level (in response to Barrier 1), the proposed project will build the institutional and technical capacity of local government departments in the target districts. This will include, amongst other things, enhancing capacity for law enforcement, fire, forest and rangeland, soil, and water resources management, using climate information and vulnerability and risk assessments to inform natural resources management, and providing technical support to communities related to the local-level management of natural resources and biodiversity conservation. To ensure that capacity is built for integrated approaches at the landscape level, cross-sectoral gender-inclusive training on the development and implementation of landscape-level land use and natural resource management plans will be undertaken, including training on the mainstreaming of climate change adaptation and biodiversity into these plans. This will support an integrated approach to reducing land degradation, arresting biodiversity loss and enhancing the climate resilience of local

communities. The further development of this output will be informed by a capacity needs assessment undertaken during project development (PPG phase). <u>Key institutional stakeholders</u> are *inter alia*: Forestry Department, Department of Agriculture, Fisheries Department, Livestock Department, Department of Energy.

Output 1.1.2: CFMGs strengthened and established, and forums set up to promote gender-inclusive collaborative community-level natural resources management

4. Community-level natural resources management within the target districts will be built through the gender-inclusive strengthening and establishment of Community Forest Management Groups (CFMGs)[1]. In particular, CFMGs will be strengthened to work with and support government institutions (such as the Forestry Department) with natural resources governance — biodiversity, fire, forest and rangeland, soil, and water resources management — and law enforcement (<u>contributing to addressing Barrier 1</u>). This will include working with ongoing initiatives, such as the Forest Farm Facility (FFF), which provides direct financial support and technical assistance to strengthen forest management by collaborating with farm producer organizations. Climate change considerations will also be integrated into the strengthening of CFMGs through training on the use climate data to better understand climate change impacts and the identification of adaptation solutions will be carried out through FAO Farmer Field Schools (FFS), Agro-Pastoral Field Schools (APFS), WMO Roving Seminars and Climate Field Schools (see Annex H). ==Furthermore, biodiversity conservation will be mainstreamed into the responsibilities of CFMGs, such as supporting agrobiodiversity, non-timber forest product (NTFP)-based livelihoods and the sustainable harvesting of natural resources==. Youths, who have been targeted through the environmental education and awareness-raising programme under Output 1.2.1, will be trained to assist with natural resources law enforcement to prevent the continuation and leakage of unsustainable and degradative practices. Trainings will be designed to accommodate women, to promote their participation and gender equality in CFMGs.

5. To foster an integrated and a whole-of-society approach to community-level natural resources management and improve coordination with local governmental institutions, a collaborative forum will be set up in each target area amongst all relevant community-level groups (forests, wildlife, fisheries, agriculture, etc.). The forums will also serve as platforms to communicate and coordinate with traditional leadership on natural resources management, local-level climate change adaptation and ==biodiversity conservation matters==. This will contribute to a coordinated approach to addressing biodiversity loss, land degradation and climate vulnerabilities, ensuring that relevant actions are integrated into the mandates and responsibilities of each group. The forums will serve as entry points for all of the community-level groups, including women's groups, to participate in the capacity building targeting CFMGs. Traditional leadership will also be invited to participate in the forums. To mitigate the leakage of environmental problems to the surrounding districts, traditional leaders and natural resource management groups from surrounding districts will be engaged via the forums. The further development of this output will be informed by CFMG stock takes and needs assessments in the target areas undertaken during project development (PPG phase). <u>Key stakeholders</u> are *inter alia*: CFMGs, natural resource management groups, House of Chiefs.

Output 1.1.3: Dialogues on policy coherence and implementation of sustainable natural resources management

6. <u>In response to Barriers 2 and 3</u>, biannual district-level dialogues (promoting gender and youth representation and participation) will be held in the target areas to provide clarity on and identify gaps/inconsistencies related to policy coherency and implementation related to local-level natural resources management, including its contribution to building the climate resilience of local communities and ==biodiversity conservation==. Where gaps/inconsistencies in policies and plans are identified, the dialogues will serve as a platform for the provision of recommendations for required revisions/amendments. ==This will support the mainstreaming of climate change adaptation and biodiversity conservation into relevant policies (including those related to the agriculture and forestry sectors)==. The dialogues will also be used to ensure that land ownership rights are understood at the community level, promoting gender-inclusive ownership and sustainable stewardship of natural resources. Integrated land use/landscape management plans to be developed through Output 1.1.4 will also be informed by the dialogues. A key national-level dialogue that will be considered for inclusion

under this output through further consultation on and exploration of the topic during the PPG phase is a national discussion on the ban of charcoal consumption in urban areas to indirectly support a reduction in production in rural areas (such as those in the target provinces) and mitigate the related land degradation. There is currently no legal instrument in Zambia to regulate charcoal consumption. Hypothetically, the project could facilitate a dialogue on this topic and contribute to the development of such an instrument. Community representation in the dialogues will be secured through the CFMGs and forums established and strengthened under Output 1.1.2. Other stakeholders that will be involved include: traditional leaders (chiefs) and local-level governmental institutions (including planners and policy makers).

Output 1.1.4: Climate-responsive integrated land use/landscape management plans for the two target areas

7. To ensure a coordinated landscape-level approach to addressing landscape degradation, biodiversity conservation and climate vulnerabilities, climate-responsive integrated land use/landscape management plans will be developed — one for each site. A landscape-level approach will contribute to preventing the leakage of environmental problems across the target areas. Anchored in relevant policies and institutions, the plans will be developed through a gender-inclusive participatory approach involving local stakeholders (including CFMGs and other natural resource management groups — Output 1.1.2, traditional leaders), district governmental institutions (district planners, Ministry of Agriculture, Forestry, Agriculture, Fisheries and Livestock departments, etc.) and research institutions (such as ZARI, ICRAF and CIFOR). To ensure that climate change adaptation is integrated into the plans, local-level climate vulnerability and risk assessments will be used to inform their development, with support provided by the Department of Climate Change. In addition, integrated risk management plans will be developed as part of the integrated land use/landscape management plans. These will include aspects related to hazard impact mitigation (prevention strategies), risk governance (collaboration between institutions on the emergency response), disaster resilience investment (structural and non-structural measures to promote climate resilient communities) and strengthen preparedness (ensure capacities for anticipating and responding effectively) — see Annex H. Biodiversity conservation will be integrated into the plans through alignments with Zambia's NBSAP and local-level biodiversity conservation plans. Results of scientific research that has been translated to be locally applicable (Output 4.2) will also be used in the development of the plans.

8. Preparation of the plans will also include the development of costed implementation and M&E plans to ensure that they result in tangible benefits across the target landscapes, that are tracked over time. Development of the plans will also include an intentional focus on gender equality and benefit sharing in integrated land use/landscape management practices. The plans will also be linked to integrated district development plans to ensure alignment at the district level. During project development (PPG phase) a needs assessment and detailed approach for the development of the plans will be developed together with the key stakeholders identified above.

Output 1.1.5: Social cash transfer scheme piloted for the incentivization of improved natural resource management practices

9. In Zambia, the Social Cash Transfer Programme was introduced in 2003 as an experiment for the desirability of cash transfer interventions, with the objective of reducing hunger and the intergenerational transmission of poverty. The results of the programme show that individuals and households accessing social cash transfers have seen notable improvements in their lives, including reduced hunger and better school attendance for children[2]. Given the challenge in sustainably incentivizing ecosystem restoration and biodiversity in Zambia, the innovative social cash transfer approach provides a model that can address this barrier (Barrier 6). Importantly, a social cash transfer scheme has great potential to build the adaptive capacity of local communities under climate change conditions and can be piloted as an instrument to provide local-level adaptation finance at scale. The proposed project will pilot a results-based social cash transfer scheme (using LDCF funds) for the incentivization of improved natural resource management practices (including restoration and livelihood under Components 2 and 3, respectively) that promote ecosystem restoration and biodiversity conservation that supports climate change adaptation of local communities, and avoid the leakage of environmental problems to other areas. Payments will be results-based, focusing on local-level adaptation targets that promote ecosystem restoration and biodiversity conservation. If

successful, the pilot will have the potential to be scaled up across the country, transforming the incentivization of improved natural resource management in rural area and increasing the success of initiatives addressing land degradation and restoring ecosystems. An upscaling strategy will be developed during project implementation based on lessons learned, focusing on scaling adaptation finance. A detailed assessment of social cash transfers and the legal and institutional feasibility of the inclusion thereof in the project will be undertaken during project preparation (PPG phase). If found to be feasible, an assessment of how best the approach can be tailored to the project context will be conducted, followed by the preparation of a model appropriate for piloting through the project, with support from stakeholders including: Social Cash Transfer Programme, Ministry of Community Development and Social Services, Ministry of Finance and CIFOR/ICRAF. Other instruments such as climate insurance mechanisms will also be assessed during the PPG phase as potential options to incentivise the long-term support of communities for improved natural resources management (see Annex H).

Outcome 1.2: Youth-driven behaviour change to support the uptake of practices that improve climate resilience, reduce deforestation and enhance biodiversity

Output 1.2.1: Awareness-raising programme targeting behaviour change in youth implemented
10. Behavioural change to support the sustainable uptake of climate-resilient natural resource management practices, such as ecosystem restoration, biodiversity conservation, and alternative livelihoods and fuel sources, will be supported through an awareness-raising programme implemented by the project (addressing Barrier 7). From a climate change perspective, the programme will raise awareness on the impacts of climate change, appropriate adaptation solutions and the risk of maladaptation. To ensure that behavioural change starts at a young age and supports a whole of society approach, the youth will be primary targets of the programme. With support from stakeholders including the Ministry of Education, Department of Youth Development and JIH, the project will strengthen and re-establish environmental clubs at schools (such as Chongololo clubs) to raise awareness on environmental issues and solutions. The project will also partner with local schools (primary and secondary) and the Department of Youth Development's youth training centres in tree planting programmes to raise awareness on the benefits of restoration and its maintenance overtime, including through visits to the project's restoration sites. As a result, children and youth will progressively learn more about the sustainable management of natural resources and the benefits thereof, stimulating, from a young age, behaviours that conserve rather than degrade ecosystems (such as charcoal production) and promote climate resilience. For youth in their final years at school and non-school-going youth, awareness will also be raised on gender-inclusive climate-resilient livelihood options, with a focus on the sustainable natural resource-based livelihoods promoted by the project — this will include exposure to these livelihoods and discussions with beneficiaries. Also involved in the awareness raising will be the restoration and livelihood champions identified under Components 2 and 3, along with traditional leadership, so that local examples are presented. The awareness-raising programme will be further detailed during the PPG phase.

Component 2: Climate-resilient restoration of degraded landscapes in the Central and Southern Provinces
Outcome 2.1: Priority ecosystems restored and sustainably managed to enhance natural resource supplies under climate change conditions

Output 2.1.1: Climate-resilient ecosystem restoration interventions implemented across 90,000 ha of degraded ecosystems in the Central and Southern Provinces
11. Degraded forest, rangeland and riverine ecosystems in the project's target landscapes will be restored using a combination of active and passive restoration approaches. The restoration activities will involve the use of agroforestry techniques in degraded agroecosystems and natural regeneration in degraded forest, rangeland and riverine ecosystems. In places experiencing severe degradation with little natural regeneration, the project will use a combination of assisted natural regeneration and enrichment planting using ecologically appropriate species. The restoration activities will be implemented using a participatory approach involving stakeholders such as CFMGs (Output 1.1.2), traditional leaders and

local communities to promote local ownership. This will further be supported by the identification of local-level champions (men, women and youth) to drive the restoration process, as well as advocate for and continue training on restoration in the future. This will support a decentralized approach to sustainability. ==Restoration is expected to increase the value of the forests and their biodiversity relative to competing land uses and consequently lead to a reduction in deforestation and forest degradation across the landscape.==

12. If feasible, Output 1.1.5's social cash transfer scheme will incentivize the maintenance of restored areas over time, ensuring the success of the intervention, including the accrual of the multiple related ecosystem service benefits that will contribute to building the climate resilience of local communities. The success of the restoration activities will also be supported by the implementation of the climate-responsive integrated land use/landscape management plans developed under Output 1.1.4, improved natural resource management practices of Output 2.2, and sustainable natural resource management practices under Component 3. As needed, community nurseries, managed by local women, will be established to provide seedlings to sites where enrichment planting will be taking place. Indigenous seedlings will be used that are climate resilient (drought-resistant and heat tolerant) and can provide multiple NTFPs to local communities, which support additional livelihoods. Detailed restoration plans and protocols will be developed during the PPG phase (including ecosystem mapping, species identification, maintenance needs, costs, etc.). The restoration protocols will be informed by climate projections and climate change vulnerability and risk assessments to ensure that the restored areas are resilient to ongoing and future climate changes. Key stakeholders that will be involved include: Forestry Department, ZARI, CIFOR/ICRAF and World Fish Centre.

Output 2.1.2: Improved, climate-resilient management interventions implemented across 200,000 ha of degraded landscapes in the Central and Southern Provinces

13. Riding on the community forest management provisions in the 2015 Forests Act, the project will extensively promote community-based natural resources management across the project's target areas. An estimated 200,000 ha of natural forest under *de facto* open access is expected to be brought under improved management practices. This will be achieved through a participatory approach led by CMFGs (strengthened under Output 1.1.2), traditional leaders and other community groups (including women's groups to ensure female representation) as key stakeholders. The improved management of degraded landscapes will consider ongoing and projected climate changes and impacts, ensuring that ecosystem health and the supply of key services (such as water and food) are maintained in the future, contributing to the climate resilience of local communities. Improved land management will be supported through the implementation of activities presented in the climate-responsive integrated land use/landscape management plans developed under Output 1.4, including climate-resilient sustainable agro-sylvo-pastoral, livestock (such as through APFS and the establishment of fodder banks) and fire management practices (such as fire belts around farms). As with Output 2.1, Output 1.1.5's social cash transfer scheme may incentivize ongoing improved, climate-resilient management of degraded landscapes, ensuring the success of the intervention, including the accrual of the multiple related ecosystem service benefits that will contribute to building the climate resilience of local communities. Training and capacity building of relevant stakeholders will take place through field schools, with support from stakeholders such as: Forestry Department, ZARI, CIFOR/ICRAF and World Fish Centre.

==Outcome 2.2: Reduced biodiversity loss from woodfuel harvesting and efficient use of energy and material by local communities.==

Output 2.2.1: ==*Alternative fuel and energy sources introduced in project target districts to reduce dependencies on woodfuel and associated land degradation and biodiversity loss*==

14. Alternative fuel sources, as well as renewable energy technologies for use by communities within the vicinity of restoration sites will be introduced across the project's target areas. Such innovative technologies will be explored further during the PPG phase and may include biogas, renewable fuel pellets made from sustainable biomass sources and household PV systems. The technologies will not only be introduced at the community level but also at the institutional level across the project's target districts, building on the Ministry of Energy's current programme aimed at equipping public facilities

with alternative energy-generating systems, such as biogas installations, to replace the traditional use of fuelwood. Based on the evidence gathered on ecosystem degradation and biodiversity loss related to unsustainable livelihood practices and the collection of biomass for fuel for cooking and heating, it is clear that the success of the project's ecosystem restoration activities (Output 2.1) are reliant on investments in alternative energy sources that address the drivers of land degradation and incentivize improved ecosystem management and restoration. This output consequently contributes to the mitigation of land degradation and a reduction in biodiversity loss in Mopane and Miombo woodlands, which are considered ecosystems with irreplaceable species endemism.

15. A sustainable transition to alternative energy sources is dependent on behaviour change away from a reliance on and preference for the use of woodfuel and other natural biomass sources. Output 2.3 will reduce the potential threat that fuelwood harvesting will have on the success of restoration interventions and provide immediate tangible benefits (i.e., alternative sources of energy for cooking and heating, that also provide light) to the target communities who will only benefit from restored ecosystems in the long term — thereby contributing to addressing Barrier 6. In addition, the activity will mitigate the risk of losing community support for the project's restoration interventions. Other co-benefits include reduced health risks from smoke inhalation related to cooking on open fires (for women in particular) and less time spent searching for and collecting woodfuel (men, women and youth), increasing time that can be allocated to activities that contributed to building adaptive capacity.

16. The realization of this output will include working closely with the Ministry of Energy (as a key stakeholder) to expand household-level biogas and solar installations. This will include training the beneficiaries (with a focus on women and female-headed households) on the use and initiating the uptake of the technologies, contributing to behaviour change in terms of the use of sustainable energy sources. The identification of target beneficiaries (gender inclusive) and assessment of enablers required to successfully achieve this output will be conducted during project preparation (PPG phase). Further aspects that will be considered for integration into Output 2.3 during the PPG phase include, working with private clean fuel-producing companies (such as SupaMoto)[3] to expand the use of pellets at an alternative fuel source in Zambia.

Component 3: Climate-resilient and sustainable natural resource-based livelihoods
Outcome 3: Sustainable transition to natural resource-based livelihoods that reduce ecosystem degradation and enhance the climate resilience of local communities

17. The achievement of this outcome and its contributing outputs will be supported through the use of LDCF funds.

Output 3.1: Local communities supported to transition to gender-responsive natural resource-based livelihoods that reduce deforestation and promote climate resilience

18. Gender-responsive, climate-resilient natural resource-based livelihoods and agricultural practices will be promoted to reduce the dependency of beneficiary communities on climate-vulnerable livelihoods that are responsible for ecosystem degradation — such as charcoal production and unsustainable agricultural practices. This approach will complement ecosystem restoration (Output 2.1) and improved land management (Output 2.2) by reducing unsustainable degradative practices and promoting livelihoods that strengthen adaptive capacity and are reliant on healthy ecosystems. As a result, the conservation as well as ongoing restoration of the ecosystems and their biodiversity in the target areas will be supported. Biodiversity conservation will be strengthened through the promotion of its sustainable use, including, for example, supporting agrobiodiversity, NTFP-based livelihoods and the sustainable harvesting of natural resources. The promotion of natural resource-based livelihoods is expected to increase the value of the forests and their biodiversity relative to competing land uses and consequently lead to a reduction in deforestation and forest degradation across the landscape. This activity will provide immediate tangible adaptation benefits (livelihoods that are resilient to climate change) to the target communities who will only benefit from restored ecosystems in the long term. Consequently, it will incentivize and foster their continued support for the restoration activities, which is essential for their success.

19. Indicative climate-resilient livelihoods that will be supported by the project include: climate-smart agriculture (including the use of agrometeorological advisories, in-field rainwater harvesting, water-efficient irrigation technologies, seed bank establishment, drought-resistant crop use, crop diversification to move away from the use of monocultures, etc. – see Annex H); agroprocessing; NTFP-based livelihoods — both harvesting and processing; aquaculture; fingerling production; production of fertiliser from biogas slurry waste and the sale of excess biogas as a fuel source; bee keeping; etc. Where applicable, water resource use efficiency of the supported livelihoods will be enhanced and small-scale water harvesting supported. A detailed list of livelihoods will be prepared through a gender-inclusive livelihood needs assessment to be undertaken during project development (PPG phase). The livelihoods needs assessment will be informed by climate changes projections and vulnerability assessments.

20. Based on capacity needs assessment conducted during the PPG phase, capacity-building of local government staff will be conducted to support climate-resilient livelihood diversification (staff and extension officers). Beneficiary community members (to be selected during PPG phase — gender responsive) will be trained on the implementation of livelihoods through field schools amongst other methods. Focus will be placed on equipping youth to take up livelihoods alternative to those which rely on the overexploitation of natural resources and contribute to degradation (such as charcoal production), and specifically build their adaptive capacity — addressing Barrier 5. This will be facilitated through stakeholders including the Department of Youth Development whose youth training centres can be used for capacity building, and the Jacaranda Innovation Hub (JIH), which has ongoing youth development initiatives. Sustainability of uptake and implementation of livelihoods may be incentivised via the results-based social cash transfer scheme to be developed through Output 1.5 (addressing Barriers 4 and 6). This will be complemented by the identification of local-level champions (men, women and youth) to drive the uptake of alternative livelihoods, as well as advocate for and continue training on livelihoods in the future. To strengthen the climate resilience of livelihoods, training on the use climate data to better understand climate change impacts and the identification of adaptation solutions will be carried out through FAO FFS, WMO Roving Seminars and Climate Field Schools. This will include the transferring of lessons learned to the project sites from the Community Agrometeorological Participatory Extension Services (CAPES) initiative established near Monze in the Southern Province. CAPES aims to introduce and communicate seasonal climate forecasts to farmers through interactions between the farmers, researchers, and extension practitioners. In addition, the Zambian Meteorological Department produces crop weather bulletins that include information on rainfall, agrometeorological conditions, 10-day weather forecasts and maps on total rainfall, as well as information relevant for maize, including water requirements satisfaction index and soil water index (see Annex H). Key stakeholders under this output (in addition to those mentioned above) are: Ministry of Agriculture, ZARI[4], Department of Fisheries, Department of Forestry, ICRAF/CIFOR and World Fish Centre.

Output 3.2: Key value chains and market linkages for climate-resilient natural resource-based livelihoods strengthened

21. Linked to the livelihoods to be promoted under Output 3.1 and based on value chain and market assessments to be undertaken during project development (PPG phase), key agricultural and NTFP value chains and market linkages will be strengthened and greened. From an adaptation perspective, climate services can be integrated for strengthening the resilience of the food value chain to climate risks through the development of tailored climate risk assessments and participatory stakeholder consultations. The value chain can be reinforced by identifying key aspects related to the structure of the food value chain, by identifying key relationships (e.g., exchange of products and information, market access, use of ICTs) between value chain actors and the private sector, key climate risks in the value chain, the choice of the most effective climate resilient strategies and practices, and providing tailored recommendations by targeting those most vulnerable to climate risks (including women and female-headed households), reaching scale with climate interventions (see Annex H). As a result, the viability of livelihoods under Output 3.1 will be enhanced, further incentivizing the uptake of non-degradative practices that enhance the adaptive capacity of vulnerable local communities and promote biodiversity conservation.

Output 3.3: Trainings on entrepreneurship, and business and financial management for local stakeholders involved in climate-resilient natural resource-based livelihoods and value chains

22. To support the success of the natural resource-based livelihoods promoted under Component 3, beneficiaries (with a focus on gender and youth, <u>addressing Barrier 5</u>) will be trained in entrepreneurship, and business and financial management. Such capacity strengthening will enhance the success of the introduced livelihoods, which will strengthen adaptive capacity and further incentivise a transition away from practices that degrade ecosystems and contribute to biodiversity loss. The project will work closely with <u>stakeholders</u> such as the Department of Youth Development whose youth training centres can be used for capacity building, JIH, and the private sector. The former's youth training centres, which target school-going, out-of-school and non-school going youth, will support capacity building activities. JIH's ongoing support of the development of start-ups, SMEs and MSMEs, including providing linkages to value chains and markets, access to finance and capacity development will also be built on by the project. This will include scaling up JIH's digital platform that links beneficiaries to finance, markets, training, value chains, etc., and working with its Young Money school programme to teach entrepreneurial skills and financial management (ages 8-18), so that behaviour change towards sustainable livelihoods starts early.

Component 4: Monitoring, Evaluation, Learning and Knowledge (MELK)
<u>Outcome 4: Adaptive management, scaling up and replication of integrated approaches to reduce degradation, enhance biodiversity and improve climate resilience</u>

Output 4.1: Long-term research programme to assess the project's impact implemented

23. To generate knowledge and data on the climate change adaptation (primary focus), long-term biophysical (ecosystem restoration and biodiversity conservation), social (adaptive capacity, incentivisation schemes, gender equality) and economic benefits (incl. gender balance of such benefits) of the project, a long-term research programme will be implemented (<u>addressing Barrier 8</u>). The social cash transfer system, which may be piloted under Output 1.1.5, while be assessed via the impact evaluation that focuses on the impact on climate change resilience and environmental benefits. The programme will link to, continue and expand on the project's monitoring process. Hosted by key <u>stakeholder</u> CIFOR/ICRAF, with support provided by academia (such as University of Zambia and Copperbelt University) and other research partners such as ZARI and World Fish Centre, the programme will inform the continued maintenance of the project's interventions. Furthermore, it will inform policy making, planning upscaling and replication and provide evidence required to leverage ongoing support and investment. Members of CCFMGs and other community-level groups will be trained on data collection, while post-graduate students will be supported to undertake research for their MSc. and PhD degrees (e.g., those studying through the Sustainable Land and Environmental Management Programme at the University of Zambia). As needed, MOUs will be signed with relevant research organisations and academia. A framework design of the programme will be developed during the PPG phase.

Output 4.2: Knowledge and lessons learned generated and communicated across stakeholder groups to support scaling up

24. A knowledge management and communication strategy will be developed. Knowledge (data and information) and lessons generated through Outputs 4.1 and 4.2, as well as that already available (such as international and local best practice and research, as well as traditional knowledge) will be shared through a knowledge exchange platform (<u>addressing Barrier 8</u>). The platform, for which a framework design will be produced during the PPG phase and finalised during project implementation, will be hosted by a partner such as CIFOR/ICRAF or World Fish Centre and will serve to support scaling up of the project's approaches across Zambia. One of its key functions will be to translate scientific knowledge for use at the local level (linking it to local conditions and needs). At the local level, exchange visits will be organized for community-level <u>stakeholders</u> — including women, youth, farmers, CFMGs, etc. — from other districts in the Central and Southern Provinces share best practices and increase knowledge on climate-resilient nature-based livelihoods, ecosystem restoration, gender equality and improved land management. This will support the autonomous uptake of some of the project's interventions in surrounding areas and assist in preventing leakage of environmental problems from project sites. Knowledge and lessons learned will also be integrated into district development planning

processes and inform the updating and adaptive management of implementation of integrated landscape management plans (Output 1.1.4). Additionally, a concept note will be developed for a target fund, such as the Green Climate Fund (GCF), to stimulate scaling up of the project. The communication strategy will be based on an initial stocktaking of past and existing communication efforts on climate change adaptation by relevant projects and initiatives (differentiating per target audience, esp. women and youths), allowing to assess existing gaps and best communication vehicles. A communication strategy will then be developed, featuring the preparation of communication material and disclosure in fairs, websites and social media, as well as other communication vehicles.

In addition to the above, an M&E outcome will be sought, namely "Lessons and learning from the project is captured, developed, reported and disseminated". This will be achieved through one output, namely:

M&E output: Effective and participatory MELK implemented

Based on the Monitoring and Evaluation (M&E) plan to be developed during project preparation (PPG phase), a participatory process — involving stakeholders such as community members, CFMGs, academia (such as the University of Zambia and Copperbelt University), and research organisations (such as ZARI and CIFOR/ICRAF) — for monitoring of project impacts. Also assessed will be the success of the social cash transfer scheme, which if feasible, will be piloted by the project (Output 1.1.5). Monitoring data and information will be used to inform the adaptive management of the project and generate knowledge and lessons to be shared under Output 4.2. to be integrated into district development planning processes. Independent mid-term review and terminal evaluation of the project will be undertaken to evaluate project progress and performance.

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[1] As supported by the Forests Act (2015) and Community Forest Management Regulations (2018).
[2] Ministry of Community Development and Social Services, Republic of Zambia. 2022. Social cash transfer factsheet. Source: https://www.unicef.org/zambia/media/2571/file/Zambia-SCT-factsheet-2022.pdf
[3] http://www.supamoto.co.zm
[4] In cooperation with ZARI, PlanT, a digital application for climate change adaptation will be tested. The application was developed by FAO in cooperation with ZARI, UNZA, and the European Space Agency, to support farmers derisk and increase the return on the investment of seeds, labour and energy against false starts of the rainy season. It helps farmers and extension officers make informed decisions as to which variety yields best/is most adapted to each given location and when to plant it to ensure its germination. Based on the performance of the tool, advice will also be provided to seed companies so that they will be positioned to distribute the most suited varieties to each location and keep on the market those that perform best

Coordination and Cooperation with Ongoing Initiatives and Project.

Does the GEF Agency expect to play an execution role on this project?

If so, please describe that role here. Also, please add a short explanation to describe cooperation with ongoing initiatives and projects, including potential for co-location and/or sharing of expertise/staffing

FAO will call upon the Operational Partners Implementation Modality (OPIM) to implement this project. During the PPG phase, four partners will be assessed, namely the Environment Management Department of the Ministry of Green Economy and Environment, World Fish Centre, WeForest and Self Help Africa. Depending on the outcome of the operational capacity assessments, these institutions will be confirmed as Operational Partners (OP) and the detailed coordination mechanism for the project will be further designed. The OPs will be responsible and accountable to FAO for the timely implementation of the agreed project results. FAO will ensure 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, as per their responsibilities.

1. During the development of the PIF, numerous potential synergies with ongoing projects and initiatives were identified. Many of these were informed by consultations with project representatives during the project development team's in-country mission (see Section D below). Details of potential for cooperation are provided in Table 1 below — this is not and exhaustive list and contains the most

relevant projects and initiatives. <mark>In addition to this list, the project will also build on the ongoing LDCF project in Zambia (GEF ID 10186) and will coordinate with the Regional Exchange Mechanism established under the GEF-7 Drylands Integrated Programme.</mark> Lessons and best practices from many of these projects and initiatives have been used to strengthen the indicative design of this project. Additional consultations will be undertaken during the PPG phase to further detail areas of cooperation and strengthen partnerships.

Table 1: overview of potential opportunities for cooperation with ongoing initiatives and projects.

Ongoing initiative/project	Potential of proposed project for cooperation
GCF FP072: Strengthening climate resilience of agricultural livelihoods in Agro-Ecological Regions I and II in Zambia (SCRALA; 2018-2025)[1]. This UNDP initiative focuses on smallholder farmers in two agro-ecological regions covering the five provinces of Eastern, Lusaka, Muchinga, Southern and Western. It takes a gender-sensitive value-chain approach and provides a number of benefits, including increased access to climate information services, support for climate-resilient agricultural inputs and practices, sustainable water management, and alternative livelihoods.	Under Component 3 of the proposed project, there is potential for cooperating on the strengthening and promotion of climate-resilient value chains related to smallholder agriculture, supporting viable alternative natural resource-based livelihoods and creating market linkages for associated products. This is particularly relevant for the Gwembe and Siavonga districts of the Southern Provinces, which are priority districts of both projects. In these districts, there is scope for co-location and sharing of expertise/staffing and lessons. Furthermore, there is opportunity for the proposed project to replicate SCRALA's relevant interventions in its other target districts.
GEF-LDCF 8034: Building the Resilience of Local Communities in Zambia through the Introduction of Ecosystem-based Adaptation (EbA) into Priority Ecosystems, including Wetlands and Forests (2021-2025)[2]. This UNEP project aims to enhance the climate resilience of rural communities in and around the Bangweulu Wetlands and Lukanga Swamps, using an EbA approach to protect and restore forest and wetland ecosystems.	In the shared target district in the Central Province, Chibombo, there is potential to collaborate in capacity development for and implementation of sustainable natural resource-based livelihoods that build adaptive capacity (Component 3) and reduce ecosystem degradation, as well as linking ecosystem restoration activities (Component 2) via co-location and sharing of expertise and staff. Where possible, replication of relevant activities in other target districts will also be explored.
EU and SDC-financed Green Innovation Centres for the Agriculture and Food Sector (GIC) in Zambia (2014-2025)[3]. This GIZ project is promoting innovations in the agriculture and food sectors that contribute to sustainable rural development. This includes supporting the development of the soya bean, groundnut and dairy value chains, and promoting climate-smart agricultural innovations in the Eastern (12 districts) and Southern (7 districts) Provinces.	In the Southern Province, there is potential to collaborate (through co-location, and sharing of staff/expertise and lessons) in promoting climate-smart agricultural innovations and supporting the development of value chains for sustainable natural resource-based livelihoods that reduce ecosystem degradation and promote climate resilience (Component 3). The proposed project can build on the work currently being done by GIC in the Southern Province and potentially replicate relevant interventions in the Central Province.
EU and BMZ-financed Accelerate Water and Agricultural Resources Efficiency (AWARE; 2019-2023)[4]. This GIZ project is enhancing Climate-Smart Water Resources Management and efficient agricultural water use for smallholder farmers and supporting the sustainable commercialization of smallholder farming in the Lower Kafue Sub-Catchment focusing on the Central and Southern Provinces.	While AWARE will reach completion in 2023, as the priority provinces overlap with those of the proposed project, and there are clear opportunities for drawing on lessons and best practices related to sustainable smallholder farming and the climate-smart use of water resources, there is potential for FAO to work with GIZ to inform project development and implementation with regards to Component 3.
EU and BMZ-financed Sustainable Agriculture for Forest Ecosystems (SAFE; 2022-2026)[5]. This GIZ project is supporting stakeholders in the Lower Kafue Sub-Catchment to minimise deforestation and forest degradation caused by the expansion of agricultural production, coupled with weak forest governance. It aims to contribute to forest conservation and enable local and indigenous communities to sustainably manage the forests while improving livelihoods.	Given the clear parallels between SAFE and the proposed project, there is great potential for lessons and best practices from SAFE to be transferred during the development and implementation of the proposed project. In particular, the proposed project can draw from and replicate, as well as share lessons on approaches to improving community-level forest management (Component 1) and supporting alternative livelihoods that promote sustainable natural resource use and climate resilient (Component 2).

USAID's Alternatives to Charcoal project (A2C; 2021-2026)[6]. Currently being piloted in the Lusaka and Copperbelt Provinces, A2C aims to reduce demand for charcoal for household energy and catalyse the increased use of low-emission alternative technologies and fuels. In doing so, it will indirectly address charcoal production-driven deforestation (supply) and greenhouse gas emissions.	With A2C primarily focusing on addressing charcoal demand (which is currently stimulating supply from rural areas such as those in the Central and Southern Provinces), there are many potential complementarities. In particular, the proposed project can work with A2C to address charcoal production through the introduction of alternative livelihoods and fuel sources in rural areas. Currently, on the demand side, there is no legal instrument to regulate charcoal consumption. There is, therefore, potential for the proposed project to work with A2C to facilitate a national discussion on a ban on charcoal consumption in urban areas via Component 1.
European Commission's DeSIRA-funded Zambia for Agroforestry, Biodiversity and Climate Action project (Z4ABC)[7]. Supported by CIFOR-ICRAF, Z4ABC's objective is to contribute to the development of climate-relevant, productive, and sustainable transformation of agriculture, forestry, and food systems in Zambia. Specifically, it aims to improve livelihoods and climate change resilience of specific agricultural, agroforestry, forestry, and food systems, and increase the climate relevance of Agriculture and Knowledge Innovation Systems (AKIS) in the Lower Zambezi–Luangwa–Nyika corridor.	There is potential for the proposed project to work closely with CIFOR-ICRAF learn from and replicate Z4ABC's activities under Components 2 and 3, specifically those related to climate-resilient agriculture, agroforestry and forestry. Additionally, there is potential for linkages to be created between the proposed project's knowledge management activities (Component 4) and those related to AKIS under Z4ABC.

[1] Source: https://www.greenclimate.fund/sites/default/files/document/funding-proposal-fp072-undp-zambia.pdf
[2] Source: https://www.thegef.org/projects-operations/projects/8034
[3] Source: https://www.giz.de/en/worldwide/32209.html
[4] Source: https://www.giz.de/en/downloads/AWARE_Factsheet_Final.pdf
[5] Source: https://www.giz.de/de/downloads/giz2023-en-factsheet-SAFE.pdf
[6] Source: https://pdf.usaid.gov/pdf_docs/PA00ZQVD.pdf
[7] Source: https://www.cifor-icraf.org/z4abc/

Core Indicators

Indicator 3 Area of land and ecosystems under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
90000	0	0	0

Indicator 3.1 Area of degraded agricultural lands under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.2 Area of forest and forest land under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
90,000.00			

Indicator 3.3 Area of natural grass and woodland under restoration

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 3.4 Area of wetlands (including estuaries, mangroves) under restoration

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4 Area of landscapes under improved practices (hectares; excluding protected areas)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
200000	0	0	0

Indicator 4.1 Area of landscapes under improved management to benefit biodiversity (hectares, qualitative assessment, non-certified)

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
80,000.00			

Indicator 4.2 Area of landscapes under third-party certification incorporating biodiversity considerations

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Type/Name of Third Party Certification

Indicator 4.3 Area of landscapes under sustainable land management in production systems

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
120,000.00			

Indicator 4.4 Area of High Conservation Value or other forest loss avoided

Disaggregation Type	Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)

Indicator 4.5 Terrestrial OECMs supported

Name of the OECMs	WDPA-ID	Total Ha (Expected at PIF)	Total Ha (Expected at CEO Endorsement)	Total Ha (Achieved at MTR)	Total Ha (Achieved at TE)

Documents (Document(s) that justifies the HCVF)

Title

Indicator 6 Greenhouse Gas Emissions Mitigated

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (direct)	8863522	0	0	0
Expected metric tons of CO_2e (indirect)	0	0	0	0

Indicator 6.1 Carbon Sequestered or Emissions Avoided in the AFOLU (Agriculture, Forestry and Other Land Use) sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)	8,863,522			
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting	2025			
Duration of accounting	20			

Indicator 6.2 Emissions Avoided Outside AFOLU (Agriculture, Forestry and Other Land Use) Sector

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO₂e (direct)				
Expected metric tons of CO₂e (indirect)				
Anticipated start year of accounting				
Duration of accounting				

Indicator 6.3 Energy Saved (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Total Target Benefit	Energy (MJ) (At PIF)	Energy (MJ) (At CEO Endorsement)	Energy (MJ) (Achieved at MTR)	Energy (MJ) (Achieved at TE)
Target Energy Saved (MJ)				

Indicator 6.4 Increase in Installed Renewable Energy Capacity per Technology (Use this sub-indicator in addition to the sub-indicator 6.2 if applicable)

Technology	Capacity (MW) (Expected at PIF)	Capacity (MW) (Expected at CEO Endorsement)	Capacity (MW) (Achieved at MTR)	Capacity (MW) (Achieved at TE)

Indicator 11 People benefiting from GEF-financed investments

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female	90,720			
Male	89,280			
Total	**180,000**	**0**	0	**0**

Explain the methodological approach and underlying logic to justify target levels for Core and Sub-Indicators (max. 250 words, approximately 1/2 page)

Core indicator 3: Area of land and ecosystems under restoration

Indicator 3.2: Area of forest and forest land under restoration

Approximately 90,000 ha of degraded land (mostly miombo and mopane woodlands) will be restored. Zambia's LDN report shows that at least 7% of the land is degraded in the country. On the basis of this figure, the two project sites have a combined degraded land area of approximately 273,027 ha. Therefore, given the biophysical limitations of the target areas and budgetary constraints of the project, about ~30% of degraded land can be restored. The project targets to restore ~60,000 ha in the Central Province and ~30,000 ha in the Southern Province, with direct biodiversity benefits in the restoration of globally significant miombo and mopane ecosystems.

Core indicator 4: Area of landscapes under improved practices.

Across the two sites, the total area to be brought under improved forest management through CFM is estimated to be 150,000 ha in the Central Province and 50,000 ha in the Southern Province.

Indicator 4.1: Area of landscapes under improved management to benefit biodiversity

Approximately 80,000 ha of land will be placed under improved management to directly benefit biodiversity. This will be achieved by mainstreaming biodiversity conservation into forest management plans of vulnerable and globally significant miombo and mopane ecosystems.

Indicator 4.3: Area of landscapes under sustainable land management in production systems.

Approximately 120,000 ha of land will be placed under improved practices. The two project sites still have some reasonably pristine forested areas within communal lands with over 0.5 million ha still having some degree of tree cover. However, these forests remain de facto open access and vulnerable to degradation via the continuation and expansion of unsustainable practices. The proposed project will therefore, target to bring about 45% of these area under sustainable forest management using a CFM approach as described above.

Core indicator 6: see EX-ACT tool provided. Only direct mitigation has been assessed at this stage.

Core indicator 11: Number of direct beneficiaries disaggregated by gender. Approximately 180,000 people (90,720 female; 89,280 male) will directly benefit from the project. The two project sites have a combined population of ~1 million, of which 72% live in rural areas and are engaged in some form of subsistence agriculture. The project targets are expected to directly benefit 15-20% of the total population across the two proposed project landscapes. This equates to approximately 140,000 people in the Central Province and 40,000 people in the Southern Province.

META INFORMATION – LDCF

LDCF **true**	SCCF-B (Window B) on technology transfer **false**	SCCF-A (Window-A) on climate Change adaptation **false**

Is this project LDCF SCCF challenge program?

false

This Project involves at least one small island developing State(SIDS).

false

This Project involves at least one fragile and conflict affected state.

false

This Project will provide direct adaptation benefits to the private sector.

true

This Project is explicitly related to the formulation and/or implementation of national adaptation plans (NAPs).

false

This project will collaborate with activities begin supported by other adaptation funds. If yes, please select below

Green Climate Fund	Adaptation Fund	Pilot Program for Climate Resilience (PPCR)
false	**false**	**false**

This Project has an urban focus.

false

This project will directly engage local communities in project design and implementation

true

This project will support South-South knowledge exchange

false

This Project covers the following sector(s)[the total should be 100%]: *

Agriculture	30.00%
Nature-based management	70.00%
Climate information services	0.00%
Coastal zone management	0.00%
Water resources management	0.00%
Disaster risk management	0.00%
Other infrastructure	0.00%
Tourism	0.00%
Health	0.00%
Other (Please specify comments)	
	0.00%
Total	100.00%

This Project targets the following Climate change Exacerbated/introduced challenges:*

Sea level rise	Change in mean temperature	Increased climatic variability	Natural hazards
false	**true**	**true**	**false**

Land degradation	Coastal and/or Coral reef degradation	Groundwater quality/quantity
true	**false**	**false**

CORE INDICATORS – LDCF

	Total	Male	Female	% for Women
CORE INDICATOR 1 Total number of direct beneficiaries	180,000	89,280.00	90,720.00	50.40%
CORE INDICATOR 2 (a) Area of land managed for climate resilience (ha) (b) Coastal and marine area managed for climate resilience (ha)	200,000.00 0.00			
CORE INDICATOR 3 Number of policies/plans/ frameworks/institutions for to strengthen climate adaptation	2.00			
CORE INDICATOR 4 Number of people trained or with awareness raised	48,320	23,967.00	24,353.00	50.40%
CORE INDICATOR 5 Number of private sector enterprises engaged in climate change adaptation and resilience action	8.00			

Risks to Project Preparation and Implementation

Summarize risks that might affect the project preparation and implementation phases and what are the mitigation strategies the project preparation process will undertake to address these (e.g. what alternatives may be considered during project preparation- such as in terms of consultations, role and choice of counterparts, delivery mechanisms, locations in country, flexible design elements, etc.). Identify any of the risks listed below that would call in question the viability of the project during its implementation. Please describe any possible mitigation measures needed. (The risks associated with project design and Theory of Change should be described in the "Project description" section above). The risk rating should reflect the overall risk to project outcomes considering the country setting and ambition of the project. The rating scale is: High, Substantial, Moderate, Low.

Risk Categories	Rating	Comments
Climate	Low	The occurrence of extreme climate events (such as extreme rainfall events and floods) may compromise the implementation and success of restoration and livelihood-related activities. The occurrence of such events will be considered during the design of the relevant interventions, and monitored throughout project implementation to ensure that interventions are managed adaptively to mitigate any impacts. Such an adaptive approach will be taken implementation M&E, and capacity-building activities will focus on developing long-term adaptive strategizing skills among stakeholders and decision-makers, so they are able to respond appropriately to changing scenarios.
Environment and Social	Substantial	An Environmental and Social Management Plan (ESMP) and a Gender Action Plan (GAP) will be developed during project preparation to ensure any risks to the environment and local communities are managed appropriately.
Political and Governance	Low	Comprehensive and detailed consultations among national stakeholders will be undertaken throughout project preparation and implementation. The relevant national government institutions in Zambia are supportive and committed to the project, and the project is aligned with national priorities. FAO, as GEF Agency, will

		work closely with the executing entities, as well as Zambia's GEF Operational Focal Point (Environmental Management Department) to foster ongoing political support for the project and ensure that governance remains adequate for successful implementation.
Macro-economic	Low	During project development, livelihood needs, market, value chain and incentive scheme analyses and assessments related to agricultural and natural resource-based livelihoods to be supported by the project will be undertaken. These will, in conjunction with robust stakeholder engagement, M&E and annual work planning, inform the adaptive implementation of related activities, accounting for as much macro-economic variability as possible. The project's exposure to external macro-economic shocks will be limited, as no significant imports of goods is expected.
Strategies and Policies	Low	The project is aligned with existing relevant strategies and policies in the country. Further reviews will be undertaken of relevant strategies and policies during project preparation and implementation to determine how improvements can be made.
Technical design of project or program	Moderate	Local and international technical experts will be procured by FAO during project development (using PPG funds) to support the design of the project's technical interventions and M&E plan, ensuring that they are locally appropriate and informed by lessons learned and best practice. Extensive training will be provided to institutional stakeholders and local communities for the uptake and use of the project's interventions.

		Technical partners will also support project implementation and M&E, contributing to technical robustness and adaptive management of project activities.
Institutional capacity for implementation and sustainability	Low	Comprehensive and detailed consultations among relevant institutions will be undertaken throughout development and implementation of the project. A capacity needs assessment of relevant institutions will be undertaken during project preparation to inform capacity-building during project implementation, which will also support project sustainability.
Fiduciary: Financial Management and Procurement	Moderate	As GEF implementing agency, FAO will ensure that all financial management and procurement processes are conducted as per agreed fiduciary standards. The operational capacities of tentative execution partners will be assessed during PPG through HACT (Harmonized Approach to Cash Transfer) assessments and institutional arrangements for project execution will be designed based on the results of these assessments. The financial and institutional feasibility of all proposed activities (e.g., social cash transfers) will be thoroughly assessed during PPG and the intervention plan will be tailored accordingly.
Stakeholder Engagement	Low	Extensive stakeholder engagement will continue to be undertaken during project preparation and implementation, with special focus on inclusive engagement processes for women, youth and other vulnerable groups. This will be informed by the development of

		detailed stakeholder engagement plans.
Other		
Financial Risks for NGI projects		
Overall Risk Rating	Low	

C. ALIGNMENT WITH GEF-8 PROGRAMMING STRATEGIES AND COUNTRY/REGIONAL PRIORITIES

Describe how the proposed interventions are aligned with GEF- 8 programming strategies and country and regional priorities, including how these country strategies and plans relate to the multilateral environmental agreements.

Confirm if any country policies that might contradict with intended outcomes of the project have been identified, and how the project will address this.

For projects aiming to generate biodiversity benefits (regardless of what the source of the resources is - i.e., BD, CC or LD), please identify which of the 23 targets of the Kunming-Montreal Global Biodiversity Framework the project contributes to and explain how. (max. 500 words, approximately 1 page)

1. The proposed project is aligned with first objective of the **GEF-8 Biodiversity Focal Area Investments and Associated Programming**, contributing to the focal area's goal of "globally significant biodiversity conserved, sustainably used, restored". Within the context of vulnerable and globally significant miombo and mopane ecosystems, Components 1 and 2 will invest to mainstream biodiversity into sustainable landscape management, promote the sustainable use of natural resources and restore degraded woodlands.
   - Objective 1. *To improve conservation, sustainable use, and restoration of natural ecosystems*. All four of the project's components contribute to Objective 1. Consequently, the project also contributes to Goals A[1] and B[2] of the Post 2020 Global Biodiversity Framework (GBF).

2. The proposed project is aligned with Objectives 1, 2 and 4 of the **GEF-8 Land Degradation Focal Area (LDFA) Strategy and Associated Programming**, contributing to the LDFA's goal to "avoid, reduce, and reverse land degradation, desertification and mitigate the effects of drought". In doing so, the project also aligns with the UNCCD Strategic Framework (2018-2030).
   - Objective 1. *Avoid and reduce land degradation through sustainable land management (SLM)*. Components 2 and 3 of the project contribute to Objective 1. Component 2 will see the improved and sustainable management of 200,000 ha of degraded landscapes, including the implementation of integrated landscape / land use management plans. Component 3 includes the sustainable use of natural resources and management of agroecological landscapes through the implementation of natural resource-based livelihoods that reduce ecosystem degradation and enhance climate resilience.
   - Objective 2. *Reverse land degradation through landscape restoration*. Component 2 of the project contributes to Objective 2. Specifically, 90,000 ha of degraded Miombo and Mopane woodland will be restored across the Central and Southern Provinces.
   - Objective 4. *Improve the enabling policy and institutional framework for LDN*. Component 1 of the project contributes to Objective 4. This will be achieved through the building of institutional and technical capacity for natural resources management at the local level and supporting dialogues on policy coherence and implementation of sustainable natural resources management, including ensuring that LDN is adequately supported.

3. The proposed project is aligned with **Objective CCM 1-1**, as, under Outcome 2.2, it will support alternative fuel sources, as well as renewable energy technologies for use by communities within the vicinity of restoration sites. Such innovative technologies will be explored further during the PPG phase and may include biogas, renewable fuel pellets made from sustainable biomass sources and household PV systems.

4. The proposed project is aligned with the **GEF-8 Programming Strategy on Adaptation to Climate Change for the Least Developed Countries Fund (LDCF) and the Special Climate Change Fund (SCCF)**. The project is specifically aligned with the following LDCF priority themes and areas:

- Theme 1: Agriculture, Food Security, and Health. Under Component 3, climate-resilient agriculture and enhanced food security under conditions of climate change will be supported through supporting the transition of local communities to climate-resilient natural resource-based livelihoods, including climate-smart agriculture.
- Theme 3: Nature-based Solutions. Climate-resilient restoration and management of degraded landscapes under Component 2, will strengthen ecosystem service supplies to local communities, enhancing their adaptive capacity and buffering the impacts of climate change. NTFP-based livelihoods will be promoted under Component 3 to build the adaptive capacity of local communities.
- Priority Area 2: Strengthening Innovation and Private Sector Engagement. Innovation will be promoted through the piloting of a social cash transfer scheme to incentivise sustainable natural resource management that builds the adaptive capacity of local communities (Component 1). It will also serve as a potential instrument through which adaptation finance can be channelled to the local level. The private sector will be engaged through the strengthening of value chains and market linkages for climate-resilient natural resource-based livelihoods under Component 3.
- Priority Area 3: Fostering Partnership for Inclusion and Whole-of-Society Approach. Under Component 1 CFMGs will be strengthened and established and forums set up to promote collaborative community-level climate-resilient natural resources management, while behaviour change in youth that supports adaptation will be fostered through a targeted awareness-raising programme. Under Component 2, communities will be engaged to support the climate-resilient restoration and management of degraded landscapes. Local men and women will benefit from climate-resilient natural resource-based livelihoods that will be supported under Component 3, along with gender-sensitive trainings on entrepreneurship and business and financial management to support the building of adaptive capacity.

5. The project is well-aligned with and will contribute to Zambia's key national priorities related to natural resources management, biodiversity conservation and climate change adaptation, as presented in Table 2 below. Through its contribution to and alignment with national priorities and GEF-8 programming strategies, the project responds to several multilateral environmental agreements (MEAs).

- Convention on Biological Diversity (CBD) - Aichi Biodiversity Targets[3]: Strategic Goal A - Targets 1, 3, 4; Strategic Goal B – Targets 5, 7, 9; Strategic Goal D – Targets 14, 15; Strategic Goal E – Target 19.
- CBD - Kunming-Montreal Global Biodiversity Framework[4]: Goals A and B. Action 1 *Reducing threats to biodiversity* – Targets 1, 2, 8; Action 2 *Meeting people's needs through sustainable use and benefit-sharing* – Targets 10, 11; Action 3 *Tools and solutions for implementation and mainstreaming* – Targets 20, 21, 22, 23.
- United Nations Framework Convention on Climate Change[5].
- UNCCD Convention to Combat Desertification in Africa[6].

Table 2: Proposed project's alignment with and contribution to national priorities.

Policy/strategy/plan	Objectives/goals/priorities contributed to by the project
Environment and natural resources	
National Policy on Environment (2009)[7]	Objective A: To promote the sound protection and management of Zambia's environment and natural resources in their entirety, balancing the needs for social and economic development and environmental integrity to the maximum extent possible, while keeping adverse activities to the minimum. Objective B: To manage the environment by linking together the activities, interests, and perspectives of all groups, including the people, non-governmental organizations, and government at both the central and decentralized local levels. Objective C: To accelerate environmentally and economically sustainable growth in order to the health, sustainable livelihoods, income, and living conditions of the poor majority with greater equity and self-reliance.

	Objective D: To ensure broad-based environmental awareness and commitment to enforcing environmental laws and to the promotion of environmental accountability. Objective E: To build individual and institutional capacity to sustain the environment. Objective F: To regulate and enforce environmental laws.
Second National Biodiversity Strategy and Action Plan (NBSAP-2; 2015-2025)[8]	Strategic Goal B: Reduce the direct pressures on biodiversity and promote sustainable use. Strategic Goal C: Improve the status of biodiversity by safeguarding ecosystems, species, and genetic diversity. Strategic Goal D: Enhance the benefits to all from biodiversity and ecosystem services.
National Forest Policy (2014)[9]	Objective 1: To manage the country's forest resources to maximize their productivity and development potential. Objective 2: To empower local communities and traditional leaders to ensure adequate protection and management of forests. Objective 3: To improve the role of forests in addressing climate change to contribute to reducing its impact through mitigation and adaptation measures. Objective 6: To implement measures that will promote sustainable harvesting of wood and production of charcoal to reduce deforestation. Objective 7: To strengthen research and institutional capacity to supply informed information for decision-making. Objective 8: To strengthen and develop human capacity with extension skills and a service delivery framework to meet stakeholders' needs effectively and efficiently. Objective 10: To ensure that crosscutting issues such as environment, gender, HIV/AIDS, and governance are mainstreamed in all aspects of forest management.
Zambia National Strategy to Reduce Emissions from Deforestation and Forest Degradation (REDD+; 2015-2030)[10]	Strategic Objective 1: By 2030, forests will be effectively managed, protected and conserved to reduce emissions from deforestation and forest degradation. Strategic Objective 2: By 2030, high-value forests in open areas are effectively managed and monitored. Strategic Objective 4: By 2030, good agricultural practices that mitigate carbon emissions are adopted. Strategic Objective 5: By 2030, the regulated production of wood fuel (charcoal & firewood) and its improved use are in place.
Zambia Land Degradation Neutrality (LDN) Report (2019)[11]	Targets: • LDN is achieved by 2030 (no net loss). • By 2030, the deforestation rate in Zambia is reduced by at least 50%. • By 2030, 40% of households adopt appropriate alternative energy sources from fuel wood • By 2030 good agricultural practices that mitigate loss of forest cover and SOC are increased from 6,000 km^2 in 2015 to 10,000 km^2 in 2030. • By 2030, Zambia shall seek to halt land use change of wetlands and ecologically sensitive areas and normal functions of these areas shall be achieved (no net loss). • By 2030 integrated land-use planning adopted and practiced across the nation. • By 2030, 50% of agricultural land is under sustainable agricultural practices compared to 2015. • By 2030 increase forest cover by 5% compared to 2015. • By 2030 the production of timber wood fuel (charcoal & firewood) strengthened and regulated compared to 2015.
Climate change adaptation	
National Policy on Climate Change (NPCC; 2016)[12]	Objective 1: To promote and strengthen the implementation of adaptation and disaster risk reduction measures to reduce vulnerability to climate variability and change. Objective 4: To strengthen the institutional and human resource capacity to address all aspects of climate change effectively and efficiently at international, national, provincial, district, and local levels. Objective 5: To promote communication and dissemination of climate change information to enhance awareness and understanding of its impacts. Objective 6: To promote investments in climate resilient and low carbon development pathways to generate co-benefits and provide incentives for addressing climate change more effectively. Objective 7: To foster research and development to improve understanding and decision-making in responding to climate change. Objective 8: To engender Climate Change programmes and activities to enhance gender equality and equity in the implementation of climate change programmes.
The National Adaptation Programme of Action on Climate Change (NAPA; 2007)[13]	Priority Activity 1: Adaptation to the effects of drought in the context of climate change in the agro-ecological Region I of Zambia. Priority Activity 5: Promotion of the natural regeneration of indigenous forests. Priority Activity 6: Adaptation of land-use practices (that involve crops, fish, and livestock) to account for climate change. Priority Activity 8: Eradication of invasive alien species.
Updated Nationally Determined Contribution (NDC; 2015-2030)[14]	Programme 1: Adaptation of strategic productive systems (agriculture, wildlife, water), including guaranteed food security through diversification and promotion of climate-smart agricultural practices.

	Programme 2: Adaptation of strategic infrastructure and health systems, including institutionalizing integrated land use planning compatible with sustainable management of natural resources and infrastructure development. Programme 3: Enhanced capacity building, research, technology transfer, and finance for adaptation, including capacity building in climate-smart agriculture, sustainable forest management, sustainable fisheries and aquaculture, renewable energy technologies, change management and climate change planning.
Agriculture	
Second National Agriculture Policy (2016)[15]	Objective 8: To promote the sustainable management and use of natural resources. Objective 9: To mainstream environment and Climate Change in the agriculture sector.
Cross-cutting	
Zambia-United Nations Sustainable Development Partnership Framework (UNSDCF; 2023-2027)[16]	Outcome 1: By 2027, all people in Zambia, including the marginalized and vulnerable groups, benefit from an inclusive, resilient, and sustainable economy that provides equitable, diverse, and sustainable opportunities for decent jobs, livelihoods, and businesses. Outcome 2: By 2027, all people in Zambia, including the marginalized and vulnerable groups, will have equitable access to and utilization of quality, inclusive, and gender- and shock-responsive universal social services. Outcome 4: By 2027, all ecosystems will be healthier and all people, including the marginalized and vulnerable groups, are more resilient and contribute to and benefit from the sustainable management and use of natural resources and environmental services, and more effective responses to climate change, shocks, and stresses.
Eighth National Development Plan (8NDP; 2022-2026)[17]	Economic and transformation and job creation (Strategic development area 1, development outcomes 1; strategies 1, 3, 4, 6, 8, 9; development outcome 2; strategies 2, 3, 4; development outcome 3; strategies 1, 2, 3); Human and Social Development (Strategic Development 2, development outcomes 2; strategy 3, development outcome 3; strategies 1, 2, 3; development outcome 4; strategies 1,2, 3); Environmental sustainability (Strategic development area 3, development outcomes 1; strategies 1, 2, 3 and development outcome 2; strategies 1, 2).

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[1] The integrity of all ecosystems is enhanced, with an increase of at least 15 per cent in the area, connectivity and integrity of natural ecosystems, supporting healthy and resilient populations of all species, the rate of extinctions has been reduced at least tenfold, and the risk of species extinctions across all taxonomic and functional groups, is halved, and genetic diversity of wild and domesticated species is safeguarded, with at least 90 per cent of genetic diversity within all species maintained.

[2] Nature's contributions to people are valued, maintained or enhanced through conservation and sustainable use supporting the global development agenda for the benefit of all.

[3] Source: https://www.cbd.int/sp/targets/

[4] Source: https://www.cbd.int/doc/decisions/cop-15/cop-15-dec-04-en.pdf

[5] Source: https://unfccc.int/sites/default/files/convention_text_with_annexes_english_for_posting.pdf

[6] Source: https://www2.unccd.int/sites/default/files/relevant-links/2017-01/UNCCD_Convention_ENG_0.pdf

[7] Available from https://www.oneplanetnetwork.org/sites/default/files/from-crm/national_policy_on_environment_2009.pdf

[8] Available from https://faolex.fao.org/docs/pdf/zam163433.pdf

[9] Available from https://fao.org/docs/pdf/ken144209.pdf

[10] Available from https://info.undp.org/docs/pdc/Documents/ZMB/Zambia%20REDD+%20Strategy%20(FINAL%20ed.)%20(2).pdf

[11] Available from https://www.unccd.int/sites/default/files/ldn_targets/2019-10/Zambia%20LDN%20TSP%20Country%20Report.pdf

[12] Zambia National Policy on Climate Change 2016. | UNEP Law and Environment Assistance Platform

[13] Available from https://www.adaptation-undp.org/sites/default/files/downloads/zambia_napa.pdf

[14] Available from: https://unfccc.int/sites/default/files/NDC/202206/Final%20Zambia_Revised%20and%20Updated_NDC_2021_.pdf

[15] Available from https://leap.unep.org/countries/zm/national-legislation/second-national-agricultural-policy-2016

[16] Available from https://www.undp.org/zambia/publications/un-zambia-sustainable-development-cooperation-framework

[17] Available from https://www.mofnp.gov.zm/?wpdmpro=8ndp-2022-2026

D. POLICY REQUIREMENTS

Gender Equality and Women's Empowerment:

We confirm that gender dimensions relevant to the project have been addressed as per GEF Policy and are clearly articulated in the Project Description (Section B).

Yes

Stakeholder Engagement

We confirm that key stakeholders were consulted during PIF development as required per GEF policy, their relevant roles to project outcomes and plan to develop a Stakeholder Engagement Plan before CEO endorsement has been clearly articulated in the Project Description (Section B).

Yes

Were the following stakeholders consulted during project identification phase:

Indigenous Peoples and Local Communities: Yes

Civil Society Organizations: Yes

Private Sector: Yes

Provide a brief summary and list of names and dates of consultations

1. After initial brainstorming sessions involving Zambian government officials and FAO, the project team (FAO representatives, international and national consultants) visited Zambia from 13 to 17 February 2023 for a series of consultations and workshops. The purpose of this visit was to, amongst other things: i) foster buy-in and support from local stakeholders; ii) confirm that the proposed project does indeed align with Zambia's national and sectoral environmental, natural resource management and climate change adaptation needs; iii) strengthen the baseline on which the project is being developed; iv) refine the project's rationale and design; v) identify barriers to the implementation of proposed approach and understand how best they can be addressed; vi) ensure complementarity with relevant ongoing and planned initiatives; vii) scope potential co-financing opportunities; viii) identify potential intervention sites; ix) understand the value add of and potential roles that institutional stakeholders can play in the project; and x) fill gaps in information and data that are required to complete a robust PIF. A list of names stakeholders and dates of consultations in presented in Table 3.

Table 3: Summary of consultations during in-country mission during PIF development.

Date	Stakeholder
13 February 2023	Department of Environment — GEF Operational Focal Point
	Forestry Department
	GIZ
	USAID
	Fisheries Department
14 February 2023	WWF
	Jacaranda Innovation Hub
	Climate Change Department
15 February 2023	Land Degradation Neutrality Technical Committee
	House of Chiefs
	Department of Energy
	CIFOR-ICRAF
	University of Zambia – School of Agricultural Sciences
16 February 2023	Ministry of Education – Directorate of primary, secondary and curriculum
	UNDP
	World Fish Centre
	ZARI
	WeForest
	Youth Development Department
17 February 2023	Mission de-brief workshop — 34 participants (22 male, 12 female)[1]

From 27 March to 6 April 2023, a ground-truthing mission in the project's target districts in the Central and Southern Provinces was undertaken. The objective of the mission was to inform district-level stakeholders about the development of the proposed project, engage with them to ensure that its design is informed by their needs and foster their buy-in. The mission also included field visits to assess the situation on the ground across the project's target districts related to the drivers of land degradation, biodiversity loss and climate change vulnerability to ensure that the information presented in the PIF aligns with this. Key stakeholders

engaged during the mission included representatives of local government institutions, NGOs and traditional leadership. Additional information (including a list of stakeholders engaged and workshop attendance registers) is available in the stakeholder consultation and field visit report[1]. Further stakeholder consultations at the local level and field visits will be held during the PPG phase, during which project design will be elaborated on

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[1] Available at: https://www.dropbox.com/scl/fo/r0eixxunninx27vut55hj/h?dl=0&rlkey=6il1lq2ouyr7y31jk2uoas31u

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[1] Participant list is available here: Debrief workshop_Stakeholder list_2023.02.17.pdf

(Please upload to the portal documents tab any stakeholder engagement plan or assessments that have been done during the PIF development phase.)

Private Sector

Will there be private sector engagement in the project?

Yes

And if so, has its role been described and justified in the section B project description?

Yes

Environmental and Social Safeguard (ESS) Risks

We confirm that we have provided indicative information regarding Environmental and Social risks associated with the proposed project or program and any measures to address such risks and impacts (this information should be presented in Annex D).

Yes

Overall Project/Program Risk Classification

PIF	CEO Endorsement/Approval	MTR	TE
Low			

E. OTHER REQUIREMENTS

Knowledge management

We confirm that an approach to Knowledge Management and Learning has been clearly described in the Project Description (Section B)

Yes

ANNEX A: FINANCING TABLES

GEF Financing Table

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

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	GEF Project Grant($)	Agency Fee($)	Total GEF Financing ($)
FAO	GET	Zambia	Biodiversity	BD STAR Allocation: BD-1	Grant	1,342,056.00	120,785.00	1,462,841.00
FAO	LDCF	Zambia	Climate Change	LDCF Country allocation	Grant	8,265,283.00	743,875.00	9,009,158.00
FAO	GET	Zambia	Land Degradation	LD STAR Allocation: LD-1	Grant	1,755,401.00	157,986.00	1,913,387.00
FAO	GET	Zambia	Climate Change	CC STAR Allocation: CCM-1-1	Grant	447,352.00	40,262.00	487,614.00
Total GEF Resources ($)						11,810,092.00	1,062,908.00	12,873,000.00

Project Preparation Grant (PPG)

Is Project Preparation Grant requested?

true

PPG Amount ($)

300000

PPG Agency Fee ($)

27000

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Programming of Funds	Grant / Non-Grant	PPG($)	Agency Fee($)	Total PPG Funding($)
FAO	GET	Zambia	Biodiversity	BD STAR Allocation: BD-1	Grant	34,091.00	3,068.00	37,159.00
FAO	LDCF	Zambia	Climate Change	LDCF Country allocation	Grant	209,955.00	18,896.00	228,851.00
FAO	GET	Zambia	Land Degradation	LD STAR Allocation: LD-1	Grant	44,591.00	4,013.00	48,604.00
FAO	GET	Zambia	Climate Change	CC STAR Allocation: CCM-1-1	Grant	11,363.00	1,023.00	12,386.00
Total PPG Amount ($)						300,000.00	27,000.00	327,000.00

Please provide justification

Sources of Funds for Country Star Allocation

GEF Agency	Trust Fund	Country/ Regional/ Global	Focal Area	Sources of Funds	Total($)
FAO	GET	Zambia	Biodiversity	BD STAR Allocation	3,000,000.00
FAO	GET	Zambia	Land Degradation	LD STAR Allocation	961,991.00
Total GEF Resources					**3,961,991.00**

Indicative Focal Area Elements

Programming Directions	Trust Fund	GEF Project Financing($)	Co-financing($)
BD-1-3	GET	402,617.00	3109091
LD-1	GET	1,755,401.00	13555572
CCA-1-1	LDCF	8,265,283.00	63826244
CCM-1-1	GET	447,352.00	3454548
BD-1-4	GET	939,439.00	7254545
Total Project Cost		**11,810,092.00**	**91,200,000.00**

Indicative Co-financing

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
GEF Agency	FAO-SIFAZ project	Grant	Investment mobilized	25000000
GEF Agency	FAO-FFF project	Grant	Investment mobilized	5000000
GEF Agency	FAO-FACE NDC project	Grant	Investment mobilized	19500000
Donor Agency	GIZ-SAFE project	Grant	Investment mobilized	28700000
Donor Agency	USAID-A2C project	Grant	Investment mobilized	12500000
Recipient Country Government	GRZ tree planting initiative	Grant	Investment mobilized	500000
Total Co-financing				**91,200,000.00**

Describe how any "Investment Mobilized" was identified

• Co-financing from GEF agency FAO (from the SIFAZ, FFF and FACE NDC projects) was tentatively identified and confirmed through discussions with representatives based in the Zambia country office in Lusaka. The co-financing comes out of the projects, which are expected to take place during project implementation and will contribute, in-kind, to the achievement of project outcomes.

• Co-financing from donor agencies GIZ and USAID (from the SAFE and A2C projects, respectively) was tentatively identified and confirmed through discussions with representatives based in Lusaka. The co-financing comes out of the projects, which are expected to take place during project implementation and will contribute to the achievement of project outcomes.

• Co-financing from the Government of Zambia's tree planting initiative will be grant and is seen as investment mobilised as the project will inform the allocation of this finance in the target districts for tree planting under the project's restoration activities.

A more detailed co-financing plan will be developed during the PPG phase.

ANNEX B: ENDORSEMENTS

GEF Agency(ies) Certification

GEF Agency Type	Name	Date	Project Contact Person	Phone	Email
GEF Agency Coordinator	Jeffrey Griffin	4/1/2023	Pierre Bégat	0033695072285	pierre.begat@fao.org

Record of Endorsement of GEF Operational Focal Point (s) on Behalf of the Government(s):

Name	Position	Ministry	Date (MM/DD/YYYY)
Godwin F. Gondwe	Director, Environmental Management Department	Ministry of Green Economy and Environment	4/12/2023

ANNEX C: PROJECT LOCATION

Please provide geo-referenced information and map where the project interventions will take place
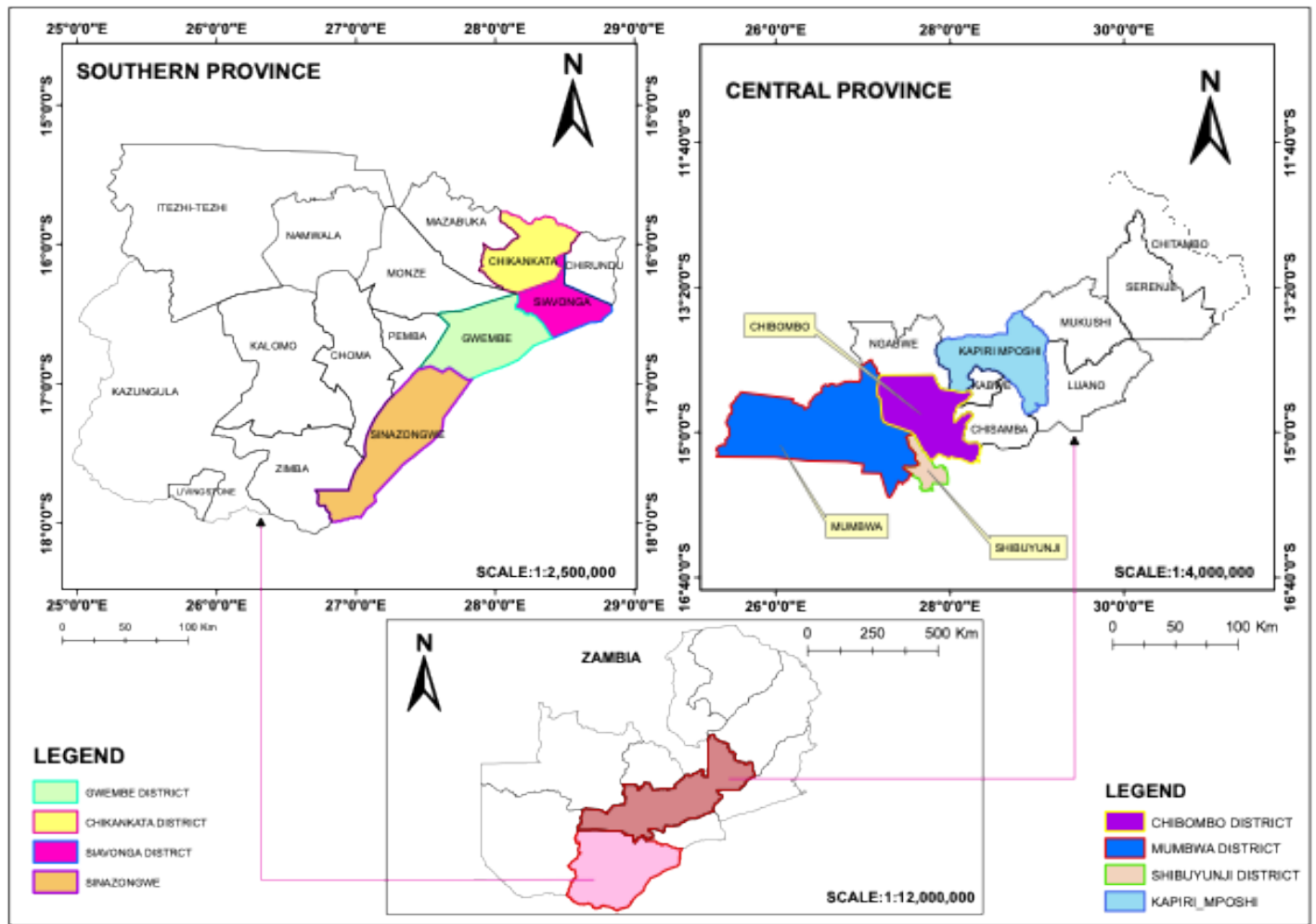
Figure C1: Proposed project sites in Central and Southern Provinces of Zambia.

Table C1: Selected project sites' demographic and physical profiles.

Province	District	Total Population	Female	Male	Area (km^2)
Central	Mumbwa	332,237	167,134	165,103	19,858.80
	Shibuyunji	91,616	45,752	45,864	1,730.80
	Chibombo	421,315	212,663	208,652	8,218.60
	Kapiri Mposhi	371,068	186,383	184,685	9,688.00
Subtotal		**1,216,236**	**611,932**	**604,304**	**39,496.20**
Southern	Chikankata	98,671	49,952	48,719	2,673.30
	Gwembe	79,273	40,432	38,841	3,981.60
	Siavonga	66,030	33,329	32,701	2,540.80
	Sinazongwe	159,055	80,804	78,251	4,814.00
Subtotal		**403,029**	**204,517**	**198,512**	**14,009.70**
Total		**1,619,265.00**	**816,449.00**	**802,816.00**	**53,505.90**

ANNEX D: ENVIRONMENTAL AND SOCIAL SAFEGUARDS SCREEN AND RATING

(PIF level) Attach agency safeguard screen form including rating of risk types and overall risk rating.

Title

ESS checklist_PIF_rev

ANNEX E: RIO MARKERS

Climate Change Mitigation	Climate Change Adaptation	Biodiversity	Land Degradation
Significant Objective 1	Principal Objective 2	Principal Objective 2	Principal Objective 2

ANNEX F: TAXONOMY WORKSHEET

Taxonomy duly completed in the Portal:

Forest, Biomes, Focal Areas, Biodiversity, Drylands, Land Degradation, Land Degradation Neutrality, Land Productivity, Land Cover and Land cover change, Carbon stocks above or below ground, Sustainable Land Management, Improved Soil and Water Management Techniques, Integrated and Cross-sectoral approach, Sustainable Livelihoods, Sustainable Forest, Sustainable Pasture Management, Income Generating Activities, Sustainable Agriculture, Drought Mitigation, Restoration and Rehabilitation of Degraded Lands, Community-Based Natural Resource Management, Ecosystem Approach, Food Security, Climate Change, Climate Change Adaptation, Private sector, Complementarity, Climate resilience, Community-based adaptation, Mainstreaming adaptation, Ecosystem-based Adaptation, Least Developed Countries, Livelihoods, Climate Change Mitigation, Renewable Energy, Agriculture, Forestry, and Other Land Use, Grasslands, Tropical Dry Forests, Mainstreaming, Agriculture and agrobiodiversity, Influencing models, Strengthen institutional capacity and decision-making, Convene multi-stakeholder alliances, Transform policy and regulatory environments, Stakeholders, Communications, Education, Awareness Raising, Public Campaigns, Strategic Communications, Behavior change, Local Communities, Type of Engagement, Information Dissemination, Partnership, Participation, Consultation, Private Sector, Individuals/Entrepreneurs, SMEs, Large corporations, Civil Society, Academia, Community Based Organization, Non-Governmental Organization, Beneficiaries, Gender Equality, Gender Mainstreaming, Women groups, Gender-sensitive indicators, Sex-disaggregated indicators, Gender results areas, Access to benefits and services, Participation and leadership, Access and control over natural resources, Capacity Development, Knowledge Generation and Exchange, Capacity, Knowledge and Research, Innovation, Knowledge Generation, Professional Development, Training, Course, Seminar, Workshop, Learning, Theory of change, Adaptive management, Indicators to measure change, Knowledge Exchange, Peer-to-Peer, Field Visit, Targeted Research