Integrated Landscape Management in Dry Miombo Woodlands of Tanzania

Part I: Project Information

Name of Parent Program

Sustainable Forest Management Impact Program on Dryland Sustainable Landscapes

GEF ID

10250

Project Type

FSP

Type of Trust Fund

GET

CBIT/NGI

☐ CBIT

☐ NGI

Project Title

Integrated Landscape Management in Dry Miombo Woodlands of Tanzania

Countries

Tanzania

Agency(ies)
FAO

Other Executing Partner(s):
The Tanzania Forest Services Agency

Executing Partner Type
Government

GEF Focal Area
Multi Focal Area

Taxonomy
Focal Areas, Influencing models, Stakeholders, Gender Equality, Capacity, Knowledge and Research, Land Degradation, Land Degradation Neutrality, Carbon stocks above or below ground, Land Productivity, Land Cover and Land cover change, Sustainable Land Management, Sustainable Forest, Restoration and Rehabilitation of Degraded Lands, Community-Based Natural Resource Management, Sustainable Livelihoods, Sustainable Agriculture, Improved Soil and Water Management Techniques, Income Generating Activities, Ecosystem Approach, Integrated and Cross-sectoral approach, Sustainable Fire Management, Biodiversity, Mainstreaming, Agriculture and agrobiodiversity, Biomes, Grasslands, Tropical Dry Forests, Species, Plant Genetic Resources, Protected Areas and Landscapes, Terrestrial Protected Areas, Productive Landscapes, Community Based Natural Resource Mngt, Forest, Drylands, Climate Change, Climate Change Mitigation, Technology Transfer, Financing, Agriculture, Forestry, and Other Land Use

Rio Markers
Climate Change Mitigation
Climate Change Mitigation 1

Climate Change Adaptation
Climate Change Adaptation 0

Submission Date
6/18/2019

Expected Implementation Start

5/1/2021

Expected Completion Date

4/30/2026

Duration

60In Months

Agency Fee($)

663,192.50

A. FOCAL/NON-FOCAL AREA ELEMENTS

Objectives/Programs	Focal Area Outcomes	Trust Fund	GEF Amount($)	Co-Fin Amount($)
IP SFM Drylands	Dryland Landscapes Sustainably managed	GET	7,368,807.00	36,057,124.00
		Total Project Cost($)	**7,368,807.00**	**36,057,124.00**

B. Project description summary

Project Objective

To halt and reverse negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach.

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

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 1: Strengthening the enabling environment for the sustainable management of the targeted dry Miombo woodlands	Technical Assistance	**Outcome 1.1**: Strengthened LDN cross-sectoral decision support system and framework for the management of the targeted drylands *Indicators:* *(1) LDN cross-sectoral groups, committees, and other structures engaged in LD assessment, planning and monitoring at national and landscape level* *(2) # and type of strategies and plans in support of LDN jointly reviewed, amended, developed and approved*	**Output 1.1.1**: Cross-sectoral LDN national working group and Miombo landscape level technical working group operational, strengthened and capacitated in the application of tools and approaches. **Output.1.1.2**: Value of Miombo woodland's ecosystem services assessed across the two targeted sub-landscapes and fed into a policy/decision-making. **Output.1.1.3:** Strategies, plans and other sectoral frameworks reviewed and by-laws clarified and implemented	GET	480,002.00	5,213,159.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 2. Demonstrating, implementing and scaling out SLM and SFM best practices at landscape level	Investment	**Outcome 2.1**: LDN objectives mainstreamed into sectoral local gender sensitive development plans *Indicator:* *(1) # of sectoral local gender sensitive VLUP incorporating SLM and SFM good practices in place and under implementation* *(2) # of forest management plans incorporating SLM and SFM good practices updated*	**Output 2.1.1**: joint Village land use plans (forest, rangeland and cropland areas) updated, reviewed, developed and implemented in a participatory manner, supporting security of land tenure and access rights. Output 2.1.2: Integrated landscape management mainstreamed into Forest management plans (including fire management). patory manner, supporting security of land tenure and access rights. **Output 2.1.2**: Integrated landscape management mainstreamed into Forest management plans (including fire management).	GET	5,253,158.00	27,792,807.00
		Outcome 2.2. Wide uptake and application of SLM/SFM practices in target landscapes following priorities actions of the VLUPs and FMP *Indicators:*	**Output 2.2.1** Evidence based good, sectoral, local and gender sensitive SLM and SFM practices identified, compiled, implemented and disseminated **Output 2.2.2**: Community seed banks and tree seed and seedlings production center			

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
Component 3. Strengthening knowledge, learning and collaboration to support progress towards achieving national LDN targets	Technical Assistance	**Outcome 3.1**. LDN-related policy, planning, management and decision-making at national and global levels informed. *Indicators:* *LDN monitoring and reporting system operational* **Outcome 3.2:** Knowledge and awareness to support progress towards achieving national LDN targets enhanced *Indicators:* *(1) Number of knowledge and information products developed, disseminated and accessed through relevant knowledge sharing platforms (e.g. GCP);* *(2) Number of briefs presenting*	**Output 3.1.1**. National and sub-national LDN assessment, monitoring and reporting systems and tools developed and operational, with relevant reporting to global level. **Output 3.2.1**. Project knowledge management, communication and dissemination framework and strategy developed and implemented. **Output 3.2.2** Project M&E framework, supporting lesson learning and adaptive management, developed and operational. **Output 3.3.1**. Actions, collaboration and investments identified to address common land and environmental degradation priorities in Miombo-Mopane ecoregion and bi-/multi-lateral initiatives established to progress towards LDN. **Output 3.3.2**. Collaborative actions to support business and develop markets for SLM/SFM products across the Miombo-Mopane region undertaken. **Output 3.3.3**. Opportunities for national and landscape-level stakeholders exchange knowledge and lessons learnt at regional and global levels	GET	1,284,752.00	2,651,158.00

Project Component	Financing Type	Expected Outcomes	Expected Outputs	Trust Fund	GEF Project Financing($)	Confirmed Co-Financing($)
				Sub Total ($)	**7,017,912.00**	**35,657,124.00**
Project Management Cost (PMC)						
				GET	350,895.00	400,000.00
				Sub Total($)	**350,895.00**	**400,000.00**
				Total Project Cost($)	**7,368,807.00**	**36,057,124.00**

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

Sources of Co-financing	Name of Co-financier	Type of Co-financing	Investment Mobilized	Amount($)
Recipient Country Government	Ministry of Agriculture	In-kind	Recurrent expenditures	521,062.00
Recipient Country Government	Vice President Office	In-kind	Recurrent expenditures	306,317.00
Recipient Country Government	Ministry of Water	In-kind	Recurrent expenditures	1,000,000.00
GEF Agency	FAO	Grant	Recurrent expenditures	918,000.00
Recipient Country Government	Kaliua district council	In-kind	Recurrent expenditures	2,772,500.00
Recipient Country Government	Mlele district council	In-kind	Recurrent expenditures	2,800,000.00
Recipient Country Government	Tanzania Forest Services	In-kind	Recurrent expenditures	27,739,245.00
			Total Co-Financing($)	**36,057,124.00**

Describe how any "Investment Mobilized" was identified

As explained in the section “Main changes from concept at PFD stage”, the co-financing figures are reduced from USD 48.5 million at PFD stage, to 36 million at CEO Endorsement Request. Part of the envisaged co-financing, in particular the investment mobilized, could unfortunately not be confirmed during PPG stage. Additional co-financing, including investment mobilized, will be sought during implementation and reported on.

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

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
FAO	GET	Tanzania	Land Degradation	LD STAR Allocation	4,019,349	361,741.4
FAO	GET	Tanzania	Biodiversity	BD STAR Allocation	893,189	80,386.9
FAO	GET	Tanzania	Multi Focal Area	IP SFM Drylands Set-Aside	2,456,269	221,064.2
				Total Grant Resources($)	**7,368,807.00**	**663,192.50**

E. Non Grant Instrument

NON-GRANT INSTRUMENT at CEO Endorsement

Includes Non grant instruments? **No**

Includes reflow to GEF? **No**

F. Project Preparation Grant (PPG)

PPG Required

☐

PPG Amount ($)

200,000

PPG Agency Fee ($)

18,000

Agency	Trust Fund	Country	Focal Area	Programming of Funds	Amount($)	Fee($)
FAO	GET	Tanzania	Land Degradation	LD STAR Allocation	109,091	9,818
FAO	GET	Tanzania	Biodiversity	BD STAR Allocation	24,242	2,182
FAO	GET	Tanzania	Multi Focal Area	IP SFM Drylands Set-Aside	66,667	6,000
				Total Project Costs($)	**200,000.00**	**18,000.00**

Core Indicators

Indicator 3 Area of land restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
0.00	34885.00	0.00	0.00

Indicator 3.1 Area of degraded agricultural land restored

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 restored

Ha (Expected at PIF)	Ha (Expected at CEO Endorsement)	Ha (Achieved at MTR)	Ha (Achieved at TE)
	34,885.00		

Indicator 3.3 Area of natural grass and shrublands restored

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

Indicator 3.4 Area of wetlands (incl. estuaries, mangroves) restored

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)
0.00	761353.00	0.00	0.00

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)

Indicator 4.2 Area of landscapes that meets national or international third party certification that incorporates biodiversity considerations (hectares)

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)
	761,353.00		

Indicator 4.4 Area of High Conservation Value Forest (HCVF) loss avoided

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

Documents (Please upload document(s) that justifies the HCVF)

Title	Submitted

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)	0	1318948	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 CO_2e (direct)		1,318,948		

Total Target Benefit	(At PIF)	(At CEO Endorsement)	(Achieved at MTR)	(Achieved at TE)
Expected metric tons of CO_2e (indirect)				
Anticipated start year of accounting		2021		
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 CO_2e (direct)				
Expected metric tons of CO_2e (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 Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment

	Number (Expected at PIF)	Number (Expected at CEO Endorsement)	Number (Achieved at MTR)	Number (Achieved at TE)
Female		27,000		
Male		33,000		
Total	0	60000	0	0

Part II. Project Justification

1a. Project Description

a) The global environmental and/or adaptation problems, root causes and barriers that need to be addressed -

Summary of Context, Scope and the Core Problem

Global context

The Tanzania child project is part of the Dryland Sustainable Landscapes Impact Programme (DSL IP) that aims to avoid, reduce, and reverse further degradation, desertification, and deforestation in drylands through the sustainable management of productive landscapes. DSL IP focuses on three dryland ecoregions: (i) the Miombo and Mopane", (ii) "the savannas of West Africa" and (iii) "the temperate grasslands, savannas and shrublands of Central Asia"). The programme gives specifically importance to the Miombo and Mopane ecoregion, which is targeted in seven child projects in Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania and Zimbabwe.

The Miombo and Mopane woodlands are the most predominant type of vegetation in Southern Africa, covering 3 million square kilometers, stretching from Angola, Namibia, Botswana, Democratic Republic of the Congo, Zambia, Zimbabwe, Malawi, Mozambique and Tanzania. Together with the Amazonia, the Congo Basin, New Guinea and the North American deserts, the Miombo and Mopane woodlands are considered wilderness areas of global conservation significance as they concentrate the majority of plant and vertebrate species endemic to individual wilderness. These woodlands are the main ecosystems of the "Zambezian" region of Africa, distinct in terms of mammals, birds, amphibians, reptiles and plants, with high level of diversity and endemism. Malawi lies entirely within the Zambezian region, and its vegetation is

characterized by miombo and mopane woodlands, alongside various types of thicket and dry forest. Within Malawi, the Shire basin is home of the dry miombo woodlands at higher altitudes on the escarpments above 400 m, and mopane woodlands at lower altitudes. These woodlands are dominated by numerous tree species belonging to the Fabaceae (species from the genera Brachystegia, Julbernardia and Isoberlinia in the Miombo woodlands and Colophospermum mopane in the Mopane woodlands), which is considered the second most economically important plant family.

The Miombo and Mopane Ecoregion has an estimated diversity of 8,500 flowering plant species, of which ca. 54% are endemic. In the case of Malawi, flowering plant diversity reaches 6,000 species, alongside other groups such as ferns and mosses. More specifically, the Shire basin is at the cross road of three main regions of plant endemism: the Zambezian, Afromontane and Eastern Forest regions.

Ecosystem services from the Miombo and Mopane woodlands support the livelihoods of 100 M rural people and 50 M urban dwellers, and others beyond the region. A high diverse of provisioning services (e.g. NTFPs, including food, medicines, cosmetics, fuelwood and charcoal, building materials) contribute on average USD 9 billion/yr to rural livelihoods; 76% of energy used in the region is derived from woodlands; and traded wood-fuels have an annual value of USD 780 M. Woodlands support much of the region's agriculture through transfers of nutrients to fields and shifting cultivation. Woodlands store 18–24 Pg carbon. Cultural services provided by woodlands include tourism and spiritual succour.

The miombo woodlands are under severe pressure resulting in serious negative effects for the millions of rural poor depending on them directly and indirectly. The main drivers are conversion to agriculture, timber extraction (domestic and commercial), fire (Bond et al., 2009) and land clearing for bio-fuels. An estimate of climate change-related risks under the 2 ºC warming scenario in globally significant biodiversity conservation areas highlights the Miombo & Mopane ecoregion as one of the most exposed to temperature changes, and a greater reduction in wet day frequency and seasonal precipitation. Under the 2 ºC scenario, approximately 25% of taxa presently found in priority places such as the Miombo & Mopane ecoregion are at risk of extirpation.

National Context for the sustainable use of Miombo ecosystems in Tanzania

Mainland Tanzania covers a total area of 945,087 km2, with 48.1 million ha of forests of which 93% is Central Zambezian Miombo Woodland[1][1]. The country is endowed with rich biodiversity ranging from semi-arid to tropical forest, encompasses some of the most diverse landscapes in the world, which provide a wide range of services that are of vital importance to the livelihoods and economies of the country. The country hosts parts of six Global Biodiversity Hotspots[2][2], with more than one-third of the total plant species on the continent and about 20% of the large mammal population.

This project will focus in Miombo woodlands of South West Tanzania. Tanzania hosts both wet and dry Miombo woodlands. The Dry Miombo sees precipitation below 1000mm/year, and are located mainly throughout central Tanzania[3][3] and in the south-west of Tanzania.

Miombo woodlands are central to the livelihood systems of millions of rural and urban dwellers in Tanzania, both for domestic and some agro-industry activities. Goods and services provided by miombo woodlands to livelihoods of local communities are products such as medicines, energy, food, fibers, and construction and craft materials. The services include cultural and spiritual values, climate regulations, erosion and hydrological control[4][4]. In particular, it supports the resilience of surrounding farmland and communities, especially under climate change. Moreover, the woodlands' ecosystems bolster livelihoods, act as safety nets in times of emergency and serve as gap fillers in times of seasonal shortage.

The Miombo woodlands are biologically rich and diverse with up to 8,500 vascular plant species, 4,590 of them endemic, together with 35 endemic mammals, 51 endemic birds, 52 endemic reptiles, 25 endemic amphibians and an unknown number of endemic invertebrates[5][5]. As many as 83 indigenous tree species, which bear edible fruits and nuts throughout the year, have been identified in the Tanzania Miombo[6][6]. Dozens more Non-Timber Forest Products (NTFPs) edible species identified in Tanzania (e.g. insects, fruits, mushrooms, honey, medicinal plants and wild meat) directly contribute to resolving underlying causes of food insecurity, undernutrition and poverty. The woodlands also provide roaming "refuge" (livestock), in the dry months (June-November).

Anthropogenic and natural threats are causing significant biodiversity loss in Miombo woodlands, primarily associated with deforestation and land degradation as the most significant causes of biodiversity loss. Recent disturbances in the landscape have been causing notable losses is tree species richness and a reduction in biodiversity overall. Despite protections in place for threatened timber species, amongst others, evidence suggests sub-optimal enforcement means they are still being harvested throughout the landscape (e.g. *Pterocarpus angolensis*)[7][7]. Moreover, expanding agricultural land and human settlements are fragmenting natural habitats.

Miombo woodlands demonstrate a remarkable capacity to recover after disturbance, due to tree regeneration from the roots and stumps[8][8]. That being said, proper management practices must be enforced following such disturbances to allow sufficient time for regeneration to occur and for woodlands to mature.

National trends in deforestation

In 2018, the National Carbon Monitoring Centre (NCMC) showed that the annual rate of forest loss has increased to 469,420 ha per year against 372,000 ha that had been recorded by the National Forest Resources Monitoring and Assessment (NAFORMA) in 2015. Deforestation and forest degradation are associated with their ineffective management (e.g. encroachment/population pressure, farm expansion, livestock grazing, low rates of reforestation compared to harvest rates, conversion to other land uses), unsustainable utilization of forest resources (e.g. overdependence on biomass energy - providing 92% of energy needs), weak governance, inadequate policy and inter-sectoral coordination, and biophysical causes in particular climate change.

Policy context

Tanzania's institutional and policy framework for natural resources management is characterized by an elaborate and diverse set of policies, legal instruments, and institutional arrangements. The most relevant policies and legal instruments are included in the table below:

Table 1. Tanzania policies and legal instruments

Theme	Main Legislation/Policy/Strategy
Environment	National Environment Policy (1997); Environmental Impact Assessment and Audit Regulations, 2005; The Environmental Management (Air Quality Standards) Regulations, 2007
Climate Change	National Climate Change Strategy (NCSS, 2012); Guidelines for Integrating Climate Change Adaptation into National Sectoral Policies, Plans and Programmes of Tanzania (2012); National Strategy on Gender and Climate Change (2013); Nationally Determined Contributions (2018);
Biodiversity, Wildlife & Natural Resources	Wildlife Policy (2007); Wildlife Conservation Act (2009); National Beekeeping Policy (1998); National Biodiversity Strategy and Action Plan (2015)
Water	National Water Policy (NAWAPO) (2002); Water Resources Management Act of 2009 (WRMA); National Water Sector Development Strategy (NWSDS) 2006
Forestry	Forest Act No. 14 (2002); National Forest Policy (1998); National Strategy for Reduced Emissions from Deforestation and Forest Degradation - REDD+ (2013)

Energy	National Energy Policy (2015)
Growth and Development	Rural Development Policy (2001); Tanzania Development Vision 2025; National Strategy for Growth and Reduction of Poverty I & II; Tanzania's Second Five Year Development Plan 2016/17– 2020/21
Agriculture	National Agricultural Policy (2013);; Seed Act and its regulation (2003 & 2014); (2010); National Irrigation Policy (2009); Agricultural Sector Development Strategy II (2015); Tanzania Agriculture and Food Security Investment Plan
Livestock	National Livestock policy (2006), Grazing-land and Animal Feed Resources Act No. 13
Nutrition	National Food and Nutrition Policy (1992)
Planning and Land Tenure	Land Act No. 4 and Village Land Act No. 5 (1999); Land Use Planning Act No. 6 (2007); National Land Policy (1995)
Decentralization	Local Government (District Authorities) Act (1982); Local Government (Urban Authorities) Act (1982)
Socio-economic	Gender Policy (2000)
Trade & Private Sector Development	National Micro-Finance Policy (2000); National Trade Policy (2003); National Private Sector Development Policy (2018)

- Project Intervention Areas

The project focuses on degraded areas of the dry Miombo woodlands in the south-west of Tanzania. Site selection was done considering the areas presented in the EoI and further refined to include locations where strong interaction between different land used was present. Land degradation status and changes in land use were also criteria used in the selection of the sites. Pre-selected areas were then discussed with Government counterparts and agreed upon. In order to define the area of intervention, a watershed approach (compatible with the landscape approach and enabling the contributions of the project to be impactful at a broader level), was used. The criteria for site selection was based on the distribution of the Miombo/Mopane ecosystem within drylands. It includes areas of strong interaction agriculture-forest-livestock. The landscape is composed of 9 sub-landscapes as shown in Figure 2. Specifically, the targeted landscape is covering the following four regions and eleven districts: Tabora Region (Kaliua, Urambo, Sikonge, Uyui District Councils), Katavi Region (Mlele, Tanganyika District Councils(, Sumbawanga District Councils) and Songwe Region (Mbozi, Momba, Songwe District Councils) – see section

1.b Project Map and Geo-Coordinates for more information. The project intervention area covers 144,146 km2 with approximately 3,827,912 ha of Miombo woodlands. According to the Census of Population, 3,738,164 people reside in the targeted area, of which around 65% live below the poverty line.

Figure 1. Sub-landscapes in Targeted Landscape

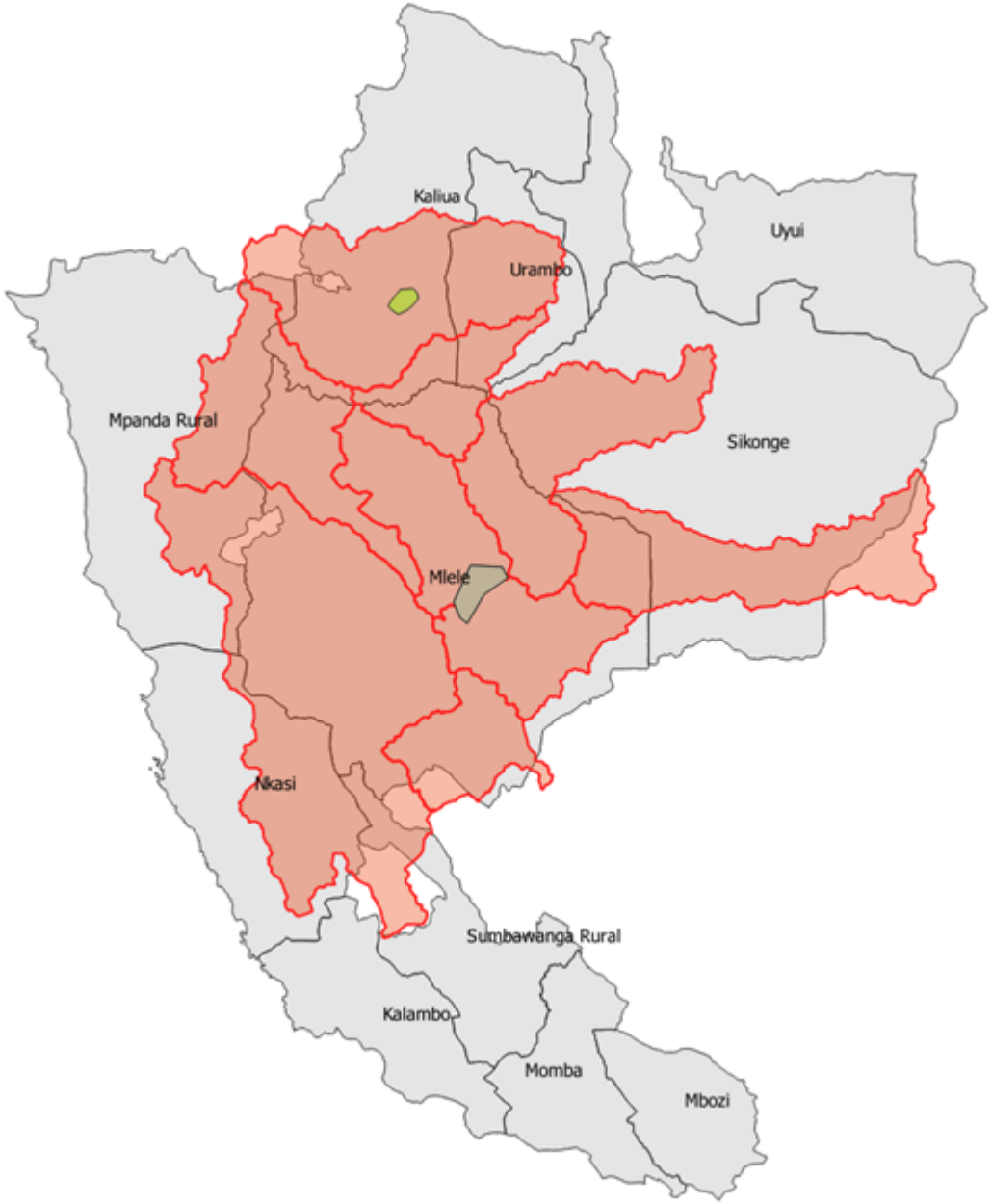
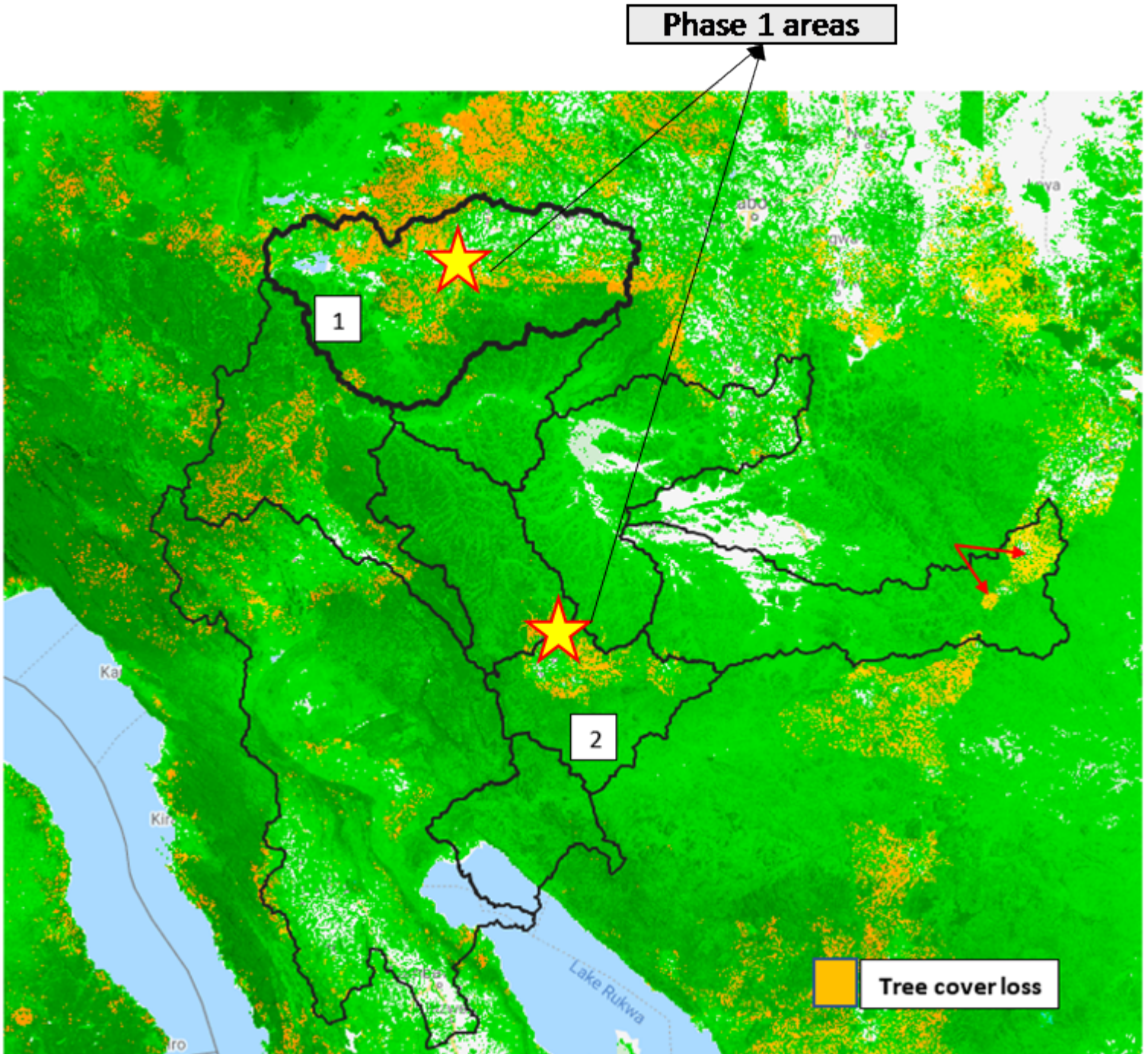

Kaliua
Urambo
Uyui
Mpanda Rural
Sikonge
Mlele
Nkasi
Sumbawanga Rural
Kalambo
Momba
Mbozi

Figure 2. Sub-landscapes selected and representative sites


Phase 1 areas
1
2
Tree cover loss
Lake Rukwa

A comprehensive baseline assessment comprising of remote sensing, multi-stakeholder group discussions (MSG), Focus Group Discussions, households surveys (SHARP) and value chain analysis was conducted during the PPG period (see Box 3. Integrated Landscape Assessment Metology (ILAM) Toolbox).

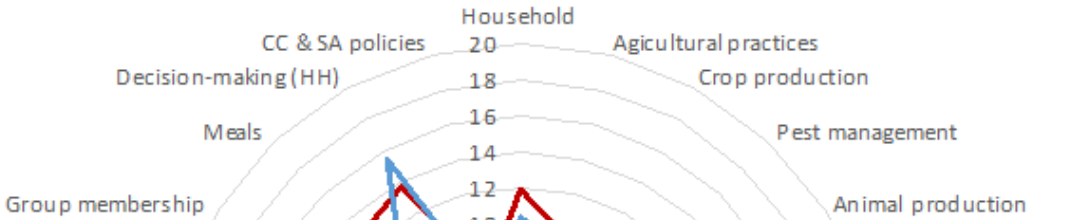
For the purpose of the baseline assessment, two sub-landscapes within the target watershed were selected, and deemed representative of the landscape (Figure 2). The Tabora (Kaliua District Council) Region landscape (sub-landscape 1) covers 873,163ha, while the Katavi Region landscape (Mlele District Council) (sub-landscape 2) covers 371,178ha. The first sub-landscape is located primarily in Kaliua district council (covering about 35% of Kaliua District Council total area) and Urambo district council (covering about 45% of Urambo district total area). The second sub-landscape is located entirely within the Mlele district council, covering 12.5% of the district total area (371,178.21 ha out of 2,975,133.66 ha). Key project activities will be implemented in these two sub-landscapes and then gradually outscaled to the other sub-landscapes.

The SHARP Survey (**ProDoc Annex X-2, link provided at the end of the document**) was administered to a sample of 188 households, with 1207 members, between November and December 2019. The sample was considered representative of the targeted populations (i.e. agriculture-reliant livelihoods, land and forest users, sites with identified land degradation issues). The results of the SHARP survey and other components of the baseline assessment, which were used for project targeting and the subsequent establishment of an LDN decision support system, are presented in the following sections.

Box 1. SHARP+ Results Highlights in Katavi and Tabora regions

- **No. of HH interviewed:** 188 (27% women-led and 54% men-led, and 18% dual decision-makers)
- **Economic characteristics:** Crop production is the main income source of 84% of households. 56% do not revenues outside agriculture. Most respondents (99%) defined themselves as forest-dependent communities.
- **Crop production**: Simplified production systems are observed: maize is the dominant staple crop; rice, beans and cassava are other secondary crops. 21% of households have perennials, but low diversity is observed. Reliance on local varieties, though these are not well adapted to local conditions.
- **Livestock production**: 60% of HH have animals, of which 74% keep poultry, and 36% had cattle and 32% goats. Low diversity of animals and breeds is observed. Almost 25% of households are involved in beekeeping.
- **Trees, and use of forest products**: 86% of households observed degradation of forest in the past 3 years. Forest products used are charcoal (62%), construction material (30%), honey (33%), timber (23%), medicines (10%) and other uses (10%). 83% of households depend on wood fuel for energy.
- **SLM and SFM practices**: 68% uses at least one SLM (manuring, crop rotation, intercropping, animal urea, crop residues, fallowing). The use of nitrogen-fixing legumes is uncommon in both sites, as only 8% of producers plant these. 65% of families have noticed a water availability decline. 62% of households took actions to respond to it, using terracing (86%), water retention ditches (30%), water harvesting (3%), mulching (6%) and planted pits (5%).
- **Access to markets:** 70% sells any agricultural products (64% men and 74% women); only 3% of households are part of certification schemes for agricultural products.
- **Shocks:** 61% of households in the pilot area experienced an unexpected climate shock, in particular droughts (47% in Katavi Region and 92% in Tabora Region). 80% of farmers reported to be severely affected by pests, mostly regarding maize production. Crop failure was the most common impact (68% of households), followed by crop damage (28%), productivity loss (11%) and increased food insecurity (7%).
- **Community based groups:** In 54% of households, at least one household member is part of a group, such as crop producers' groups (35%), women's group (25%), FFS, livestock production and tree production groups (7%).
- **Access to information**: 38% of households do not have access to weather information (63% men, 26% women). 49% of households do not have access to adaptation practices information.
- **Nutrition:** low HDDS in 40% of households in Tabora Region and 29% in Katavi Region (1 to 3 food items consumed in the last 24 hrs). 53% of the households had limited capacity to store food (tubers or cereals) throughout the year. Inadequate access to community cereal banks (68% in Tabora Region and 88% in Katavi Region).

Resilience



Aspects with low resilience levels to highlight:

- Climate change adaptation capacity
- Limited engagement on-farm income generating activities and other income diversification activities
- Limited participation and presence of CBOs

Economic activities related to crops, livestock, and forests

Overall, the SHARP survey shows that most respondents (99%) in the sample defined themselves as forest-dependent communities, and that most households are dependent on crop and livestock production for their livelihoods. Of the households surveyed, 84% reported crop production as their primary source of income. In fact, remote sensing data shows that cropland has significantly increased in both sub-landscapes over a 23-year period between 1995 and 2018, to 280,558ha in Kaliua District Council (70% increase), and 23,872ha in Mlele District Council (300% increase) respectively. Nonetheless, about 44% of households in the sample are engaged in some non-farm income generating activities (52% in Tabora Region, 36% in Katavi Region).

Crop production systems

Maize is the main crop produced in both Katavi Region and Tabora Region (86% and 93% of households surveyed, respectively). Other important crops grown are rice (21% in Katavi Region, 20% in Tabora Region), beans (15% in Katavi Region, 35% in Tabora Region), sunflower (10% in Katavi Region, 7% in Tabora Region) and cassava (5% in Katavi Region, 20% in Tabora Region). Approximately 60% of households in Katavi Region, and 29% in Tabora Region, reported an unspecified crop as their main secondary crop[9]. This indicates a low level of crop diversity, tendency to monocropping, as well as a heavy reliance on maize, which is both highly susceptible to the adverse impacts of climate change and pests. The vast majority of farmers (96% on average) in both regions produced at least some crops for their own consumption.

About 21% of households sampled were growing perennial crops, but only 1% of the total planted more than one crop species. Out of those who had the perennial crop, the most common crop was tobacco (43% of households who responded), followed by cotton (25%), other (18%), cashew nuts (13%), and banana (8%). The actual distribution of perennial crops used in the two districts were quite different: in Katavi Region, most households had tobacco as their main perennial crop (71% of the ones who had some perennials, compared to 11% in Tabora Region), while in Tabora Region cotton was predominant (47%, compared to 5% in Katavi Region). Cashew nut production was also significant in Tabora Region, at 21% of the households having reported cropping perennials.

The use of nitrogen-fixing legumes to serve as mechanism to improve soil quality is low in both sites, as only 8% acknowledged this practice.

Most planting material is of local origin (92% of crops), though only 68% are perceived to be well adapted to local conditions. Conversely, foreign crop varieties are also not well suited to local climate conditions as reported by 56% of farmers.

Across the sample, seeds were mainly produced on the farm (58% of sample), bought in shops/markets (33%), or sourced from relatives/neighbors (8%). In terms of capacity to afford seeds and planting material, 40% of households saved seeds and therefore could always access them, with little variation between provinces. Access to seeds was higher in Tabora Region, where 26% had access to seeds 'always' (as opposed to 20% in Katavi Region) and 13% 'often' had access (as opposed to 6% in Katavi Region). Overall, 13% of the sample did not have any access to seeds (likely due to climate stress), and 14% only had access 'rarely' (9%), or 'sometimes' (5%). In Katavi Region, 18% of surveyed households had no access to seeds, compared to 8% in Tabora Region.

Livestock production systems

Livestock production is primarily semi-nomadic, while a small fraction (about 5%) is fully nomadic. Most households (75%) reported keeping poultry, while about 35% had cattle and/or goats. Almost a quarter of households were involved in beekeeping as well, a key government priority.

Food stocking and dietary diversity

Around 53% of the sample had limited capacity to store some food (tubers or cereals) throughout the year, especially among farmers in Tabora Region (66% vs 39% in Katavi Region). This could be explained by Tabora Region's lower access to community cereal banks (68% vs 88% in Katavi Region) and smaller presence of home granaries (65% vs 82% in Katavi Region). Crop failure and loss could be other reasons explaining the restricted capacity to do any food stocking, as immediate food consumption was prioritized. These results also connect to the diversity of diets, as in Tabora Region about 40% of families present low diet diversity (less than 3 food items consumed in the past 24 hours), whilst this compares to 29% of households in Katavi Region.

Table 2. Household Dietary Diversity Score, by Pilot Site

Site	**Level 1 (1 to 3 food items consumed)**	**Level 2 (4 & 5 food items consumed)**	**Level 3 (> 6 food items consumed)**
Katavi Region	29%	34%	37%
Tabora Region	40%	39%	20%

Trees, forest resources and use of timber and NTFPs

On-farm, a vast majority of households reported the presence of trees on their plots (i.e. 96%), and 80% of those reported having more than two species of trees (e.g. *Julbernardia globiflora; Pterocarpus angolensis Mangifera spp; Combretum spp*). About 20-30% of those trees were reported to be productive. However, extreme weather events, pest outbreaks and uncertainty over land ownership were reported to be important obstacles to on-farm tree planting and growing in the pilot area.

Uses given to on-farm trees and forest resources are similar, with a few exceptions. Shadow for crops and food production from trees are more frequent on-farm (37% vs none and 16% vs 2%, respectively), and timber extraction and honey production more common in forests (23% vs 10%, and 33% vs 14% respectively). Other key uses are charcoal (81% vs

62%), construction material (35% vs 30%), and to source medicine for people or animals (20% vs 12%). Moreover, an estimated 70% of households utilize NTFPs, mainly for food security.

In relation to tree planting and management, women are restricted to a third of all forestry activities, though they produce most of the tree seedlings annually. Women's involvement in tree planting is dependent on multidimensional factors including ownership of land, size of land and distance to forest products and households income. Women-headed households reportedly plant more trees than male-headed ones. The National Forest Policy gives a statement on general land tenure and forest land rights to be institutionalized for both men and women in local communities – therefore women need to have clear ownership rights to forest and forest land. Despite their involvement in forestry, challenges impede women's full involvement, utilization of forest resources, and inhibit the sustainable management of forests at large. Women are disproportionately represented in decision-making regarding forest matters and in some instances their involvement is weak.[10]

Awareness of policies on sustainable agriculture, climate change, forest management initiatives

Awareness about forest management initiatives at community level seems to be common, as 68% of households reported to be cognizant of such initiatives. The main purpose of the initiatives mentioned by respondents were environmental services (73%), fuelwood production for consumption (9%), carbon sequestration (5%), and increasing the value of land (5%). Nonetheless, only 11% of households in the sample were aware of any governmental policies or programs on climate change and sustainable agriculture in their area or nationally. This percentage was lower in Tabora Region (7%) than in Katavi Region (11%). Women respondents seemed to be more aware of such policies and programs (15%) compared to men (4%).

Access to resources

Land access

Regarding the access to natural resources, 98% of households had access to some land at an average of 9.6 ha of land / household (all ownership types included). In the pilot area the median surface (to which 50% of households had access) was 5 ha. In terms of ownership categories, in Kaliua District Council and Mlele District Council, 84% and 76% of households respectively owned private land. About 24% of households also accessed rented land. In Tabora Region, 12% of households had access to communal forests, and 7% of households in Katavi Region. Some households (4%) also had access to pastureland.

Formal access to forests was reported by 7% of households in Katavi Region and 12% in Tabora Region, although almost all households declared to be forest-dependent communities. Differences in formal and informal access to communal forests could be linked to the presence of conflicts. Indeed, 32% of respondents in Katavi Region and 36% in Tabora Region acknowledged the presence of problems that required collective action over the past year. Moreover, 29% of households in Katavi Region (none in Tabora Region) mentioned that issues over the use of forest resources and boundaries, especially between farmer-to-farmer and livestock-to-farmers, have occurred in the past three years.

Water access

Regarding water resources, wells (private and communal) are the main sources to meet household consumption and agricultural needs. Women and young girls were the major actors in accessing and carrying water. As such, the time they have available to engage in income-generating work or attending school remains limited, as most of their day during the dry season is spent walking miles to provide for their households' daily water needs.

Around 65% of families have noticed a decline in the availability of water, and about 57% of households had little or no access to chlorinated water. On average, 62% of households took action to respond to the decreased water availably, with preferred water conservation strategies being terracing (86%) and water retention ditches (30%). Only a marginal number of rural-based families harvested water or watered at specific times of the day (3%), used mulching (6%), or planting pits (5%).

Climate and other shocks

The heavy reliance on maize, overall limited diversification of crop systems (e.g. tendency to monocropping and uncommon presence of planted perennials), and inadequate access to climate adaptation policies and programs, pose a real challenge in the targeted area in view of climate change. In the last three years, 61% of sampled households experienced an unexpected climate shocks, in particular droughts (reported by 47% in Katavi Region and 92% in Tabora Region) and strong winds in Katavi Region (48%). Overall, climate change will likely cause greater heat stress for forests and agricultural systems, affecting biodiversity, reducing yields (see also Threats, Root Causes, Drivers and Barriers) and jeopardizing food and nutrition security.

Moreover, non-diversified agricultural production systems, in particular maize, are increasingly affected by pests and diseases. This is supported by the survey results, in which around 80% of farmers reported to be severely affected by pests in the past twelve months. In Katavi Region, 75% of households surveyed indicated that their maize production was affected by pests and diseases, while this was the case of 85% farmers in Tabora Region. In terms of intensity, 57% of households considered intensity of pest outbreaks high and 43% medium. Droughts were also considered as highly severe by 83% of households. Thus, addressing pest outbreaks and the negative effects of droughts in a sustainable manner would be a key priority in the targeted area.

Crop failure was the most common impact of these different shocks (68% of affected households), followed by crop damage (28%), productivity loss (11%) and increased food insecurity (7%). Households in Katavi Region often mentioned productivity loss and food insecurity, by 18% and 9% of households respectively, compared with 6% and 6% in Tabora Region. Only 1% of households experienced no impact from the disturbances.

Despite these negative effects, about half (48%) of the respondents affected did not take any action to cope with these shocks. A few respondents had coping strategies such as starting a new business (12%), changing varieties/breeds (6%), shifting to crop production (8%), and testing different land management practices (8%). About 18% of households mentioned using other coping strategies, which included the support provided by the Government through provision of fast-growing species and synthetic pesticides (which represents a maladaptive coping strategy since it threatens the ecological basis for pest management). Some differences in coping strategies exist depending on the gender of the

household head. Men were more likely to look for financial support (7% vs 1%) as well as changing varieties or breeds (7% vs. 4%) or to engage in off-farm work (3% vs. 1%). Women-headed households were more likely to sell assets (6% vs. 3%). Households that self-defined as dual (both decide) were much more likely to take no action (70%), shift to crop production (10%), or change varieties or breeds (15%).

Access to information and groups

The delayed and/or inadequate responses and negative impacts of climate and non-climate shocks can also be explained by the insufficient access to information overall. About 62% of households had access to information on weather conditions (64% in Katavi Region and 60% in Tabora Region). Access to information on weather forecasts was lower in male-headed households (37% had access) than in women-led households (74% had access). Out of those, 80% of the farmers had access to information on seasonal weather and more than half had information on extreme events. Only 29% of households had information on starts of rains. Information on pest outbreaks was lacking.

Almost half of the households (49%) did not have access to information on cropping and livestock adaptation practices (in Katavi Region 45%, in Tabora Region 53% did). Agri-service providers and seed companies constituted the main source of information for households in the area (37%), followed by information from government extension workers (12%), Farmer Field Days/Demonstrations (11%), TV (11%) and community meetings (1%). No household reported to have information on post-production practices.

On the other hand, in 54% of households, at least one household member reported being part of a group, organization or association (43% of men-headed households and 58% in dual and women-led families). Most respondents are involved in crop producers' groups (35%), women's group (25%) and religious groups. Less than 7% belong to CBOs such as FFS, livestock production, and tree production groups. The main reasons cited to join a group are to gain access to facilities (38%), inputs (18%) and to receive peer support (14%).

Resilience assessment

The household data collected was also a central part to conduct the climate resilience assessment, which in combination with other assessments, supports the identification of key areas for intervention. The average resilience score[11] across all domains and modules for the households sampled in Tanzania was 9.08 out of 20. This means that farmers in the targeted areas do possess certain knowledge and capacity to withstand and adapt to climate and non-climate shocks, thought capacities, as well as access to knowledge and information should be strengthened to promote sustainable transformation and adaptation of their productions systems and livelihoods.

The overall resilience of respondents in Katavi Region was higher (9.55/20) than the average score for Tabora Region (8.73/20). Resilience gaps are identified in the aspects of limited adoption of sustainable practices to improve land and soil quality; high reliance on fuelwood and charcoal as main energy sources; insufficient diversification of livelihoods (non-farm income sources); revenues sources and capacity to save money; and, acknowledged need to improving animal production practices (e.g. species mix or livestock size).

Additionally, low resilience was also connected to the insufficient capacity of households to cope and adapt to climate change, inadequate access to groups and community-based associations, insufficient adoption of water conservation practices, unsatisfactory access to markets and bargaining conditions, limited awareness of and participation in public policies and programs for sustainable agriculture and forestry.

In Katavi Region, key aspects for reinforcing resilience (that is one with average resilience scores of seven or lower) appear to be: ability to respond and adapt to changes in climate and other shocks as pests, increased knowledge on water conservation, diversification of income sources outside agriculture, and improved markets access. Households rated some aspects as priorities for improvement (from most to least important): pest management, land access, land quality, market access, meals, climate change, agricultural practices, community cooperation, energy sources and local and new varieties and breeds.

In Tabora Region, priorities identified through the assessment were: increased engagement in non-farm income sources, improved access to groups and CBOs, enhanced capacity to cope and adapt to climate change and shocks, increased participation in policies and programs related to climate change or agriculture, increased access to profitable markets, improved knowledge on water conservation practices, enhanced diversification and use of clean energy sources.

Both men and women considered the improved knowledge on pest management as the most important aspect to improve. After pest management, women's key priorities were animal production, improvement of soil quality, energy sources and nutrition status. Other than pest management, men also prioritized crop production.

The Local Economy and Promising Value Chains

Similarly to the context of the target landscape described above, Tanzania's economy is heavily dependent on agriculture. It accounts for 26% of the national Gross Domestic Product (GDP), employs about 75% of the workforce (including approximately 70% of women) and provides 85% of exports earning. Agricultural production is currently dominated by small-scale, subsistence farmers, with only 1.5% of the arable land under irrigation across the country. The sector is characterized by low productivity which has been linked to a combination of several factors, including: over-reliance on rainfall, utilization of rudimentary and unsustainable production methods (e.g. monocropping), low access to inputs, and low extension service capacity to deal with climate change issues.

Communities of the target landscape are also overwhelmingly self-identifying as forest-dependent. Forests and trees support sustainable agriculture by stabilizing soils and climate, regulating water flows, giving shade and shelter, and providing a habitat for pollinators and the natural predators of agricultural pests. Forests harbor other Non-Timber Forest Products (NTFPs) that provide significant socio-economic benefits, including income generation for rural development, as well as national economic growth and international trade.

Different crops and NTFP value chains are found across the landscape, though most are not well developed (see Table 3 below). The functioning crop value chains include maize, rice, sunflower, cotton and tobacco; while for NTFP, beekeeping, medicinal plant; edible wild foods are the functional value chains. These value chains are part of existing

community livelihood activities and provide household income. Maize, rice, sunflower, and beekeeping form part of the landscape strategic value chains mentioned in the districts' socio-economic profiles and investment profiles.

Table 3. Characteristics of crop and NTFP value chains of current importance in the target landscape

Value chain	Type	Characteristics
Maize	Crop	Subsistence and cash crop Low productivity VC fragmented and poorly coordinated
Rice	Crop	Third most important food crop in Tanzania VC fragmented, uncoordinated, disorganized and uncontrolled
Sunflower	Crop	Fastest growing crop in Tanzania Low productivity Persistence of traditional farming Underdeveloped processing capacities
Beekeeping	NTFP	High production potential VC dominated by traditional hives adversely impacting natural resources and forests Low processing capacities
Wild fruits and wild mushroom	NTFP	Informal business Local, unreliable and un-organized market

Medicinal plants	NTFP	Range of plants locally used No domestication Unreliable market
Alternative charcoal	NTFP	Data on local briquettes production unknown Demand of alternative charcoal on the rise

While maize and rice represent the top two most important staples produced in the target landscape, their production systems remain largely unsustainable, with low productivity and susceptibility to climate change and pests. The heavy reliance of farmers on those crops contribute to their increasing vulnerability to shocks. Crop diversification, and a particular focus on intercropping with neglected and underutilized species (NUS), would contribute to addressing these issues. In the Miombo landscape, several NUS crops have been identified as having good adaptability to marginal conditions, as well as be nutrient-dense (see Table 4). Additional benefits could arise from intercropping with nitrogen-fixing legumes, a practice scarcely used in the landscape at the moment (see results of SHARP survey, ANNEX X-2 and link below).

Table 4. NUS crops suitable to the Miombo landscape of Tanzania

Plant	Characteristics
Sorghum, millets	Millets are a group of annual C4 plants that can grow on a wide variety of soils ranging from clay loams to deep sands but the best soil for cultivation is deep, well-drained soil. This makes it suitable for cultivation by smallholder farmers in semi-arid areas where deep sands and sandy loam soils dominate. In addition, millets are easy to cultivate and can be grown in arid and semi-arid regions where water is a limiting factor for crop growth. Millets (pearl, foxtail and finger millet) are an example of indigenous cereals grown in the dry parts of SSA.
Cowpea (*Vigna ungugulata*)	Cowpea thrives in arid and semi-arid conditions and is produced in areas with optimum rainfall conditions of 400 to 700 mm per annum. Leaves can be consumed as vegetables, while seeds are eaten in the same manner as dry beans. It can be consumed both as a leafy vegetable and grain legume, thus addressing the gap during periods before the next harvest. Its nitrogen-fixing roots, which help replenish soil nutrients, make it suitable in intercropping systems with maize, millet, sorghum, cassava, yam, etc.
Wild mustard (*Brassica juncea* and *Brassica nigra*)	Wild mustard is an indigenous leafy vegetable of sub-Saharan Africa, cultivated under diverse environmental conditions. Wild mustard has been reported to establish quickly, thus achieving optimum ground cover, and able to thrive in water-scarce environments.

Spider plant (*Cleome gynandra*)	The African spider plant is an annual plant, consumed as a leafy vegetable. It is a C4 plant capable of withstanding high daytime temperatures, intense sunlight, and drought. The seeds of the spider plant are high in oil, which be extracted by pressing and does not require refining. After pressing, the remaining seed cake can be used for animal feed.
Bambara groundnut (*Vigna subterranean*)	Bambara groundnut is a grain legume grown mainly by subsistence farmers in sub-Saharan Africa. It is cultivated for its subterranean pods, is extremely hardy and produces reasonable yields even under conditions of drought and low soil fertility. Its nitrogen-fixing roots, which help replenish soil nutrients, make it suitable in intercropping systems with maize, millet, sorghum, cassava, yam, etc. The leaves are rich in nitrogen and potassium and therefore an excellent source of animal feed.
Sweet potato (*Ipomoea batatas*)	Sweet potato is a short duration creeper (90-110 days) suited to low input systems and degraded soils. Its phenotypic plasticity allows it to be planted and harvested all year round. The leaves can be used as a vegetable as well as for animal feed, while the highly nutritious tuber is consumed by people. The orange-fleshed sweet potato varieties can contribute significantly towards reducing Vitamin A deficiency.
Amaranth (*Amaranthus* spp.)	Amaranth is consumed as a leafy vegetable in marginal, arid and semi-arid regions because of its nutritional benefits and ability to adapt to adverse environments. It can grow on a wide range of soils and can tolerate soil pH from 4.5 to 8.0. *Amaranthus* species are known to be tolerant to adverse climatic conditions, including drought to salinity stress which can help the plant in semi-arid regions as well as areas prone to salinity stress.
Sugar plum *Uapaca kirkiana,*	The plant tolerates poor, shallow soils, gravel, and sandy loam soils. Trees are generally retained for the fruit, which are eaten by children and adults. It is an important famine food in the drier areas of Tanzania. It is often prepared as a sweetmeat or jam, especially in neighbouring countries. There is considerable potential for domestication of this species considering its popularity with farmers. The tree is a suitable boundary species.
Moringa (*Moringa* spp),	Moringa is a fast-growing tree, which produces leaves during the dry season and during times of drought, suitable to production in diverse habitats, including marginal lands. It is an excellent source of green vegetables when little other food is available as its pods, leaves, seeds and roots are all edible.
Monkey orange (*Strychnos cocculoides*)	The monkey orange is a small tree indigenous to southern Africa, and will survive drought periods by entering a phase of dormancy. Monkey oranges are characteristically harvested during the so-called “lean season”– a time of cultivated food shortages. The wide distribution of the monkey orange trees in drought prone areas and semi-arid regions, coupled with the fruit nutritional quality renders the fruit an important food source for particularly children and pregnant women.

Marula (*Sclerocarya birrea*)	Marula is an important multipurpose tree through much of Africa, particularly valued for its edible fruit and seed, but also supplying a range of other foods, medicines and various commodities to the local populace. It is a fast-growing, tolerant of saline soils, and productive in soils that are too poor to support other crops.

On the other hand, NTFP value chains remain largely underdeveloped. Although beekeeping/honey is a key government priority and has a great potential to contribute to income diversification in the target landscape, only about 3.5% of its potential is exploited nationally. In the target landscape, Mlele District Council has an area of 850 ha under Inyonga Beekeepers Association (IBA), which is suitable for honey and wax production. In addition, the presence of Miombo forest provides Kaliua District Council with interesting opportunities in edible wild foods (mushroom and fruits) and beekeeping. In fact, Kaliua District Council has about 33 beekeepers groups and produces about 550 Tons of honey on an annual basis.

Threats, Root Causes, Drivers and Barriers

Land degradation

To understand the root causes and barriers to integrated sustainable land and forest management (SLM/SFM) in the Kaliua District Council and Mlele District Council, a rapid participatory LD assessment was conducted during a multi-stakeholder (MSG) group discussion held in Tabora Region. The MSG discussion participants included institutional and land user representatives who completed a LD assessment matrix to determine the two main types (groups) of land degradation, their extent (% of the land area affected), degree (light, moderate, strong, extreme), the rate of degradation (i.e. whether it is stable, active, or the condition of the land is improving), as well as the two main direct causes and indirect drivers per LD type. These assessments were conducted per Land use system (LUS) for croplands, forests and livestock systems (see Full Land Degradation Assessment Report in ProDoc **Annex X-2 or link provided at the end of the document)**. It is important to note that this assessment produces qualitative results based on the consensus perceptions of a diverse group of individuals. The overall status of LD per LUS was classified as low (green), medium (orange), or high (red) as a function of the extent, degree and rate of degradation based on the criteria in Table 5 below. **LD bright spot:** All the degradation types in the LUS are classified as low (green). **LD hot spot:** At least one of the degradation types in the LUS is classified as high (red).

Table 5. Classification of low, medium and high state of degradation per degradation type

Degradation status	LD Extent	LD Degree	LD Rate
Low	30%	Light/moderate	Improving/stable/active

	20%	Light/moderate/strong	Improving/stable/active
	10% or less	Light/moderate/strong/extreme	Improving/stable/active
Medium	All combinations that do not fit under "Low" or "High"		
High	70% or more	Strong/extreme	Stable/active

Based on the overall status of LD, LUSs are classified as LD bright spots (green) or hot spots (red) as follows:

LD bright spot: All the degradation types in the LUS are classified as low (green).

LD hot spot: At least one of the degradation types in the LUS is classified as high (red).

Additional information on LD and sustainable land and forest management (SLM/SFM) was obtained from the Collect Earth and household (SHARP) surveys. The qualitative assessment of LD, its root causes and drivers are elaborated in the following sections. The identification of LD bright spots and hot spots serves to flag LUSs for particular closer investigation in terms of the combined LD and SLM/SFM information obtained at regional, district, site or household level.

Based on the above classification, the croplands in the **Katavi region** is the only LUS in the two regions to **appear as a LD bright spot**. However, since the LD assessment for croplands was conducted for the overall region, the LD status at specific sites may differ. At household level in the Mlele District Council Phase 1 site, 51% of SHARP respondents indicated that no soil degradation is observed in their area. Where soil degradation does occur, it was confirmed to be chemical soil deterioration (fertility decline and reduced organic matter content), soil erosion by water and gully erosion which correlates with results from the LD assessment. About 71% of households use at least one SLM practice which is mostly manure, crop rotation, intercropping, animal urea, crop residues, fallowing and agroforestry. If these practices are effectively implemented and are indeed responsible for the perceived low degradation rate in the area, there is large opportunity for out-scaling of these practices in the district.

Almost half of households surveyed during SHARP (45%) reported a decline in tree quantity (Tabora Region in 52% vs 38% in Katavi Region) and in diversity within the farmland, and an even larger number of those who had access to some forest considered that the forest had degraded over the past three years (86%). While this trend was similar across sites, it was higher in Tabora Region, where 90% of households mentioned a degradation of their main forest, and only 10% mentioned that it stayed the same. Interestingly, about 10% of households in Katavi Region mentioned an improvement in the forest they had access to over the past three years.

A number of factors are contributing to this trend in degradation, as outlined above. This is also essentially driven by the fact that a large majority (83% of households in the sample) depend on wood fuel to meet their daily household (e.g. cooking, heating, lighting) and agricultural needs (e.g. tobacco curing), associated with the unsustainable management of trees on-farm and in forests to meet basic needs. Moreover, the combination of low agricultural productivity and population growth is increasing pressure on the remaining dry forest formation outside the PAs and its ecosystem services.

Root causes of land degradation in the landscape

Inadequate sustainable forest management: This is a key cause of deforestation, largely driven by inadequate sectoral coordination and collaboration. The forestry sector is characterized by some challenges such as the overlapping mandates of key sectors. Several crosscutting responsibilities exist between different governmental institutions that deal with forest management, forest fire fighting, forest protection, law enforcement and other forest related issues. The responsibilities for forest management measures are shared by many sectors, however the actual implementations on the ground is fragmented and uncoordinated[12]. Most importantly, there have been failures to bring in participatory forest management and community-based forest management, and empower local communities to take ownership of the SFM processes. Weak legal frameworks for promotion of private and Community based forest management affect decisions to invest in forestry due to shortage of land; limited availability of land use plans in the majority village lands and some unclear land and tree tenure; as well as limited incentives[13]. This is leading to the continued mismanagement of forests, loss in forest biodiversity, and loss in forest productive functions.

Unsustainable extraction of forest and non-forest (timber) products: The unsustainable utilization of forest resources is a leading cause of forest and land degradation in the target landscape, with extraction rates far exceeding regeneration rates, in particular of wood products for wood fuel and construction. Another threat to the ecosystems relates to NTFPs harvesting/gathering. For instance, honey gathering using traditional beehive making by debarking and felling trees (often *Julbernardia globiflora*) is highly destructive and often targets larger trees. When less abundant tree species are used, this can lead to the disappearance of mature specimens, and diminish the nectar resource, the number of bee colonies, and the number of trees suitable for wild hives[14]. Fires used to control bees can also spread, and threaten surrounding land, forests, and villages. Other NTFPs harvesting is often unsustainable and unrestricted, such as medicinal plants which are said to be disappearing[15], threatening biodiversity.

Unsustainable agricultural activities and low adoption of improved management practices: Unsustainable land management practices are commonplace in the landscape, in particular poorly implemented shifting cultivation and uncontrolled fires. These are all direct causes of land degradation in this landscape. The assessments conducted during the PPG phase showed that shifting cultivation (attributable, amongst others, to an increased competition for arable land) was a key disturbance in the landscape and leading to growing deforestation through clearing. Anthropogenic fires are the greatest disturbance in the Miombo woodlands, and affect up to 50% of the woodland area of Tanzania each year[16], much more than climate-driven fires. These events strongly influence the ecosystem composition, structure, and distribution, including contributing to the fragmentation of the landscape. Moreover, it leads to significant losses in biomass and affects carbon stocks. Other unsustainable practices, leading to different forms of land degradation identified during the PPG phase included continuous mono-cropping, improper management of the soil, and an improper management of annual, perennial, scrub and tree crops.

Agricultural productivity remains low at the landscape level and is affected by a number of factors including pests and diseases, degrading soil conditions, and low use of improved/adapted varieties. Causes of degradation reported in the SHARP survey included the loss of soil fertility and reduced organic matter, followed by water erosion. Low agricultural productivity is a leading factor driving shifting cultivation, in an attempt to compensate for those losses.

Overgrazing: Overgrazing is causing significant soil erosion and physical soil deterioration in the target landscape, as illustrated by the land degradation rapid assessment conducted during the PPG phase. Indeed, areas used for livestock are considered to have the highest levels of degradation and are generally overstocked (Tabora Region is one of the regions with the highest number of cattle in Tanzania[17]). Grazing land management can be highly effective in addressing these issues, but is considered to be poorly implemented in the landscape. The area of land allocated for grazing is small compared to the number of livestock, and pasture is of low quality and quantity. Indeed, communal rangelands are being fragmented (through conversion to permanent agriculture, for instance), decreasing the availability of pastures that livestock depend on for grazing, and increasing pressure on those remaining areas as well as on forest. High number of livestock is found grazing in national forest reserves. Other factors, such as climate change and wildfires, affect rangeland dynamics and are adversely affecting rangeland quality and composition[18]

Wildfires: In addition to anthropogenic fires, generally associated with agriculture which often spread to forest areas, wildfires are a major disturbance in this landscape. They are said to be intense and of high frequency, recurring on an annual basis, and to be difficult to control[19]. In their current state, local fire management structures in Tanzania were found to be unlikely to guarantee effective prevention of this environmental threat[20][9]. Areas of frequent natural burn are associated with a loss in indigenous species[21][10] and reduced carbon sequestration.

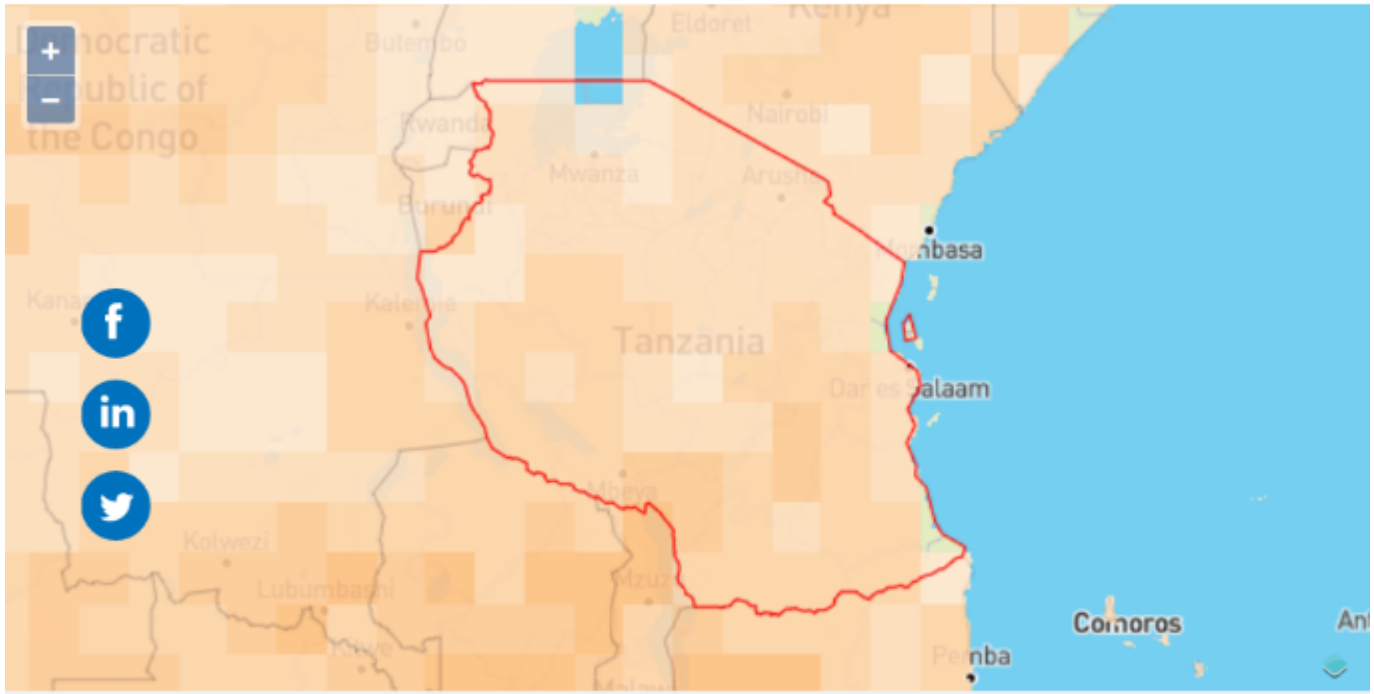
Climate change: Climate change is one of the greatest threats to the Miombo Woodlands of Tanzania, and the livelihoods associated with the ecosystem. The woodlands are already susceptible to recurrent wildfires, and even small changes in aridity could exacerbate these regular disturbances. Climate change will have direct significant negative impacts on communities' livelihoods and natural resources, including availability of and access to ecosystems goods and services. The value of loss of agriculture GDP from the impacts of climate change over the coming 50 years is estimated at US$ 27 billion, which is an annual average of about US$ 540 million[22][11]. Combined, these changes may also contribute to altered fire regimes, a key disturbance to Miombo woodlands.

1CMIP5 projections (RCP4.5 and RCP8.5) for the mid-century (2040-2059) using the World Bank Climate Change Knowledge Portal (WB CCKP) are robust and show that the probability of drought will increase significantly across the landscape compared to the 1990s. Dry spells are likely to become longer over large swaths of the area of intervention (see Figure 3, note: additional climate change figures are provided in the ProDoc), in particular during the months of September and October, suggesting there may not be significantly longer dry spells during the November-May rainy season, though it may in some case delay the start of the growing season. It also suggests there may be less occurrences of periodic rainfall events outside the main rainy season. That being said, the probability of heat waves, which are associated with adverse health impacts for human

and livestock alike, as well as extreme heat stress for crops and trees, as well as increased water stress in well-drained soils prone to loss of soil moisture, is likely to increase throughout the landscape. In fact, temperatures in all months are expected to increase by 1.7-2.1°C across the watershed[23][12] comprising the project intervention sites. Precipitation projections are more uncertain than those for temperature, yet there is an overall very slight increase in monthly precipitation during the dry season projected by the 2040-2059 period, as well as a slight increase in the daily intensity of rainfall events. The variability of extreme rainfall, both in terms of flood and drought, will certainly increase towards the end of this century, possibly dramatically.

Figure 3. Projected change in severe drought likelihood between the 1990s and the 2040-2059 period, (a) RCP4.5; (b) RCP8.5. Source: WB CCKP

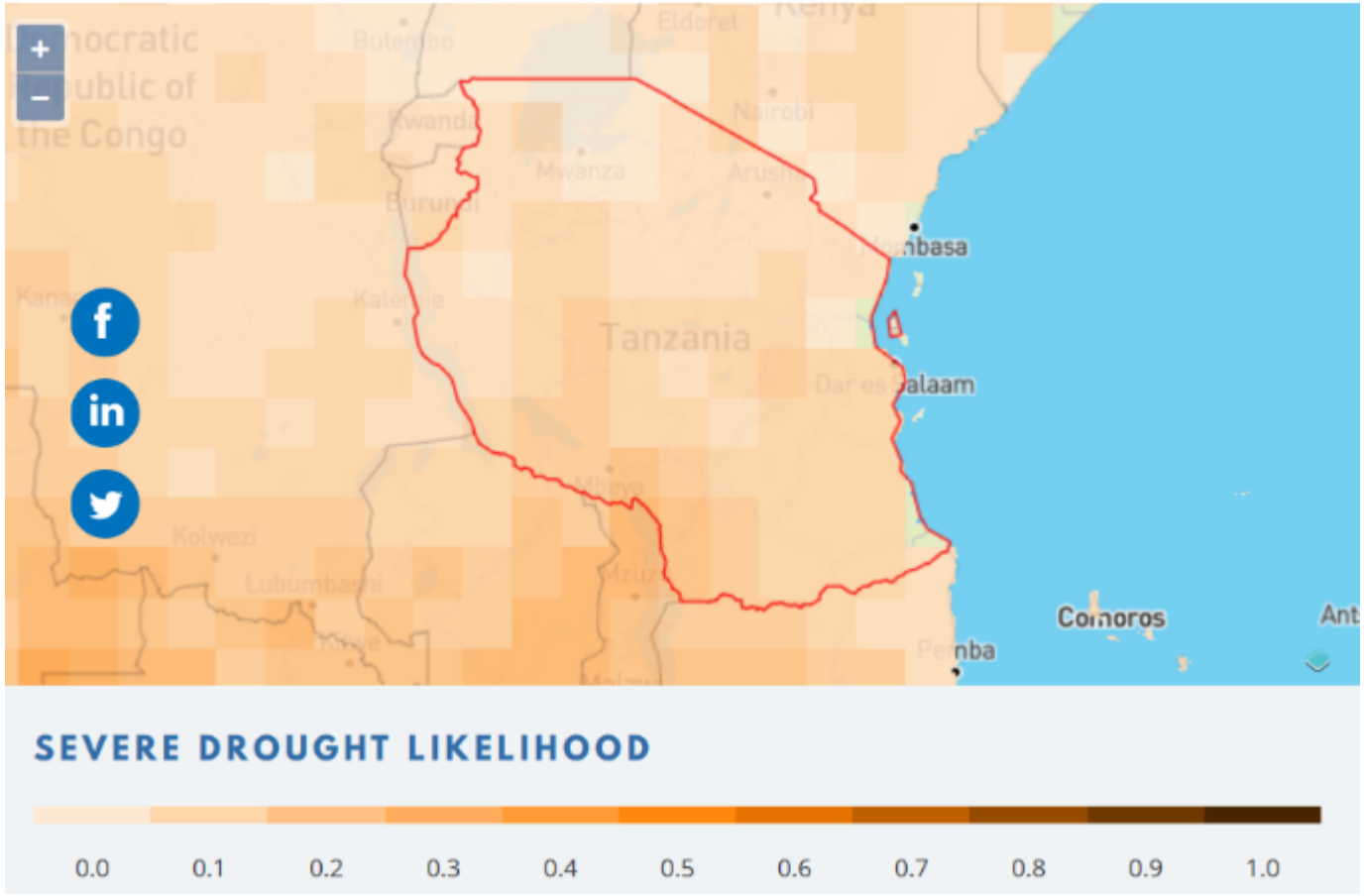
Projected Change in Severe Drought Likelihood of Tanzania, United Republic of for 2040-2059 (Compared to 1986-2005)



SEVERE DROUGHT LIKELIHOOD

0.0 0.1 0.2 0.3 0.4 0.5 0.6 0.7 0.8 0.9 1.0

Projected Change in Severe Drought Likelihood of Tanzania, United Republic of for 2040-2059 (Compared to 1986-2005)



Overall, climate change will likely cause greater heat and water stress for forests and agricultural systems, affecting biodiversity, reducing yields and increasing mortality rates, as well as threaten human health. Similar impacts can be expected to arise from seasonal shifts in rainfall patterns, especially late rainfall onset and early rainfall cessation, seasonal floods and an increase in the frequency and intensity of dry spells. These have already been observed in various parts of the country. According to the country's Nationally Determined Contributions of 2018 (NDC) Tanzania has already experienced over the past 40 years severe and recurring droughts with devastating effects to agriculture, water and energy sectors, which are anticipated to be exacerbated in the future. This is likely to lead to lower agricultural productivity and affect the provision of key ecosystem services. As a result, vulnerable households may become more reliant on forest resources, and exacerbate issues of overexploitation of forest resources.

Drivers of land degradation in the landscape:

At the level of Miombo landscape this project is focusing on, the following drivers of land degradation were found to impact the stock, as well as the flow of ecosystem services, indirectly leading to land degradation, loss of biodiversity and loss of biocarbon above and below ground:

Population growth: Rapid demographic changes are contributing to driving land degradation in a number of ways. First, with increased urbanization, there is a continuously increasing demand for charcoal, and an increased competition for productive land as settlements expand. Secondly, government development policies have contributed to the rapid evolution of the region, which used to be widely very remote and poorly accessible. This triggered the in-migration of thousands of individuals (estimated to 10,000 to Mlele District Council alone) from the North of the country over a short period of time, who settled illegally in forest reserves, and cleared wide portions of the forest[24]. It is estimated that Mlele District Council had a population growth rate of 3.2%[25] in 2012, while Kaliua District Council stands at 4.8%[26] (2017). This is above the national population growth rate of 2.7%

Widespread poverty: Poverty in the landscape can primarily be linked to deforestation through the charcoal sector. First, the production of charcoal is often a supplemental source of income and safety net, and poorer households are more likely to participate in its production. Secondly, low access to affordable alternative fuels and population growth are leading to a growing demand for charcoal, in particular for poorer households in rural areas. As mentioned earlier, charcoal is also necessary to a number of livelihoods in the landscape, including tobacco curing, fish smoking, salt-drying, and brick and lime making. Moreover, rising prices of commodities like tobacco lead to an increase in production, land clearing, and need for fuelwood for curing.

Lack of alternative livelihoods: Overall low agricultural productivity leaves farmers in search of alternative livelihoods, which are limited in the landscape, in particular for women. Oftentimes, households will rely on the exploitation of natural resources, and in particular forest resources, to supplement incomes. As mentioned earlier, charcoal production is one of the most common sources of supplemental income for poor households, especially young men, causing widespread environmental degradation in the landscape.

High reliance on Miombo wood for energy and construction: It has been estimated that about 90% of wood harvested in Tanzania is utilized as woodfuel[27], with the majority being used in the form of charcoal in urban areas. A large portion of the rest is used for construction materials and timber. Although these figures can be discussed, they show the level of reliance to woodfuel in Tanzania. In addition, local uses of woodfuel are influenced by the local economy. In Tabora Region and Katavi Region, for instance, higher prices for tobacco crops leads to a higher demand for woodfuel for tobacco curing, and therefore tree cutting from the natural forests. In addition, with increasing population, demand for charcoal is increasing, especially in urban areas. This is all despite the fact that Tanzania has a richness of alternative energy sources, including natural gas, biomass, hydroelectricity, coal, uranium, wind, solar, and geothermal, and that there has been significant progress towards electrification across the country.

Gender inequality. When land is degraded and usable land becomes scarce, women are uniquely and differentially affected given their substantial role in agriculture and food production, greater vulnerability to poverty, and typically weaker legal protections and social status. Women constitute the majority of farmers in many of the region's most severely affected by desertification, land degradation and drought. While they often serve as environmental stewards, women tend to be excluded from conservation and management of land, have low access to agricultural extension services and institutional credit and encounter barriers to participation in development, planning and policymaking processes. Unlike men, women often have less access to information, resources and legal rights to land, natural and productive resources. Unequal power relations and gender-based discrimination in legal and customary systems in many societies deny women even user rights to plant trees, control soil degradation and enhance soil fertility. Gender-responsive LDN approaches integrated in the project can strategically contribute to the achievement of conservation and restoration objectives.

b) The baseline scenario and any associated baseline projects**.**

To counteract the negative trends in land degradation, Tanzania developed its LDN strategy in 2018 with the aim of aligning national efforts towards LDN targets (see Box 2), providing the foundation for the proposed interventions.

Box 2.Summary of Tanzania's LDN targets**[28]**

TANZANIA'S LDN TARGETS SUBMITTED IN OCTOBER 2018

National target: LDN is achieved by year 2030 as compared to year 2010 and an additional 25% of the forest has improved (net gain).

Sub-national target: LDN is achieved in the following land degradation hotspots: Dodoma, Singida, **Tabora Region**, Shinyanga and Manyara regions by 2030 as compared to 2010 additional 25% of the degraded hotspot regions have improved (net gain).

Specific National Targets	*Relevance for the area of intervention*
a. Restore 11,011,950ha of forests through sustainable forest management. b. Prevent and avoid decline of land productivity of forests on 2,640,600ha by 2030. c. Improve land productivity of shrub and grassland on 1,714,500ha by 2030. d. Improve land productivity of croplands on 8,462,500.5 ha by 2025. e. Improve land productivity of wetlands on 361,275ha by 2030. f. Increase soil organic Carbon in cropland to 54.5tons/ha by 2030. g. Reduce soil erosion (loss of top soils) by 19tons/ha.	In the intervention area unsustainable practices, associated with an uncoordinated land management and planning governance, are increasingly degrading forest and land resources, thereby contributing to the decline in land productivity, biodiversity loss, and vulnerability to climate change. In addressing such challenges the proposed project will contribute towards meeting the national LDN targets whereby forest and land degradation problems will be addressed through the implementation and mainstreaming of SLM and SFM, resulting in LDN, increased food security, livelihood sustainability, climate change resilience and biodiversity conservation. Specifically, the proposed project intends to make to the following direct contributions to the National LDN Targets: a. Restore 11,011,950ha of forests through sustainable forest management. – The project will be contributing to the restoration of 712,382ha of miombo woodlands. b. Prevent and avoid decline of land productivity of forests on 2,640,600ha by 2030. - The project will be contributing to the implementation of SFM on 712,382ha of miombo woodlands. c. Improve land productivity of shrub and grassland on 1,714,500ha by 2030. – The project intends to apply SLM to 6,000ha of grassland. d. Improve land productivity of croplands on 8,462,500.5 ha by 2025. – To improve the productivity of croplands, the project intends to apply sustainable intensification to 15,000ha of cropland.

Legal & Policy Frameworks

A number of policies and legal frameworks support the LDN agenda in Tanzania, although current efforts to implement LDN are insufficient to meet the goals set by the country. This framework provides the foundations for the proposed project, which is part of a joint Expression of Interest submission from a coalition of six southern African[29] countries that have prioritised interventions to reverse degradation and maintain the ecological integrity of the extensive and threatened Miombo and Mopane ecosystem. Being part of the Dryland Sustainable Landscapes Impact Programme (DSL IP) programme, tailor-made capacity development events will be available on demand throughout the project's lifespan for government stakeholders under the Regional knowledge management Exchange Mechanism (REM) to be established by the Global Coordination Project (GCP). Peer-to-peer learning on evidence-based practices will also be made available to each participation country through the REM (see box below). This will enable to fill already identified capacity gaps (e.g. landscape-level land-use planning, sustainable management of wood resources, creating incentives for SLM and SFM) and gaps that would come up during the course of the project towards integrated landscape management in the selected sub-basins of the Miombo and Mopane woodlands. The project intervention therefore offers a strategic opportunity for Tanzania to halt and reverse land degradation in Miombo forest area, building upon and strengthening the country's LDN and policy alignment efforts – while fostering cross border collaboration, capacity building and knowledge exchange. Various institutions, policies and legal frameworks support the LDN agenda in Tanzania, as discussed in the following sections.

The policies which are best aligned with the national effort to achieve LDN, as per the targets established in 2018 through the LDN-TSP process, and upon which the project will have an influence are described below:

National Bee-keeping Policy (1998): This policy also entails SLM, SFM and climate change issues through its aspirations to attain: environmental management and/or sustainable management of resources; an integrated approach involving different people who use trees; agroforestry farming; and use of environmental friendly technologies in bee harvesting. It also recognizes that the decrease and disappearance of honeybees may be used as indicators for environmental degradation. Therefore, the primary goal of this policy is habitat and forest resources management.

National Forest Policy (1998): The National Forestry Policy aims at fostering sustainable forest management, preservation of biodiversity and conservation of water catchments and prevention of soil erosion. The policy and Action Plan (1990/91–2007/08) advocate for the establishment of private woodlots, plantations for fuelwood production and village forest reserves to be managed by village governments under community-based forest management regime. It also emphasizes the involvement of local communities, private sector and government in ensuring better and sustainable management and use of forest resources which is in line with the envisaged project objectives. The Policy fosters Participatory Forest Management (PFM) strategies with the objective of managing forest resources through Joint Forest Management (JFM) and Community Based Forest Management (CBFM). Under JFM, the Policy emphasizes on the collaboration between the government and other stakeholders including local communities to jointly manage and set strategies

for sustainable utilization of forest resources. Similarly, the Policy sets objective on the need to establish approaches for implementing activities fostering CBFM. The Policy provides provisions for encouraging communities to set up forest reserves from the general lands for economic and conservation activities.

National Land Policy (1995): the policy sets objective on protecting land resources from degradation for sustainable development. The policy also ensures security of tenure for pastoralism in pastoral land areas through various measures including gazetting to protect grazing land from encroachment. Other policy objectives towards ensuring sustainability of pastoral activities include restoration of pasture lands (when not in conflicts with national interests), prohibit shifting agriculture and nomadism, regulate cattle movements through coordinated planning and the provision of stock routes and other mechanisms as well as providing education to pastoralists. In addition, the Land Policy seeks to establish, support and guarantee a secure land tenure system, which will facilitate the sustainable use of resources found on land, including forest resources. The policy objective (e.g. Objective 2.8) is also set on the protection of land resources from degradation.

National Agricultural Policy (2013): The National Agricultural Policy objective among others is the promotion and protection of integrated and sustainable utilization of agricultural lands. The policy statements emphasize, among others, to enforce laws and legislation to enhance land resource management and conflict resolution as well as supporting gender-equitable land tenure governance. The policy promotes SLM related activities such as environmental conservation through discouragement of unsustainable agricultural practices including slash and burn practices; cultivation of sensitive and marginal lands. Furthermore, it fosters improvement of land husbandry through soil erosion control and soil fertility improvement, activities contributing to sustainable land management.

The National Livestock Policy (2006). The Policy promotes commercial farming aimed at conserving the environment.

The National Energy Policy (2015). The Policy updates Tanzania's 2003 Energy Policy. It has the following objectives: i) Improving the security of supply through effective use of energy resources; ii) Promotion of energy efficiency and conservation in industries, transport, agricultural, residential and commercial building; iii) Promotion of private sector participation in the development and supply of modern energy services; iv) Promotion of rural electrification programmes to foster socio-economic transformations in rural areas; v) Ensuring the Government strategically participate in the up, mid and downstream in the petroleum sub-sector; vi) Facilitating the adoption of renewable energies technologies to increase its contribution to electricity generation mix; vii) Promotion of cross-border electricity trading and regional interconnectors; viii) Improving energy sector planning through integrated plans; ix) Ensuring that prices for energy services reflect costs of efficient operations in providing such services; x) Ensuring that prudent environmental, social, health and safety considerations are factored in energy sector developments; xi) Promotion of energy research, development, training and local manufacture of energy plant, equipment, appliances and materials; and xii) Supporting efforts of combating HIV/AIDS and other infectious diseases.

Tanzania also has several legal and regulatory frameworks which are very relevant to SLM and SFM towards achievement of LDN, and provide a clear commitment to decentralization of forest management which includes devolving full control over forests and resources to local people. Key legal frameworks for LDN in Tanzania include:

The Land Use Planning Act No. 6 of 2007: The Act provides procedure for preparation, administration and enforcement of land use plans, and to provide for related matters. Clearly the Act has distinctive authorities of land use planning in Tanzania laid down with their functions and powers. Among other things, the Act stipulates measures to ensure that Government policies, including those for development and conservation of land, are in harmony. It also takes adequate account of the effects of policies on land use.

Land Act No. 4 and Village Land Act No. 5 of 1999: The Acts are the principle legislation governing all land matters in Tanzania. They seek to control land use and clarify controversial issues pertaining to ownership of land and land based resources. Both categorize land into: Reserved land which denotes land set aside for special purposes, for instance forest reserves, game parks, land for public utilities and highways; General land which includes all public land which is not reserved and unoccupied or unused village land; Village land which include all land declared to be within the village.

Forest Act No. 14 of 2002: Among other aspects this Act provides for establishment of forest management plans for all types of forest for the purpose of its best endeavors to achieve the sustainable management of the forest reserve over the periods of time; and designates Community Forest Reserves, and encourages community-based management and for related matters. The Forest Act governs protection, conservation, management and utilization of forests and forest products in Tanzania. All activities the project will support regarding forest and its by-products will fall under this Act. The Act also defines restrictions and prohibitions relevant to forest reserves and reserved (threatened) trees.

Grazing-land and Animal Feed Resources Act No. 13 of 2010: The Act among others provides mandate to the Local Government Authority in relation to: Safeguarding and development of grazing lands including demarcation and delineation of grazing land in accordance to Village land Act and Land use planning Act, grant right to livestock movement to access water and other services which are not within the grazing land; Management of communal and strategic grazing lands; Grazing land development in a manner that is consistent with sustainable land use planning and management practices, including environmental conservation and development of water sources for livestock use.

Seed Act and its regulation (2003 & 2014): The development of agricultural seed laws in Tanzania began in the early 1970's with the implementation of a Seed Programme funded by USAID. The programme provided for a national seed law and the laboratories necessary for testing and to ensure the quality of seed at every stage of the process. Accordingly, the Seeds Act No. 29 of 1973 was enacted, followed by the Seeds Regulations of 1976. Deregulation and the liberalisation of seed production and distribution in Tanzania, which involved changes to both policy and legislation, saw an upsurge in the number of seed companies in the country in the 1990's. This also created a role for private sector involvement that included the privatisation of state-owned enterprises, the establishment of new quasigovernment agencies, the facilitation of private entry into the seed sector, and public sector input subsidies (ACB, 2015a). As a result of this, the new Seeds Act of 2003 was enacted, followed by the Seeds Regulations of 2007.

The need for a review of the Seeds Act of 2003 and the Regulations of 2007 has been captured in several government reports. A report conducted in 2014 by the Ministry of Agriculture cited the main objective of the review-to have a better and sound legal framework which necessitate for the development of the seed industry, defend the interest of both parties and respond to international, regional procedures for seed regulation. The review is to be done taking into consideration outdated provisions, gaps, and inconsistent provisions, related legislation such as the Plant Protection Act and Plant Breeders Act; regional and international instruments Tanzania is signatory to and legal and institutional framework of the seed industry in Tanzania. A first revision of the Seeds Act of 2003 was conducted in 2014. The Miscellaneous Amendments were published in the Gazette of

the United Republic of Tanzania (URT) on 16 May 2014 and included changes to six sections: Seed Inspectors, Samplers and Analysts; Engagement in the Seed Activities; Seeds Standards; Compensation for Loss caused by Seed; Registration of Seed Seller; and Substandard Seeds. Further revisions of the Seeds Act were undertaken the following year and incorporated definitions of seed to comply with definitions used by the Organization for Economic Cooperation and Development (OECD), strengthening the mandate of TOSCI, the expansion of the Quality Declared Seed (QDS) system to the district level, and the development of a stakeholders' forum to discuss challenges facing the seed sector.

Despite the existence of policies in the sector relevant to Integrated Landscape Management, SLM, SFM and LDN, the policy environment is still not conducive for the implementation of LDN in Tanzania. Main issues, which are common to most of the countries in the Miombo ecoregion, are: (i) limited cross-sectoral coordination and cross-compliance; (ii) limited implementation and low enforcement of existing policies; (iii) not coordinated legal frameworks for forest management, as well as overlapping mandates between institutions responsible for forest management; (iv) sub-optimal capacity and insufficient human resources, mainly at the district and local levels; (v) insufficient and inadequate financing instruments often supporting maladaptive natural resources management practices.

Institutional framework baseline at national and sub-national level

The institutional framework for sustainable land management and LDN in Tanzania and in the intervention area involves various stakeholders, including line-ministries and their affiliated entities, local authorities, CBOs and associations, academic and research institutes, the private sector, among others, which will all play roles in different capacities towards influencing the success of the envisaged project.

A thorough Stakeholder Mapping Exercise was undertaken during the PPG phase, identifying the key, primary, and secondary stakeholder's vis-à-vis the national LDN agenda in the context of this project in Tanzania (see Section 2. Stakeholders). Below, descriptions of the most relevant institutions supporting the LDN process in Tanzania and key for the successful implementation of the project are provided, while others who will make some contributions to the successful implementation of this project are presented in in the Prodoc under ANNEX I2 : STAKEHOLDER ENGAGEMENT MATRIX AND GRIEVANCE REDRESS MECHANISM.

Under the LDN-TSP process, a multi-stakeholder coordination body was established to provide guidance and oversight in setting-up the 2030 national voluntary LDN targets, the 2018 National working group (NWG). It comprised 24 members, including from national authorities and Ministries (e.g. Ministry of Finance; National Bureau of Statistics; National Land Use Planning Commission; Ministry of Livestock and Fisheries Development; Ministry of Agriculture); academic and research institutions (e.g. University of Dar Es Salaam-UDSM; World Agroforestry Center-ICRAF; National Soil Service of the Agricultural Research Institute; Sokoine University; National Carbon Monitoring Center; Tanzania Agricultural Research Institute-TARI); and others (e.g. Tanzania Forest Conservation Group; World Bank; FAO; environment journalist)[30]. This body provides an institutional framework for national and international cooperation and for promoting vertical and horizontal information sharing and cross sector decision-making processes for LDN in the targeted area. However, it did operate within the TSP process only and is not active anymore.

The **Vice President's Office Division of Environment (VPO- DoE)** led the LDN-TSP process. Its main functions include the formulation of policy on environment, coordination and monitoring of environmental issues, and environmental planning. It plays an important role in overseeing all matters related to land degradation, ensuring they are well

addressed by the implementing organs such as the Local Government Authority (LGA). The VPO has the overall mandate of coordinating land degradation and SLM related activities, and has focal points dedicated to different frameworks in SLM. The UNCCD Focal Point is the VPO-DoE.

Land Administration in Tanzania operates under a duality system centralized at the Ministry of Lands, Housing and Human Settlements Development, and in District Land Offices that are under the President's Office, Regional Administration and Local Government (PO-RALG). PO-RALG provides technical leadership and national implementation. Land allocation, registration, mapping and land use planning is under the **Ministry of Lands and Human Settlements Development**. It has a number of agencies dealing with these issues, including the **National Land Use Planning Commission (NLUPC)** and the **National Technical Committee on Land Use Planning (NTCLUP)**. The NLUPC's main purpose is to have sustainable land management systems which address issues of land degradation and land use conflict in order to maintain peace and harmony. This is achieved through coordinated participation of all stakeholders in land resource management at all levels such as national sectors (ministries), NGOs, regions, districts, and villages. NLUPC contributes towards issuing participatory land use planning guidelines (known as PLUM Guidelines), coordination of, and capacity-building towards land use planning at local level. Its role is therefore central to the LDN process in Tanzania, and the development of Village Land Use Plans in a participatory way. The NTCLUP, on the other hand, is composed of 15 members representing different sectors and drawn from Ministries, Departments and Agencies, and NGOs. It is legally established under the Land Use Planning Act (2007) and is tasked to provide technical advice to the National Land Use Planning Commission (NLUPC) on matters related to land use planning. It was re-launched and capacitated in 2018.

Forestry and SFM are overseen by the **Ministry of Natural Resources and Tourism (MNRT**). While it was not represented in the LDN NWG, its different agencies have mandates which are highly relevant to LDN. This includes, in particular, the Forest and Beekeeping Division (**FBD -** development of the forest policy, laws and regulations and overseeing their implementation in the sector), Tanzania Forest Service (**TFS**), and Tanzania Forest Research Institute (**TAFORI**). **TFS** was established through the Executive Agencies Act Cap 245. The Agency is mandated to manage national forest and bee reserves, forests on general land and tree seed production[31][32]. TFS is able to generate and retain income from management of government reserves. Its remit includes also improving the protection capacity of local (village) forest managers under CBFM. In practice, staffing levels are low and budgets are very constrained.

Other line ministries playing a role in the LDN process include the Ministry of Agriculture and its divisions (Agricultural Land Use Planning and Management Division, Extension Services and Research Section, Agricultural Seed Agency (ASA)) and the Ministry of Livestock and Fisheries Development.

At the sub-national level, Local Government Authorities (LGA) are responsible for service delivery concerning agriculture and natural resource sectors. Funding is provided directly from the Central Government and LGAs by the Ministry of Finance and Planning (MFP). The Regional Administrative Secretariats that operate under the PO-RALG, overseen the LGA's activities providing supervision and administrative instructions. The Sector Coordination Division (DSC) under the PO-RALG plays critical interfaces with Central and Sector Ministries, Departments and Agencies, Non-State Actors (NSAs), Regional Secretariats (RSs) and Local Government Authorities (LGAs). However, the capacity of the LGAs to offer these services is severely limited by human capital (number of people, motivation and skills). It is in agriculture and livestock that the LGAs tend to have a relatively large number of extension workers, and most villages have one. However, even one extension worker per village is not enough given the large sizes of the

villages. On the other hand, the government policy is that LGA role should be to create an enabling environment for other actors. It makes a lot of sense for the LGAs staff to focus mostly on creating an enabling environment for engaging with the civil society and the private sector to deliver the services to the community.

The Village Assembly is the main decision-making and approval institution at the village level and identifies, through participatory ways, issues and problems which are of priority for the village community.

The Village Council has the executive powers and responsibilities for land-use planning and may have to delegate some of its tasks concerning land matters to the Village Land Use Management (VLUM) committee. **The VLUM committee** works together with the Participatory Land Use Management (PLUM) team and receives on-the-job training to become sufficiently experienced to carry out the required tasks during and after the presence of the PLUM team members in the village during VLUP development. The VLUM committee can also be assigned to become the Village Adjudication Committee (Section 53 Village Land Act).

Village Natural Resources Committees (VNRC - also sometimes referred as village environment and forest committees): Established under the Village Council, to whom they are accountable, these committees are in charge of managing Village Land Forest Reserves (VLFR) under CBFM approaches. A village council may reserve common land within the village land as a VLFR for purposes of forest management. The village council owns and manages the trees through a VNRC, a group or an individual, and most of the costs and benefits of managing and utilizing forest resources are carried by the owner. Central government has a minimal role in the management of VLFRs, and district councils are responsible for their planning and establishment, as well as for undertaking occasional monitoring. To declare a VLFR, the village prepares a management plan, which must be approved by the village assembly. In fact, the first step to establishing and declaring VLFR is to create a VNRC. Villages can make bylaws to support the management plan and provide the legal basis for enforcing forest management rules [33]. Indeed, often VNRC patrol guards will be found on weekly patrols of VLFR to enforce those rules[34].

Most farmer associations are rather informal groups with limited activities and weak leadership, and the majority of them has been established with the support of NGOs (for example, Oxfam) in recent years. Most farmer groups and other cooperatives do not have collaterals as preliminary condition and they are not registered.

Finally, various (cross-sectoral) projects and programs current being implemented by the (national/local) government and private sector compose the baseline for this project, to the extent that they are well aligned with the project’s objective and can provide a platform for collaboration, technical integration and co-financing. The most relevant are as follows:

By complementing and influencing the baseline, the project will essentially support the government in achieving the defined LDN targets that have high level political support, multi-sectoral interest and commitment which is evident through the contributions of various stakeholders in both the PIF development and subsequently in the PPG phase.

Table 6. Baseline Finance: List With Descriptions and Co-Financing from the Baseline ($M)

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Co-financing from baseline $M
1	Ministry of Agriculture	Backstopping and coordination of climate smart agriculture, sustainable land management and farmer field school activities	The Ministry of Agriculture oversees and provide technical guidance for all activities related to CSA, SLM and FFS (extension services) in Tanzania. The technical staff of the Ministry will provide technical backstopping and coordination for these activities. The GEF project will assist in training communities on SLM good practices and in the development of sustainable and inclusive value chains that will complement the Ministry of agriculture technical work. It will help disseminate SLM good practices, as well as CSA activities and will help strengthen FFS structure in Tanzania. In the meantime, the Ministry of Agriculture technical assistance as well as additional investments, through the Agricultural Sector Development Program phase II (ASDPII) for instance, will be channeled to scale-out integrated SLM and SFM results obtained by the DSL IP child project.	2021 - 2025	2	0,521

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Co-financing from baseline $M
2	Water Sector / Ministry of water	Water catchment management and conservation	In the two targeted landscape, the Ministry of water will develop and implement water catchment and conservation activities, establishing Catchment Water Committee (CWC), Sub-catchment water Committees (SCWs), and Water user associations (WUA). It will also monitor the water resources at the catchment level and will share the knowledge and information. The project will use this data produced and would work with the established WUA for the crop-diversification efforts (seed banks, nurseries and on-farm irrigation) and will complement by promoting an integrated approach to SLM and SFM. Specifically, under component 1, the Ministry of water will: - Establish CWC, SCW and WUA and capacitate them to be effectively operating in the sub-basin - Establish a comprehensive data base on water resources and in a form that is accessible to all that need it to facilitate sustainable management of the sub-basin's water resources - Develop a forum for stakeholders discussion on critical issues and suggest solutions in the sub-basin Under Component 2, the Ministry of water will: - Develop and implement catchment management and conservation/amelioration plans for degraded catchments in the Ugalla sub-basin that consider both development and environmental objectives - Implement effective riparian buffers for ecosystems and water resources protection - Implement water resources Monitoring and Assessment program in order to ensure availability and reliable water resource data and information Under component 3, the Ministry of water will: - Raise awareness of civil society organizations and local communities, non-government organization, parliamentarians and media organizations about conservation, utilization and protection of natural resources (including their rights and responsibilities) in the sub-basin - Promote Integrated water management and environmental conservation in Katuma Catchment (Mlele District Council) - Implement effective riparian buffers for ecosystems and water resources protection (environmental flow assessment and monitoring program)	2021-2025	1, 2, 3 and PMC	1

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Co-financing from baseline $M
3	TFS	Regular operating budget in the Southern Highland and Western Zones; Source: Tanzania Forest Service	TFS Southern Highland and Western Zones cover the target landscape. TFS' functions are (i) Establishing and managing national natural forest and bee reserves;(ii) Establishing and managing national forest plantations and apiaries; (iii) Managing forest and bee resources in general land; (iv) Enforcing forest and beekeeping legislation; (v) Providing forest and beekeeping extension services (Past budget over the last five years for the 2 zonal offices was up to : US$ 17,566,000 in the targeted area). Although TFS zonal offices are promoting land use planning on villages surrounding natural forest reserves, one of the challenge TFS is facing fragmented institutional arrangements between central and local government authorities in forest management, and forest management not being fully integrated with other sectors in landscape planning and management. The GEF project will bring together local stakeholders together with TFS for integrated landscape planning, going beyond administrative and sectoral / mandate boundaries, promoting LDN at the Miombo landscape level. The project will also support TFS in overcoming the challenges associated to the limited supply of quality tree seed and other propagating materials, as well as strengthening the NTFP value chains (including honey), and institutional capacity building and legal and policy framework strengthening for LDN.	2021-2025	1, 2, 3 and PMC	20,74
4	Vice President Office	UNCCD National focal point and LDN process coordination	VPO-DoE will play a central role in LDN process coordination and will provide overall policy guidance and technical guidelines. As National Focal Point of the United Nations Convention to Combat Desertification (UNCCD), it will be supervising the implementation of the Land Degradation Neutral Targets for Tanzania.	2021-2025	1 and 3	0,306

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Co-financing from baseline $M
5	FAO FFF	Forest and Farm Facility Phase II. Climate resilient landscapes and improved livelihoods – expanding the work in Africa	The Forest and Farm Facility (FFF) is a multi-donor funded project housed within the Forestry Department at FAO and implemented in partnership with the International Institute for Environment and Development (IIED), the International Union for Conservation of Nature (IUCN) and AgriCord. It seeks to ensure Climate Resilient Landscapes and Improved livelihoods in partner countries by strengthening the role of Forest and Farm Producer Organizations (FFPOS) as primary agents of change. The Forest and Farm Facility seeks to address four primary challenges: i) policies and their implementation do not always address rural realities for forest and farm producers and their organizations (FFPOs); ii) existing value chains and market systems do not optimize returns for forest and farm producers. In Tanzania, the FFF support will help MVIWATA (National Networks of Farmers Group in Tanzania) and Tanzania Tree Growers Associations Union (TTGAU) in reaching farmers and provide technical support in production, access to market and finance. FFF will complement the DSL-IP by: 1. Supporting the establishment of the Forest Farm Producer Organizations (FFPOs) in Kaliua District Council, Tabora Region and Mlele District Council, Katavi Region in collaboration with MVIWATA and TTGAU (Apex FFPOs), 2. Conducting capacity training to the FFPOs , 3. Supporting development of the bankable proposal for FFPOs and supporting them with startup capital to 2 FFPOs in Kaliua District Council, Tabora Region and Mlele District Council, Katavi Region, and 4. Supporting establishment of woodlots into farm plots	July 2021 – June 2022	1 and 2	0,918
6	LGAs	Mlele District council	Extension services provided by District extension teams, both on farming and	2021-2025	1 &2	0,380

#	Acronym	Baseline Project / Program / Initiative	Objective / Focus Area / Relevance to the Project	Duration	Relevance for the project's Comp.	Co-financing from baseline $M
7	LGA	Kaliua District Council	forestry aspects Support to VLUP development process LGA will make their staff available to accompany the project interventions, provide agricultural and forestry advice (extension services) and guide land use planning. In return, the project will strengthen the technical capacities of the agents (FFS training of master trainers and facilitators, establishment of FFS), promote the cross-sectoral approach to planning and support land use planning that crosses administrative and sectoral/mandate boundaries, and support priority value chains.	2021-2025	1 &2	To be determined during project implementation

Remaining Barriers to be addressed

Under the Current 'Baseline Scenario', land degradation in Miombo woodlands of Tanzania, including deforestation and the reduction of land productivity, will continue to be addressed in isolation by different sectors and associated investments, despite a strong commitment from the government and partners towards supporting SLM-SFM actions. The risk of overlap and use of maladapted practices will remain, with limited opportunities for knowledge sharing, synergy and complementarity. Without a comprehensive, integrated approach that involves all sectors that contribute to the degradation of the targeted landscape, efforts to reduce degradation will not succeed and food insecurity will increase.

Nine main barriers stand in the way of realizing the long-term goals outlined in government policies that relate to SLM and SFM, and which could potentially generate both national and global environmental benefits for ecosystem services from drylands.

Component 1:

Barrier #1

Sub-optimal institutional capacity, governance mechanisms and tools and approaches for an informed and cross-sectoral approach to implement LDN in the target landscapes

Despite the progress made at different levels to increase the institutional capacity for LDN (LDN TSP, LDN working group), there remains limited institutional capacity for cross-sectoral management planning as well as still "fragile" institutional frameworks and mechanisms established under the LDN TSP, and limited technical capacity and tools to prioritize interventions for SLM and SFM. This was highlighted during the capacity assessment conducted during the PPG. This is well illustrated by the re-launching of the National Technical Committee on Land Use Planning (NTLUPC) in 2018, which had previously not convened since 2010, owing largely to financial constraints and coordination challenges[35]. Similarly, while there exists a national LDN working group established as part of the national LDN target setting process (LDN TSP), it has not functioned in this capacity following the completion of the LDN TSP. It would therefore need to go through a re-launching/reactivating process to oversee and guide sub-national implementation of activities contributing to achieving national LDN targets. Furthermore, while this group is composed of 24 members, essentially from central level institutions, the LDN NWG is lacking the representation of local actors/stakeholders as well as a methodical and bottom up approach for informed decision making on most suitable SLM/SFM interventions. This is thereby preventing efficient and informed planning towards meeting national targets and international commitments including LDN.

The overall legislative framework for LDN in Tanzania remains complex, fragmented, and therefore contains key inconsistencies. The provisions for SLM and SFM are found in the various sector policies and in both principal and subsidiary legislation regulating resources such as land, forests and the general environment (see relevant laws and policies mentioned above in the legal and policy framework section). A recent analysis identified the potential areas of conflict in the legislation governing natural resources and environment which have implications for sustainable forest management, in particular in provisions of the Forest Act, Village Land Act and the Local Government (District Authorities) Act[36]. These inconsistencies can induce conflicts and insecurities over land tenure, especially in rural areas. For example, the Land Act of 1999 and the Village Land Act of 1999 have conflicting definitions of general land, whereby the Land Act of 1999 tries to make unused or unoccupied village lands part of the general land, which is not the case under the Village Land Act. Secondly, unlike the Village Land Act, the Forest Act's process on how the declared village land forest reserve could be registered and gazetted by the Director interferes with the general powers of the villagers to manage their own land.

At the district level, institutions having mandates relating to natural resources management continue to work in silos, and interventions remain uncoordinated with central government institutions such as TFS. A striking example is the limited capacity within TFS to address some of key drivers of forest degradation (e.g. poverty, lack of alternative livelihoods), as their work continues to focus directly on forests rather than taking a systemic approach and addressing the following drivers of forest degradation (see LD section above) in an integrated manner: i) unsustainable extraction of forest and non-forest (timber) products; ii) unsustainable agricultural activities and low adoption of improved management practices; iii) overgrazing; iv) lack of alternative livelihoods.

There is also low awareness, both at the individual and institutional levels, of overall ecosystem functioning, and the value of ecosystem services, in support of LDN governance mechanisms. Moreover, there is little knowledge regarding the identification and/or implementation of relevant solutions, legislative frameworks applicable to the local context, environmental legal rights and responsibilities, and associated consequences. Accountability for environmental degradation at the individual level is therefore low in the target landscape. For instance, most charcoal and timber are harvested and traded illegally without paying the required fees, with tax evasion in the charcoal sub-sector very high nationally, including in the Tabora and Katavi regions (37). In practice, the DFO and DFM under TFS and District Council respectively have a duty to collect all revenue from fees, royalties and licenses charged. In addition, charcoal harvesters are required to pay 5% of the royalty paid as a contribution to tree planting, administered by Tanzania Forest Fund. Other fees are payable on services such as transit pass and registration. This is affecting overall revenue which would normally be used to support SLM/SFM activities in the landscape.

Barrier #2

Non-integrated policy and strategies framework not supportive of LDN

The current policy framework in Tanzania does not effectively support LDN, as it remains siloed and lacks key components. Three strategic areas of particular importance to achieve LDN in the landscape, within the objective of this project, were identified in the PPG phase, namely: the need for a national tree seed strategy, revised livestock development strategy and action plan, and revised PFM guidelines.

A central shortfall in the policy / strategy framework is the inexistence of an adapted National Tree Seed strategy in Tanzania. Tree seeds, which are essential to address diversification, restoration, and agroforestry needs/efforts, are not considered in the national seed policies. Discussions are ongoing at the national level to explore whether there is a need to develop a National Tree Seed policy or revise the National Seed Act to include tree related issues in the Act. Indeed, national priorities in terms of tree seeds are set by TFS, through the Directorate of Tree Seed Production, which has been mandated to provide high quality tree seeds and propagation materials. However, current seed production is prioritized based on demand, so no priority is currently given to indigenous species. Moreover, specialized knowledge is required for the production of high quality indigenous tree seeds (e.g. handling, pre-germination, treatment, and nursery production), as they are sometimes more difficult to reproduce than other commercial species, and require specific biophysical conditions for success. There are currently four tree seed/seedlings production centers in Tanzania: Morogoro, Iringa, Shinyanga and Tanga. None of them are located in the Miombo forest landscape.

These factors are all contributing to limiting access to indigenous tree seedlings to assist in conservation and reforestation, as well as for productive purposes, within the landscape. In fact, lack of seeds of desired species remains one of the major constraints experienced by nursery operators in Tanzania[38]. As part of the development of its strategic plan 2020/2021 – 2024/2025, TFS identified the limited supply of quality tree seed and other propagating materials as one of the 18 issues the institution was facing. One of the key targets of TFS is to establish a gene bank of native tree species by June 2025 [39]. Similarly, it aims to have three tree seed banks by 2029, compared to one in 2019.

Participatory Forest Management (PFM) strategies aim at the objective of managing forest resources through Joint Forest Management (JFM) and Community Based Forest Management (CBFM). The legal basis for sharing of forest management benefits from CBFM differs markedly from that of JFM. With respect to CBFM, the Village Land Act No. 5 (1999), the Local Government Act No.7 (1982) and the Forest Act No. 14 (2002) provide the legal basis for villages to own and manage forest resources on village land in ways that are both sustainable and profitable. The Forest Act further provides tangible incentives to rural communities to “reserve” large areas of unprotected miombo woodlands. As a result of these deliberate policy incentives, demand for CBFM appears to be growing and has now surpassed JFM in terms of both area and number of participating communities. For JFM the legal status regarding the sharing of costs and benefits is less clear. Section 16 of the Forest Act (2002) states that a Joint Management Agreement (JMA) for the management of a forest may be made between various parties such as the Director of Forestry (for NFRs) or District Council (for LAFRs) and a local community (a village government). The Act, however, provides no guidance on how the benefits arising from forest management under JFM are to be shared or the preferred mechanism for doing so. The result of this policy omission has meant that the progress of negotiating and signing JMAs has slowed and currently the MNRT is reluctant to move forward with approving further agreements until this issue is resolved and formal guidelines issued.

Component 2:

Barrier #3

Land-use planning limited to administrative boundaries

When it comes to land use planning, progress is being made to develop integrated and participatory approaches, notably for VLUP. Specific guidelines on this approach have been developed and updated in 2011 (i.e. Guidelines for Participatory Village land Use Planning). While multispectral in nature, the approaches to land use planning currently being implemented generally remain confined to administrative boundaries, most often at the village levels, and may prevent an integrated landscape approach. Integrated spatial planning at the landscape level is therefore non-existent, and land use planning remains fragmented and inconsistent across the landscape. There are few examples of joint village land use planning done recently, and this remains at an experimentation stage, and lessons from these experiences need to be assessed and considered in future planning activities.

Barrier #4

Inadequate empowerment of land use planning processes

Land tenure and property rights are major causes of deforestation all over the world. In fact, it is widely recognized that individuals who have clear rights to their land are more likely to engage in SLM and SFM, and therefore less likely to contribute to deforestation[40]. This is an issue in the landscape, in particular associated with in-migration for economic reasons, but also due to some inconsistencies in the legal framework (see above). Issues with land tenure and inadequate empowerment of land use planning processes can lead to conflicts, and impede the implementation of sustainable forest management. For instance, the UNDP project "Mainstreaming Sustainable Forest Management in the Miombo Woodlands of Western Tanzania", which intervenes in parts of the same landscape as this project, identified two types of conflicts associated with land tenure in the landscape: conflicts over harvesting of forest resources and boundary conflicts [41]. The main implications of these conflicts were found to be: delays in the implementation of the planned activities including development of the VLUP, forest boundary surveys or marking, and unsustainable utilization of forest resources. One of the key issues identified in the new TFS strategic plan 2020/2021 – 2024/2025 is related to persistent forest land use conflicts and encroachment.

In addition to issues related to conflicts, inadequate empowerment of land use planning processes has significant implications for gender equality. Lack of secure tenure puts women at risk of losing access to important resources, as well as access to benefits such as payments for environmental services carried out on their land. The Land Act of 1999 and the Village Land Act of 1999 provide for complete gender equality in ownership, access and control over land. The legal framework for land rights also provides for women's representation in governing bodies. For instance, section 60 of the Village Land Act provides for women to be involved in decisions regarding the use and disposal of village land through equitable representation in the village land council. In addition, the National Forest Policy gives a statement on general land tenure

and forest land rights to be institutionalized for both men and women in local communities – therefore women need to have clear ownership rights to forest and forest land, as well as effective socio-economic participation in forest management. However, the low awareness of these national statutory tenure laws hinders their enforcement as well as women's access to justice, favouring the application of customary laws, which frequently do not allow for women to own land and assets. The view that women cannot inherit clan land is still very strong.

Barrier #5

Suboptimal application of the PFM approach

Participatory Forest Management (PFM) has been accorded high priority both in the National Forest Policy and the National Forest Programme (NFP), and legal and institutional frameworks for supporting PFM implementation are also in place[42]. Yet, despite its central importance and long-time existence, PFM managed forests represent only about 16% of forests in the country, demonstrating the low pace at which PFM projects are being established and needs to be enhanced[43]. The SHARP survey illustrates this issue, as only a low percentage of households surveyed have access to communal forests (Tabora Region, 12% and 7% of households in Katavi Region). The coverage of PFM is limited due to inadequate capacity of local and government institutions in terms of financial and human resources. PFM is also facing challenges such as inadequate land use plans in villages surrounding the forests; conflicting interests among stakeholders on the use of forest-based resources; and inadequate incentives for communities to participate in forest resources management[10]. Under CBFM, villagers take full ownership and management responsibility for an area of forest as a VLFR. Following this legal transfer of rights and responsibilities from central to village government, villagers may harvest timber and forest products, collect and retain forest royalties, and undertake patrols. They are exempt from local government taxes (known as 'cess') on forest products and from regulations regarding 'reserved tree' species and they are not obliged to remit any royalties to government. There is some concern that this has resulted in a lowering of CBFM on Village Lands as a priority from the central government. Since 2010, TFS is responsible, through its District-based staff, for all forestry activities at District-level. TFS remit includes improving the protection capacity of local (village) forest managers under CBFM. In practice, TFS staffing levels are low and budgets are very constrained.

The PFM (JFM and CBFM) approach, as opposed to traditional policing approaches to enforcement of environmental laws, has the potential to enhance compliance to the existing and revised legal frameworks, and make significant contributions to reducing rates of deforestation. Moreover, PFM has been undertaken in a range of forest types, such as National Forest Reserves, Local Authority Forest Reserves (and in some cases, private forests), as well as supporting the establishment of forest reserves on village land (such as Village Land Forest Reserves and Community Forest Reserves)[45], indicating its wide range of applicability. Evidence[46] shows that, when well facilitated, CBFM leads to recovery and maintenance of forest quality. This, in turn, leads to improvements in water discharge and quality from managed areas, increased natural regeneration of degraded areas, reduced incidence of fire, reduction in agricultural encroachment and increased biodiversity.

Establishing community, private and village forest reserves and assisting village governments to mobilize more villagers and other stakeholders to engage in PFM are priorities set-up in the national 2018/19-2028/29 forest management and conservation strategy.

Barrier #6

Limited access to evidence-based knowledge on good management practices, to technical support, to market and business opportunities

The constraints to SLM and SFM at the district and village levels are diverse, and include amongst others: limited access to affordable finance, poor rural infrastructure, low levels of organization of producers, and limited access to/knowledge on modern techniques and technologies for production and post-production/marketing.

Farmers have low access to evidence-based knowledge on good management practices. Participatory rural extension services are generally done by ward and village extension officers who are supervised by the District Agricultural Officers, yet there is a notable gap in terms of the extension officers to farmers ratio in the targeted landscape. For example, at Kaliua District Council the ratio is of 1: 10,021, while the national standard is meant to be 1: 1000. Moreover, when extension services are provided, they are often siloed (e.g. agriculture, forest, rangeland). Therefore, farmers and forest users do not have access to: a) systemic information on what the key/major challenges are regarding land degradation; b) have limited access to appropriate SLM and SFM approaches which need to tested to ensure social acceptability; and c) have limited access to post-production/marketing knowledge (as noted above). Agro-pastoral field schools / Farmer field schools (APFS/FFS) approaches which could close this gap (bottom up, integrated, combining agriculture/forest/rangeland aspects) to address land degradation, yet remain limited in the landscape.

The low access to markets reduces potential household incomes, is a key barrier to the adoption to SLM practices and exacerbates pressures on land and forest resources. APFS/FFS approaches, which focus on producer organization and support access to markets, are not sufficiently accessible to meet the local needs. Hence, markets for agricultural products, as well as NTFPs, are still poorly developed in the landscape. The SHARP survey illustrates this issue, reporting that the main purpose of agricultural production of households is for subsistence (88%), and only a few households are selling products at local markets (10%), while a mere 2% is fully commercialized. Importantly, though, those who do have sufficient production to sell on markets are struggling to do so. Very few respondents were able to sell most of their products from their farm over the previous 12 months. Overall, 30% of respondents did not sell any product, 65% sold a few products, and only 6% sold most of the products they wanted. Most people are still selling primarily to family, neighbors, and local markets.

The Agricultural Sector Development Plan –II notes that most of the agricultural products fetch low market prices due to low quality resulting from low adoption of improved technology including improved variety (e.g. about 30% of crops in the intervention area), nutrients (fertilizer), pest management, and under recognition of market requirements. Low production levels; weak mechanism for accreditation, testing, quality monitoring, grades and standards of agricultural products; and low levels

of producer organization also significantly affects the price determination by middle-men at the farm gate. Indeed, on the latter, low membership to FFPOs means producers have a limited say in trade negotiations – without the scale and bargaining power to get fair prices.

Moreover, value addition through processing is also noted to be relatively weak especially in rural areas where most of agriculture production occurs. This problem is compounded by inadequate availability of rural roads, electrification, water, communication, rural finance and market infrastructure. In fact, most farmers are unable to get loans or credits from credible institutions like banks because of lack of legitimate collaterals like houses and farms with title deeds or because they are located far away from towns.

Component 3:

Barrier #7

Absence of harmonized approach to monitor, evaluate and report on progress towards national LDN targets

There are currently no harmonized approach and mechanisms at the national level to monitor, evaluate and report on progress towards national LDN targets. Roles and responsibilities of the different stakeholders at both national and local levels, are not clearly defined. Monitoring, evaluating and reporting mechanisms on LDN targets, as well as the flow of information / data between the stakeholders, are not defined.

Barrier #8

Sub-optimal information exchange and opportunities for learning on best practice for SLM/SFM to guide decision-making

Tools and mechanisms to disseminate/share knowledge, lessons learned and best practices in sustainable dryland management and best practices for SLM/SFM to guide decision making, including land-use planning are not available. Furthermore, opportunities for learning are rare.

Barrier #9

Sub-optimal coordination between countries to address transboundary issues

The lack of regional level M&E means that there is always a possibility that interventions in one country could lead to leakage to another region, without those linkages ever being determined and addressed.

Moreover, interventions are often project-based and attempts at upscaling and replication are hindered by limited learning opportunities and capacities, thereby reducing the effectiveness and impact of interventions. Opportunities for exchange within and between regions are difficult to come by, and access to specialized technical assistance to address issues of land degradation across the landscape remains limited. Finally, global platforms and partnerships are not yet used strategically to learn from (and share) international experiences and best practices in dryland management.

c) The proposed alternative scenario with a brief description of expected outcomes and components of the project

Miombo/Mopane cluster – a harmonized approach

The Tanzania child project is part of *a joint submission* of six Southern African countries under the GEF SFM DSL IP pursuing the same overall goal: *to support a transformational shift towards a sustainable and integrated management of multi-use dryland landscapes of the Miombo and Mopane ecoregion*s.

Project Theory of Change

This section presents the project's Theory of Change (ToC), which sets out the project's causal logic and relationships between the project's outputs (goods and services delivered by the project) and immediate project outcomes (changes resulting from the use of project outputs by key stakeholders), medium and longer-term changes and states, and the project's ultimate desired impact (fundamental, durable changes in environmental and social benefits).

As described above, the central problem the project seeks to address is the increasing degradation of natural resources and ecosystems in the productive Miombo landscapes of Katavi Region and Tabora Region in South West Tanzania. This is causing the loss of dryland productivity, ecosystems goods and services, and global environmental values, which undermines livelihoods, food security and the potential for sustainable economic development for farm, forest and rangeland users, and leads to biodiversity loss, and further increases vulnerability to climate change. The main causes and drivers of this degradation are detailed in the section above but include: agricultural expansion and forest fragmentation; unsustainable agricultural activities and low adoption of improved management practices; unsustainable forest management and unsustainable extraction of forest products; high reliance on Miombo wood for energy and construction and wildfires; with the threats exacerbated by climate change impacts.

The project seeks to halt and reverse negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach (project objective). Specifically, the project aims to overcome the following nine barriers acting against the achievement of LDN, and thereby address the threats to the Miombo woodlands in the targeted landscapes:

1. Sub-optimal institutional capacity, governance mechanisms and tools and approaches for an informed and cross-sectoral approach to implement LDN in the target landscapes

2. Non-integrated policy and strategies framework not supportive of LDN

3. Land-use planning limited to administrative boundaries

4. Inadequate empowerment of land use planning processes

5. Sub-optimal application of the PFM approach

6. Limited access to evidence-based knowledge on good management practices, to technical support, to market and business opportunities

7. Absence of harmonized approach to monitor, evaluate and report on progress towards national LDN targets

8. Sub-optimal information exchange and opportunities for learning on best practice for SLM/SFM to guide decision-making

9. Sub-optimal coordination between countries to address transboundary issues

It aims to achieve this through three interlinked approaches/strategies. Each of these is reflected in a specific project Component ('areas of action') comprising sets of project activities and outputs that will deliver the immediate project outcomes (given below), and which mirror the main components of the overall DSL IP. The project also will contribute to wider development objectives and socio-economic and cultural co-benefits (e.g. support to diversified and resilient livelihoods; empowerment and access to farm, forest and rangeland resources by dryland communities; reduced vulnerability to economic and environmental shocks and built resilience to climate change, with improved food and income security for dryland communities, especially women; capitalisation on traditional knowledge; and contribution to SDGs).

The project design closely followed the LDN-CF (and to a certain extent the RAPTA framework) with corresponding STAP guidance.

Component 1 will address Barriers 1 and 2 by strengthening the enabling environment for the sustainable management of the targeted dry Miombo woodlands. It will achieve this through reactivating the cross-sectoral LDN national working group and establishing a Miombo landscape level technical working group, strengthening knowledge on the values of Miombo woodland's ecosystem services, and reviewing strategies, plans and other sectoral frameworks and clarifying / developing by-laws. Component 1 has one immediate project outcome:

- Ø Outcome 1.1: Strengthened LDN cross-sectoral decision support system and framework for the management of the targeted drylands

Component 2 will address Barriers 3, 4, 5 and 6 by first promoting participatory land use planning, mainstreaming SLM & SFM into development plans and forest management plans, and improving land use planning processes. It will further promote integrated and participatory forest management. The project will also put in place extension structures to provide training and support for the adoption of SLM and SFM practices to increase resilience and achieve LDN. It will support the strengthening/establishment of CSBs to increase access to adapted and diversified seeds/seedlings. Sustainable value chains based on SLM and SFM will thereafter be strengthened to provide sustainable and diversified sources of income for farm, forest and rangeland users. Component 2 has three immediate project outcomes:

- Ø Outcome 2.1: LDN objectives mainstreamed into gender sensitive development plans
- Ø Outcome 2.2: Wide uptake and application of SLM/SFM practices in target landscapes following priorities actions of the VLUPs and FMP
- Ø Outcome 2.3: Key green value chains and associated finance and business incubation strengthened or established

Component 3 will address Barriers 7, 8 and 9 through creating a supportive environment for LDN assessment, monitoring and reporting at national and landscape levels, supporting transboundary collaboration to address common land and natural resource degradation drivers, and increasing opportunities for knowledge exchange and experience sharing on SLM, SFM and LDN at national, regional and global levels for an holistic approach to combating land degradation in Miombo and Mopane ecoregion. Component 3 has three immediate project outcome:

- Ø Outcome 3.1: National LDN assessment, monitoring and reporting framework strengthened to inform LDN-related policy, planning, management and decision-making at national and global levels
- Ø Outcome 3.2: Knowledge and awareness to support progress towards achieving national LDN targets enhanced
- Ø Outcome 3.3: National and sub-national measures to deliver LDN enhanced through improved regional and global opportunities for collaboration, exchange and learning lessons

Several of the project Outcomes interlink and work together or are dependent on the progress and results of others (the key relationships between the main elements in the Theory of Change are indicated by arrows in the ToC graphic below). For instance, Component 1 Outcome 1.1 will strengthen cross-sectoral and multi-level LDN policies, regulations and incentives that will support the development of the VLUPs under Outcome 2.1. The review of strategies and plans under Outcome 1.1 (Output 1.1.3) will be informed by the on-the-ground interventions under Outcomes 2.2 and 2.3. The selection of the sustainable value chains to be strengthened under Outcome 2.3 will depend on the SLM and SFM practices selected and disseminated under Outcome 2.2, and in return, the financial benefits raised under Outcome 2.3 will have a significant impact on the outscaling of SLM and SFM interventions under Outcome 2.2. Similarly, there is a strong mutual connection between Components 1 and 2 and Component 3 (indicated by hatched boxes and two-way

arrow in the ToC below), where results and experiences from the first two Components contribute to building the national knowledge base on LDN under Component 3, while guidance on improved practices and lessons learned identified by the project and gathered from the wider Drylands IP community under Component 3 are fed back into improving policies, regulations, financing and practices to address SLM/SFM and LDN under Components 1 and 2.

Together the seven Outcomes will contribute to the project objective to halt and reverse negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach. Apart from national gains, delivery of project outcomes will also improve regional decision-making, collaboration and partnerships across the Miombo and Mopane ecoregion (represented by the separate right-hand causal pathway in the ToC below).

However, the project's approaches to securing widespread adoption of SLM/SFM practices in the target landscapes rest on a number of premises, including that: strengthened community structures (FFSs/APFSs, CSBs and FFPOs) can effectively compensate for the limited support provided by government extension services at ward and village levels; the SLM and SFM practices promoted by the project are cost-effective and lead to measurable results on ecosystems productivity, biodiversity, and income generation in a timely manner to facilitate upscaling and outscaling.

Also, the achievement of the project outcomes and progress towards the project objective and longer-term impacts depends on a number of wider assumptions[47] (depicted by an 'A' in the ToC below), operating over different scales and at different points along the causal chains, being met. Assumptions that directly relate to achievement of the project's immediate outcomes are that:

A1 - Sectoral institutions acknowledge the need to strengthen cross-sectoral and regional collaboration, participate (lead) accordingly and provide necessary human resources;

A2 - There is high level policy support to LDN;

A3 - the NLUPC has the capacity to lead the ILMP development process;

A4 - A stable political/global health/market situation allows governments /communities to participate in planning exercises and other project activities;

A5 - District, area and village-level institutions, users' organizations, grassroot organizations, researchers, private sector, and other critical partners willing to join the works;

A6 - Local communities/ CBOs grasp the opportunities offered by SLM/SFM, and effective participatory approaches increase their willingness to engage in making their livelihoods more resilient;

A7 - Stakeholders provide consent for sharing information; and

A8 - Planned regional events are organized.

In addition, operation of the project itself rests on the assumptions that: (i) it can secure the external expertise and technical assistance required for a full and timely implementation of project activities (needed for delivery of all three Components); (ii) there is continued commitment of participating institutions and actors to the project from national to community level during the project lifetime; and (iii) there are no major political changes in Tanzania which ensures that the project's institutional framework can continue to operate and deliver project results. In addition, it is assumed that the six countries in the Miombo-Mopane region are willing to cooperate on and participate in the proposed GCP regional-level activities (under Component 3), and that unexpected events, such as Covid-19 pandemic, do not significantly adversely impact institutional and governance arrangements that prevent the project from proceeding.

If the project outcome-level assumptions (A1-8) are met, then delivery of the three project Components will result in further gains along the pathway to sustainable management of the Miombo-Mopane drylands, represented by four Medium term Outcomes (MTO). These are: (1) a strengthened enabling environment supporting up-scaling and out-scaling of SLM/SFM and achievement of LDN across Tanzania (MTO1); (2) wider and increased application of climate-smart, gender-sensitive SLM/SFM practices across targeted landscapes and beyond (MTO2); (3) increased long-term investment from public and private sectors to support sustainable dryland-based Value Chains and land restoration in targeted landscapes and across Tanzania (MTO3); and (4) improved (more evidenced-based) decision-making, partnerships and collaboration for addressing LDN across the Miombo-Mopane region and globally (MTO4).

Achievement of these longer-term outcomes, which is beyond the immediate influence and accountability of the project (shown as dotted line in Figure below), is subject to further assumptions (A9-A11) and impact drivers (D1-2), namely that:

A9 - Lessons learned and capacitated actors with new knowledge will take forward and institutionalize good practice

A10 - Domestic and international markets for green value chains products are sufficiently developed to provide secured sources of income for local producer organizations and buyer companies adopting sustainable land management practices over the long term

A11 - Land-related conflicts remain at a level where project activities are not threatened

D1 - There is a market demand for sustainable NTFP and crops, including NUS (e.g. through School Feeding Programme)

D2 - International legal obligations and requirements, such as national commitments to the Bonn Convention/AFR100, SDGs, UNCCD, UNFCCC and CBD.

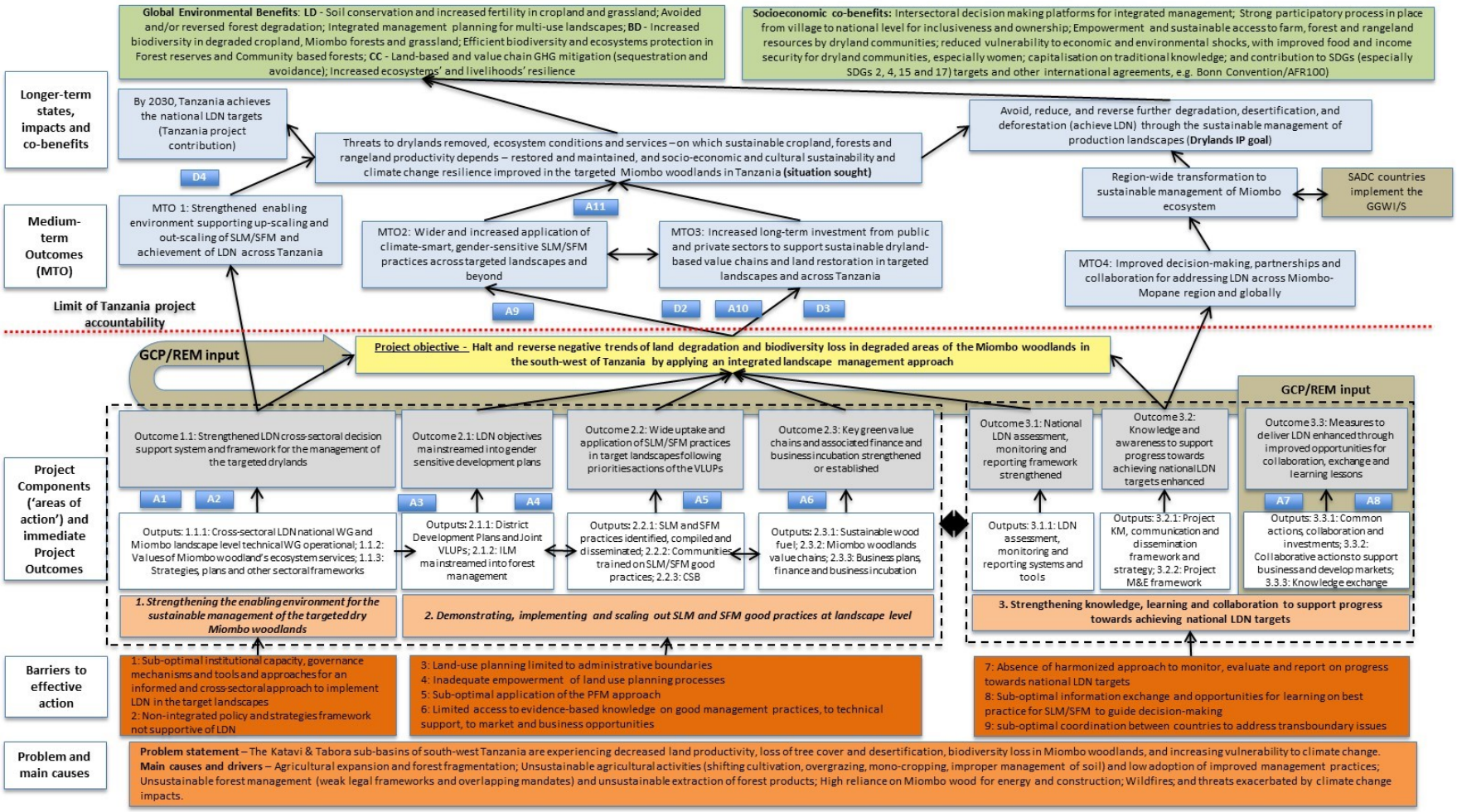
Together with additional external inputs, these would be expected to lead to the long-term 'situation sought' of 'Threats to drylands removed, ecosystem conditions and services - on which sustainable cropland, forests and rangeland productivity depends - restored and maintained, and socio-economic and cultural sustainability and climate change resilience improved in the targeted Miombo woodlands in Tanzania, as well as contributing to the overall goal of the SFM Drylands Sustainable Landscapes Impact Program, which is "to avoid, reduce, and reverse further degradation, desertification, and deforestation of land and ecosystems in drylands through the sustainable management of production landscapes".

Further details of the project Components, outcomes, outputs and associated activities are presented in the following section.

The child project’s causal logic (set out in its TOC), is well aligned with the DSL IP’s objective (components and outcomes) and reflects the programmatic approach that the Miombo/Mopane countries will take, to achieving sustainable integrated management in the targeted landscapes. It provides an integrated approach to tackle the complex drivers of land degradation in the landscape, and address the key barriers preventing the achievement of LDN.

Figure 11. The project’s Theory of Change (TOC)

(Note: The ToC has also been uploaded to the portal in higher resolution)


Global Environmental Benefits: LD - Soil conservation and increased fertility in cropland and grassland; Avoided and/or reversed forest degradation; Integrated management planning for multi-use landscapes; BD - Increased biodiversity in degraded cropland, Miombo forests and grassland; Efficient biodiversity and ecosystems protection in Forest reserves and Community based forests; CC - Land-based and value chain GHG mitigation (sequestration and avoidance); Increased ecosystems' and livelihoods' resilience
Socioeconomic co-benefits: Intersectoral decision making platforms for integrated management; Strong participatory process in place from village to national level for inclusiveness and ownership; Empowerment and sustainable access to farm, forest and rangeland resources by dryland communities; reduced vulnerability to economic and environmental shocks, with improved food and income security for dryland communities, especially women; capitalisation on traditional knowledge; and contribution to SDGs (especially SDGs 2, 4, 15 and 17) targets and other international agreements, e.g. Bonn Convention/AFR100)
Longer-term states, impacts and co-benefits
By 2030, Tanzania achieves the national LDN targets (Tanzania project contribution)
Threats to drylands removed, ecosystem conditions and services – on which sustainable cropland, forests and rangeland productivity depends – restored and maintained, and socio-economic and cultural sustainability and climate change resilience improved in the targeted Miombo woodlands in Tanzania (situation sought)
Avoid, reduce, and reverse further degradation, desertification, and deforestation (achieve LDN) through the sustainable management of production landscapes (Drylands IP goal)
D4
Medium-term Outcomes (MTO)
MTO 1: Strengthened enabling environment supporting up-scaling and out-scaling of SLM/SFM and achievement of LDN across Tanzania
A11
MTO2: Wider and increased application of climate-smart, gender-sensitive SLM/SFM practices across targeted landscapes and beyond
MTO3: Increased long-term investment from public and private sectors to support sustainable dryland-based value chains and land restoration in targeted landscapes and across Tanzania
Region-wide transformation to sustainable management of Miombo ecosystem
SADC countries implement the GGWI/S
MTO4: Improved decision-making, partnerships and collaboration for addressing LDN across Miombo-Mopane region and globally
Limit of Tanzania project accountability
A9
D2
A10
D3
GCP/REM input
Project objective - Halt and reverse negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach
GCP/REM input
Project Components ('areas of action') and immediate Project Outcomes
Outcome 1.1: Strengthened LDN cross-sectoral decision support system and framework for the management of the targeted drylands
Outcome 2.1: LDN objectives mainstreamed into gender sensitive development plans
Outcome 2.2: Wide uptake and application of SLM/SFM practices in target landscapes following priorities actions of the VLUPs
Outcome 2.3: Key green value chains and associated finance and business incubation strengthened or established
Outcome 3.1: National LDN assessment, monitoring and reporting framework strengthened
Outcome 3.2: Knowledge and awareness to support progress towards achieving national LDN targets enhanced
Outcome 3.3: Measures to deliver LDN enhanced through improved opportunities for collaboration, exchange and learning lessons
A1
A2
A3
A4
A5
A6
A7
A8
Outputs: 1.1.1: Cross-sectoral LDN national WG and Miombo landscape level technical WG operational; 1.1.2: Values of Miombo woodland's ecosystem services; 1.1.3: Strategies, plans and other sectoral frameworks
Outputs: 2.1.1: District Development Plans and Joint VLUPs; 2.1.2: ILM mainstreamed into forest management
Outputs: 2.2.1: SLM and SFM practices identified, compiled and disseminated; 2.2.2: Communities trained on SLM/SFM good practices; 2.2.3: CSB
Outputs: 2.3.1: Sustainable wood fuel; 2.3.2: Miombo woodlands value chains; 2.3.3: Business plans, finance and business incubation
Outputs: 3.1.1: LDN assessment, monitoring and reporting systems and tools
Outputs: 3.2.1: Project KM, communication and dissemination framework and strategy; 3.2.2: Project M&E framework
Outputs: 3.3.1: Common actions, collaboration and investments; 3.3.2: Collaborative actions to support business and develop markets; 3.3.3: Knowledge exchange
1. Strengthening the enabling environment for the sustainable management of the targeted dry Miombo woodlands
2. Demonstrating, implementing and scaling out SLM and SFM good practices at landscape level
3. Strengthening knowledge, learning and collaboration to support progress towards achieving national LDN targets
Barriers to effective action
1: Sub-optimal institutional capacity, governance mechanisms and tools and approaches for an informed and cross-sectoral approach to implement LDN in the target landscapes
2: Non-integrated policy and strategies framework not supportive of LDN
3: Land-use planning limited to administrative boundaries
4: Inadequate empowerment of land use planning processes
5: Sub-optimal application of the PFM approach
6: Limited access to evidence-based knowledge on good management practices, to technical support, to market and business opportunities
7: Absence of harmonized approach to monitor, evaluate and report on progress towards national LDN targets
8: Sub-optimal information exchange and opportunities for learning on best practice for SLM/SFM to guide decision-making
9: sub-optimal coordination between countries to address transboundary issues
Problem and main causes
Problem statement – The Katavi & Tabora sub-basins of south-west Tanzania are experiencing decreased land productivity, loss of tree cover and desertification, biodiversity loss in Miombo woodlands, and increasing vulnerability to climate change.
Main causes and drivers – Agricultural expansion and forest fragmentation; Unsustainable agricultural activities (shifting cultivation, overgrazing, mono-cropping, improper management of soil) and low adoption of improved management practices; Unsustainable forest management (weak legal frameworks and overlapping mandates) and unsustainable extraction of forest products; High reliance on Miombo wood for energy and construction; Wildfires; and threats exacerbated by climate change impacts.

Key

Assumptions:

A1 – Sectoral institutions acknowledge the necessity to strengthen cross-sectoral and regional collaboration and participate (lead) accordingly and provide necessary human resources

A2 – High level policy support to LDN

A3 – the NLUPC has the capacity to lead the ILMP development process;

A4 - A stable political/global health/market situation allows governments /communities to participate in planning exercises

A5 –District, area and village-level institutions, users' organizations, grassroot organizations, researchers, private sector, and other critical partners willing to join the works

A6 – Local communities/ CBOs grasp the opportunities offered by SLM/SFM, and effective participatory approaches increase their willingness to invest in making their livelihoods more resilient

A7 - Stakeholders provide consent for sharing information

A8 - Planned regional events are organized

A9 – Lessons learned and capacitated actors with new knowledge will take forward and institutionalize good practice

A10 – Domestic and international markets for green value chains products can be sufficiently developed and strengthen to provide secured sources of income for local producer organizations and buyer companies adopting sustainable practices over the long term

A11 – Land related conflicts remain at a level where project activities are not threatened

Impact Drivers:

D1 – Participatory land and forest management/ planning processes

D2 – Market demand for sustainable NTFP and crops, including NUS (e.g. through School Feeding Programme)

D3 – Effective enforcement of laws and by-laws, community-led

D4 – International legal obligations, such as national commitments to the Bonn Convention/AFR100, SDGs, UNCCD, UNFCCC and CBD

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Programmatic approach

The project is embedded within the wider DSL IP. The overall programmatic approach will facilitate the project in effectively addressing the barriers to the sustainable management of Miombo and Mopane woodland landscapes (c.f. Remaining Barriers to be addressed), and to delivering global environmental benefits, by:

(i) Strengthening multi-sectoral and multi-stakeholder coordination and collaboration at all levels, e.g. LDN platforms at national and landscape levels,

(ii) Supporting the harmonized improvement of regulatory frameworks in support of sustainable landscape management,

(iii) Taking advantage of regional opportunities and resources to contribute to developing the capacities of stakeholders for the sustainable management of dryland landscapes, and for more informed decision making on SLM/SFM and reporting (LDN targets),

(iv) Strengthening cross-sectoral rural advisory services to capacitate land users for integrated SLM/SFM interventions,

(v) Taking advantage of opportunities for harmonized cross-sector and regional leverage of incentives for land users to engage in SLM/SFM, e.g. through sustainable value chains and securing their rights,

(vi) sharing knowledge between the cluster (Miombo/Mopane) countries on evidence good approaches and practices, reflective learning through effective transboundary coordination

Close collaboration between participating countries will be supported to address common management challenges within the targeted ecosystem in a cost-efficient and harmonized manner. For that purpose, the GCP will support a REM (see Box above) under which targeted system-wide capacity development, knowledge management (South South Cooperation) and investment support tailored to the Miombo/Mopane context can take place. Demand-driven capacity development and peer-to-peer learning events will be made available for each participating country under the REM in collaboration with existing regional platforms such as SADC (GGWI) and the Miombo network.

Tanzania Child Project Objective and Components

The Project Objective is to halt and reverse negative trends of land and forest degradation and biodiversity loss in degraded areas of the dry Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach. This will be achieved through the following interlinked Components, Outcomes, and Outputs:

Component 1 Strengthening the enabling environment for the sustainable management of the targeted dry Miombo woodlands

The first Component will provide the necessary structure, processes and targeted training (enabling environment) for the envisaged integrated and participatory landscape assessment, planning, at national and landscape level addressing the inadequate institutional capacity for cross-sectoral landscape management and planning (barrier#1 – see above) and incomplete policy and strategies framework not supportive of LDN (barrier#2 – see above). The project will directly address these barriers under Component 1 and promote multi-stakeholder decision-making through mechanisms allowing for the vertical transfer of information.

In particular, this Component will contribute to the reviving of the LDN NWG, to enhance participation of local authorities in the LDN process, and ensure the group is further capacitated in the application of evidence-based tools and approaches for integrated landscape planning.

In fact, new evidence will be generated through the project through comprehensive assessments, while existing knowledge will be compiled and capitalized (e.g. GEF Kagera Transboundary Agro-Ecosystem Management Project-Kagera TAMP, as well as IUCN Sustainability and Inclusion Strategy for Growth Corridors in Africa (SUSTAIN-Africa) lessons, among others). Both will be disseminated to multiple stakeholders at local, national, and regional levels. The intent is to produce knowledge which will lead to the evidence-based review of policies, guidelines, and approaches for SLM and SFM at the landscape level as recommended under Kagera TAMP project, as well as improved governance mechanisms, with a focus on good and gender-transformative approaches. Amongst others, the project will help in the development of a National NTFP Strategy in support of gender sensitive NTFP value chains.

Delivery of this Component builds upon key results of the PPG phase, particularly those generated through application of the Integrated Landscape Assessment Methodology Toolbox (ILAM – see Box 3) that was developed and tested through the national partners to take informed decisions on SLM/SFM in the targeted landscapes.

Box 3. Integrated Landscape Assessment Metology (ILAM) Toolbox

An Integrated Landscape Assessment Methodology (ILAM) toolbox was developed to ensure that the six Southern African countries follow a harmonized, systematic approach to baseline assessments and subsequent project development which is linked to the LDN Conceptual Framework (LDN CF) and associated guidelines for application. The aims of the ILAM toolbox were twofold: i) to enable the systematic assessment of essential baseline information from national to regional/district level, initial site level and household level using an integrated strategic approach; and ii) to provide countries with a toolbox that is replicable to support the future baseline assessment and integrated land use planning, SLM/SFM decision making and monitoring at sub-national level in contribution to national priorities, processes and targets, including LDN.

The essential components of the toolbox consisted of a combination of bottom-up and top-down approaches that support various Modules in the LDN CF as follows:

LDN CF Module	**Toolbox components**
Module A: To enable integrated landscape-level system description (e.g., biophysical, socio-economic, land degradation processes and drivers, existing SLM/SFM, value chains, resilience, etc.).	· Rapid participatory land degradation assessment per land type · Participatory stakeholder analysis · Climate-risk assessment · Policy, institutional and capacity needs analysis · Indigenous Peoples and the Free, Prior and Informed Consent assessment (FPIC) assessments · Household surveys using the Self-evaluation and Holistic Assessment of climate Resilience for farmers and Pastoralists (SHARP) · Value chain analysis and selection
Module B: To determine the frame of reference or baseline values for the three indicators of land cover, land productivity and soil organic carbon*	· Remote sensing (Collect Earth, Trends Earth)
Module D: · Determine existing policies for land governance, land use planning and natural resource conservation and management. · Preparatory assessments of land degradation status, resilience of current land uses, socio-economic context (including gender equality)	· Policy, institutional and capacity needs analysis · Rapid participatory land degradation assessment per land type · Household surveys using the Self-evaluation and Holistic Assessment of climate Resilience for farmers and Pastoralists (SHARP)
Module E: Determine baseline values for LDN metrics	· Remote sensing (Collect Earth, Trends Earth)

***** The soil organic carbon indicator, due to its complexity, is derived from the land cover change (traditional approach applied by basically everyone, including the IPCC https://archive.ipcc.ch/ipccreports/sres/land_use/index.php?idp=98 and https://archive.ipcc.ch/ipccreports/sres/land_use/index.php?idp=163, trends.earth and the EX-ACT team). During programme/project implementation, the REM/global project will provide further guidance on how to comprehensively estimate and monitor the SOC indicator

In line with RAPTA, the ILAM methodology enabled a better understanding of direct and indirect drivers of land degradation and resilience, including anthropogenic causes, by:

· Identifying and analysing the level of exposure of production systems, livelihoods and landscapes to climate and non-climate hazards

Outcome 1.1. Strengthened LDN cross-sectoral decision support system and framework for the management of the targeted drylands

Under Component 1, Outcome 1.1, the child project will carry out the following core steps as a foundation for the subsequent implementation of SLM/SFM interventions at targeted landscape level:

(i) Enhance the capacity of the LDN NWG members for integrated landscape planning and management, with vertical integration to landscape level cross-sectoral working groups

Tanzania recently set national LDN targets, in an attempt to mitigate land degradation. Unsustainable practices, associated with an uncoordinated land management and planning, are increasingly degrading forest and land resources thereby contributing to declines in land productivity, biodiversity loss and vulnerability to climate change. To guide the formulation of the national LDN targets through the LDN-TSP, an LDN national working group (NWG) was formed in 2017. This group comprised 24 members, from different ministries and sectors. However, at the time of the PPG, the group was no longer operational, yet its membership and structure was deemed relevant to the project to assist in LDN cross-sectoral decision support system for the management of drylands. It was noted that its original composition lacked the inclusion of local level stakeholders, and would need to be expanded in order to enable vertical decision-making processes.

Therefore, this project will support in Project Year 1 (PY1) the reactivation and reformulation of the LDN NWG set-up under LDN TSP, and strengthen the representation from district and municipal levels (and potentially Ward Executive Officers and/or Village Executive Officers from the larger project area), to perform its role and enhance vertical and horizontal information sharing and decision-making at landscape level. VPO will take the lead in this task. The project will enhance the capacity of the LDN NWG members for integrated landscape planning and management, SLM planning and monitoring of change, etc. through on the job trainings organized for LDN NWG members and UNCCD Focal point office in PY2 and PY3 (see below). It would also support periodic meetings of the LDN NWG, in order to ensure it remains active, that information/knowledge is being shared vertically, and that the LDN process continues to be a priority.

To further enhance vertical and horizontal decision-making and information-sharing, the project will support in PY1 the creation and capacitation of a Miombo landscape level LDN working group in the target landscape to coordinate/liaise with the NWG, as well as coordinate planning at landscape level (linking with VLUP process below). This group will contribute to enhancing stakeholder dialogue and support implementation. Terms of Reference for this working group as well as a memorandum of understanding between the different partners will be developed and approved by all parties in PY1.

Furthermore, under the co-financing support provided by the Ministry of water, the Ministry will establish CWC, SCW and WUA and capacitate them to be effectively operating in the sub-basin, out-scaling at the sub-basin the LDN coordination work initiated by the landscape level LDN working group. Representatives of the WUA and

the SCW would take part to the LDN working group meeting. In addition, the Ministry of water will develop a forum for stakeholder's discussion on critical issues and suggest solutions in the sub-basin.

(ii) Capacity-building on land degradation assessment tools and approaches in alignment with LDN conceptual framework and national sub/national monitoring systems

The confirmation of project intervention sites (baseline sites including wider area) was foreseen after completion of all PPG assessment but had to be postponed to the inception phase due to travel restrictions associated with the COVID-19 pandemic. This exercise will build upon the baseline data collected in representative areas within the targeted sub-basin paired with additional information on existing enabling mechanism (e.g. producer's organizations, nurseries, access to markets and others) as well as government priorities.

The project will further contextualize and refine the integrated landscape assessment methodology [48] (ILAM) toolbox, ensure the alignment with the LDN conceptual framework and integrating into existing national/subnational monitoring systems. The training programme for the LDN NWG and staff at National and at the landscape level (training of trainers) will cover all LDN related assessment work (see ILAM toolbox): (i) Remote sensing (using an open source application such as Collect Earth and Trends Earth) to determine land use, land use change and productivity level (covering corresponding LDN metrics, verifying and updating LDN country data/baseline); (ii) a simplified land degradation assessment (using results from the remote sensing to identify key drivers of degradation per land use); (iii) tablet based, geo-referenced and representative resilient assessment (household level); (iv) carbon and biodiversity baseline assessment; and (v) mapping of soil organic carbon. Potential tools may include Open Foris Collect, Collect Earth, SEPAL (see box 5 below and Annex X-2), and Earth Map.

Trainings will follow a 'training of trainers' approach so that capacity building can be multiplied up (this approach is being applied generally across the project).

The REM, through mobilizing regional expertise, will support the PMU in the organization of training workshops targeting the members of the LDN working group and other M&E officers from relevant ministries, research centers and civil society organizations.

Box 4. SEPAL platform for Land Degradation mapping and land restoration activities

SEPAL is a multi-functional platform, combining modern geospatial data infrastructures (e.g. Google Earth Engine) with powerful open-source data processing software (e.g. R, ORFEO, GDAL) and available in a supercomputing environment immediately accessible to users anywhere in the word. It was originally developed for monitoring forest carbon stock and stock changes for reducing emissions from deforestation and forest degradation (REDD+). Considering the large and increasing interests from different stakeholders on using cloud based image processing tools, remote sensing and machine learning, the platform has gained a lots of attention from users across sectors. At current status, users work on SEPAL for various applications related to land monitoring, land cover/use, land productivity, ecological zoning, ecosystem restoration monitoring, peatland rewetting status, flood mapping, mapping impact of disasters and many others.

In the context of LDN, considering that land cover is an essential geospatial information for mapping land degradation and monitoring restoration, SEPAL enables the production of land cover dataset, using international standard for the sub-indicator on land cover (ISO 19144-2:2012), through a friendly user platform using optical and radar satellite imagery and integration field data for model calibration. Accessible user interfaces and documentation have been developed to guide users through the process of data generation using satellite imagery through SEPAL. Utilizing freely-available satellite imagery, users can create custom analysis-ready datasets for image classification for customized time-periods. Object based classification and machine learning classification algorithms are integrated into the platform, allowing user to access sophisticated methodology to accurately map land cover and land cover changes. Using maps of forest area, forest fragmentation analysis and statistics can be generated to indicate forest degradation and impact on ecosystem functions and biodiversity. Finally, tools for accuracy assessment and area estimation are built into the platform linking to visual interpretation tools, Collect Earth and Collect Earth Online, where high and very high resolution imagery can be used to assess and derive statistical estimates from the map products.

Component 2. Demonstrating, implementing and scaling out SLM and SFM good practices at landscape level

Building on the Guidelines for Participatory Land Use Management developed by the NLUPC (2011), the project's second component will support participatory and cross-sectoral landscape level land-use planning and the implementation and scaling out of selected SLM and SFM interventions in the targeted landscapes, in close alignment with the country's LDN targets and as a key contribution to these targets (refer to Box 2). This will address land use planning limitations to administrative boundaries (barrier#3), the inadequate empowerment and land use planning processes (barrier#4), the sub-optimal application of the PFM approach (barrier#5), and the sub-optimal access to evidence-based knowledge on good management practices, to technical support, to market and business opportunities (barrier #6).

The project will address the lack of sustainable alternative livelihood options, which has been identified as a key challenge for development in the landscape. The SHARP survey has shown that overall, 94% of the households in the sample obtained a low resilience score for non-farm income generating activities**.** Indeed, income supplementation for farmers and pastoralists often comes from unsustainable sources, such as the overharvesting of forest resources (e.g. wood fuel and NTFPs such as medicinal plants).

The project will take a holistic approach to strengthen key value chains in the landscape, from production to marketing, based on priorities identified during the PPG. The project will capitalize on established approaches, including APFS/FFS, to train and capacitate farmers on SLM and the landscape approach. In some cases, when localized innovation is introduced by the project, e.g. with respect to value chains, the project will also be 'scaling deep'[49].

Outcome 2.1: LDN objectives mainstreamed into sectoral local gender sensitive development plans

(i) Participatory land use planning to mainstream SLM/SFM

The project intends to leverage the 2011 Guidelines for Participatory Land Use Management (PLUM) in Tanzania (NLUPC), whose implementation in the country is still limited, to mainstream LDN into development planning at different level. The Guidelines follow general good-practice for participatory land-use planning, and their application has the potential to bring important benefits to communities and ecosystems.

As described in Box 5, the PLUM process, and the Village Land Use Plans (VLUPs), create the enabling environment for the broader adoption of SLM and SFM (though these approaches are not necessarily an explicit part of the VLUPs). The project proposes to push the PLUM process further to ensure relevant sub-plans with clear SLM and SFM strategies are put in place/adopted/updated, and that VLUP takes a LDN centred approach to effectively address land degradation. The VLUP will follow the LDN response hierarchy to avoid, reduce and reverse land degradation.

This outcome will directly complement on-going and planned district-level land-use planning and management activities, by capacitating the district PLUM Team (see Box 5), identifying priority villages for VLUP and joint VLUP development incorporating SLM and SFM best practices, as well as Miombo related biodiversity aspects, in an equitable manner.

VLUP and their activities will then be mainstreamed in District Medium Term Expenditure Framework (MTEF) to align with Government Planning and budgeting, and ensure LDN activities, as well SLM and SFM activities, are budgeted in Government planning and budgeting.

Specifically, the NLUPC will support starting in PY2 the development of 14 VLUPs [50] and joint village land use plans according to the VLUP guidelines, in alignment with LDN requirements in the two proposed sub-landscapes. The plans will incorporate, amongst others, SLM and SFM good practices (as a result of Output 1.2.1. see below). Rangeland assessments will be conducted, and consideration will be given to grazing land management. Evidence shows that when conducted at appropriate stocking densities, planned grazing has the potential to help mitigate rangeland degradation and improve rangeland sustainability for both livestock and wildlife [51]].

Box 5. Overview of the Participatory Land Use Management Process in Tanzania**[52]**

There are six steps involved in the PLUM guideline to develop Village Land Use Plans (VLUPs). These are as follow:

1. **Preparation**: This step involves establishing a District-level PLUM team, identifying priority villages, and developing an action plan for those villages.
2. **Participatory rural appraisal for land-use management**: This second step, involving the Village Council and Village Assembly, will lead to the preparation of a community action plan.
3. **Mapping existing village land uses**: Here, the objectives are to establish village boundaries, identify land uses and management problems, to ultimately inform the preparation of the Village Existing Land Use Map.
4. **Participatory village land-use planning**: The participatory approach is necessary to address land-use conflicts within the community which are bound to arise. Here the VLUPs are prepared, alongside village land use management by-laws to enforce the implementation of the VLUP.
5. **Implementation of village land administration**: At this stage, the enhancement of security of land tenure is expected. Compliance with the approved VLUP is monitored, and a District Land Registry is established. Existing land rights, boundaries, owners, and rights of other parties are established and ascertained. Importantly, this is where **Certificates of Customary Right of Occupancy (CCRO)** are issued, which is the long-term, legal outcome of the VLUP process. The CCRO specifies rights conferred to a land occupier and user following tribal customs and traditions on land. Under the customary land tenure system, land belongs to the whole tribe, clan and family, while tribal leaders are the custodians on behalf of the members. The Village Land Act (1999) confers these custodial powers to Village Councils and Village Assemblies in registered villages. Once the VLUP has been prepared and adopted by the Village Assembly and approved by District Council, the issuance of the CCRO is a formality, albeit with some cost implications (for example formal mapping of boundaries and depositing of information with registrar of Lands). It provides long-term security for the villagers and may be used as collateral if borrowing money for village infrastructure[53].
6. **Detailed Village Land Use Management Planning:** After the most important limitations for improved land-use management have been minimized in the previous steps, villagers are more motivated to adopt land management measures in order to mitigate land degradation, to optimize land production and to improve living conditions. Hence, this is where SLM and SFM measures can be adopted, as barriers to their adoption are removed.

(ii) Improving land tenure security and access rights through participatory land use planning

The management of common pool resources in cultural landscapes, as connected to farm communities, is associated with an intensified debate on institutional issues related to commons. There have been notable failures with more individualized provisions of ecosystem services (ESS), as well as corresponding payment schemes (payments for ecosystem services PES) in which property rights are primarily with farmers. Moreover, land tenure and property rights remain important issues impeding the adoption of SLM/SFM. In the landscape, it is amongst others associated with in-migration for economic reasons, but also due to some inconsistencies in the legal framework, leading to conflicts and challenges in implementing land use planning. Hence it is essential to ensure that such issues are effectively being addressed, and security of access rights to private and common pool ecosystem services is one key aspect to consider. The five principles of responsible governance of tenure, as per the Voluntary Guidelines on the Responsible Governance of Tenure (VGGT), will be considered in designing project activities: 1. Recognize and respect all legitimate tenure rights holders and their rights; 2. Safeguard legitimate tenure rights; 3. Promote and facilitate the enjoyment of legitimate tenure rights; 4. Provide access to justice; and 5. Prevent tenure disputes, conflicts and corruption.

While the project cannot fully tackle issues of land tenure within the landscape, it intends to make meaningful contributions to tenure rights by applying a participatory land use planning approach resolving insecure or inequitable tenure (right to use and benefits of ecosystem services), weak common property regimes, and natural resources management institutions.

The project will use the PLUM process to ensure participatory land users based discussions and negotiations about those rights and how they are owned and respected within communities at landscape level (negotiations, meetings, awareness –the use of SOLA), and building the capacity for stakeholder landscape planning and multi- stakeholder dialogues through formal and informal user-to-user and community-to-community interaction (FFS).

In addition, the project will be increasing land tenure security by focusing on supporting the fifth step of the PLUM process: the preparation and issuance of Certificates for Customary Right of Occupancy (CCRO), following the development of the VLUPs. This step is crucial in addressing issues of land tenure in the landscape, and may contribute to ensuring long-term security (including financial) for individual land-owners. While generally straightforward, the process still entails the adjudication and survey of land to be undertaken in response to demand from an individual CCRO applicant. The adjudication team, together with the CCRO applicant and contiguous neighbors, will visit the applicant land parcel and make record of coordinates (corners of plot boundary). This involves some costs to the applicant, which may be a barrier to some. In some instances, several parcels can be done at once, such as through systematic village adjudication, which is more complex, yet allows for economies of scale and more efficient processes.

On the basis of the surveys conducted for four forest reserves in Mlele District Council, and two forest reserves in Kaliua District Council (see below), TFS will conduct new gazettement of these forest reserves, informing the development of the VLUPs and joint VLUPs for villages adjacent to the forest reserves.

Conflict resolution measures to address land conflicts and boundary disputes will be applied as part of an inclusive engagement of all relevant stakeholders in this process. By taking a participatory approach, the project will be able to address existing and potential land-use related conflicts upfront.

(iii) Integrated and participatory forest management

Participatory Forest Management was integrated into the legislation of Tanzania through the Forest Act of 2002. PFM can take two forms in Tanzania, namely Community Based Forest Management (CBFM) which enables local communities to declare – and ultimately gazette – Village, Group or Private Forest Reserves, as well as Joint Forest Management (JFM) which allows communities to sign joint forest management agreements with government and other forest owners. In CBFM, PFM takes place on village land – or private land, and the trees are owned and managed by either a village council (through a village natural resource committee), a group, or an individual. Most of the costs and benefits relating to management and utilization are carried by the owner. The role of central government is minimal – and districts

only have a role in monitoring. The second form of PFM, Joint Forest Management, takes place on "reserved land" – land that is owned and managed by either central or local government. Villagers typically enter into management agreements to share responsibilities for the management with the forest owner [54]. As mentioned in the barriers section above, PFM managed forests represent only about 16% of forests in the country and only a low percentage of households in the landscape have access to communal forests (Tabora Region, 12% and 7% of households in Katavi Region), demonstrating the low pace at which PFM projects are being established and needs to be enhanced. In accordance to one of the key priority set-up in the 2018/19-2028/29 forest management and conservation strategy, the project will support the identification (through the VLUP process), the establishment and the management of Village Land Forest Reserves (VLFR) and the promotion of CBFM, further promoting natural regeneration and reforestation activities on these established VLFR.

The project will support the established CBFM process by:

- identifying appropriate NGO support organisations;
- training facilitators (District Council staff/extension staff); and
- supporting field operations to build capacity of Village Natural Resources Committees (VNRC) to prepare, implement and monitor management plans. This support will be provided by the trained facilitators.

Corresponding outputs:

Output 2.1.1*: Joint Village Land Use Plans (forest, rangeland and cropland areas) updated, reviewed, developed and implemented in a participatory manner, supporting security of land tenure and access rights*

1. Mainstream LDN concepts into existing VLUPs (with support from the LDN working groups), to enhance their contribution to the integrity of the Miombo landscape.
2. Develop and implement 14 pilot integrated VLUPs and Joint village land use plans according to the VLUP guidelines, taking a LDN centered approach.
3. Setting and supporting land tenure and rights in the landscape; and
4. Support village land registry in the14 target pilot villages.

Output 2.1.2: *Integrated landscape management mainstreamed into forest management plans (including fire management)*

1. Resource mapping and surveys for the seven forest reserves in Mlele District Council (Inyonga FR (578,623.8Ha), Rungwa river FR (401,462.4Ha), Ugalla river FR (427,350Ha), Mlele (519,211Ha), and Mpanda North East (502,460.5Ha) and the two forest reserves in Kaliua District Council (Mpandaline FR (427,363.2Ha) and Igombe river FR (244,480Ha)
2. Develop and implement seven forest management plans (five forest reserves at Mlele District Council and two at Kaliua District Council), integrating SLM and SFM practices, and fire management
3. Restoration of highly degraded areas in the targeted forests, through in-situ natural regeneration
4. Implement Community Based Forest Management (CBFM) in VLFRs, supporting VNRCs to prepare, implement and monitor VLFRs management plans
5. Support formation and implement JFM in central and Local Government Authority Forest reserves
6. Strengthen TFS and Local government capacity to reduce forest encroachment and enhance forest natural regeneration through supporting 7 ranger posts (facilities) as well as sign boards.

Outcome 2.2. Wide uptake and application of SLM/SFM practices in target landscapes following priorities actions of the VLUPs and FMP

In order to support the scaling out of SLM and SFM at the landscape level, the project will first focus on developing/strengthening advisory and supply services by building on baseline extension services provided by District extension teams, both on farming and forestry. It will primarily rely on Farmer Field Schools (FFS) as the means to provide those advisory services to farmers. Indeed, Farmer Field Schools are relatively well established in Tanzania (see Box 6). They are in fact a key agricultural extension approach officially adopted by the government of Tanzania. Support is being provided by the Ministry of Agriculture to train extension officers and farmer facilitators as to equip them with FFS concepts.

However, in order to be sustainable, the FFS approach needs to be combined with effective agricultural inputs supply services, as a low access to agricultural inputs can significantly limit the impact of improved knowledge on good practices, as adoption would be limited. In the case of this landscape, a key barrier identified for crop production was access to seed (both crop and tree seeds). Hence, focus will be put on establishing community seed banks, and supporting small-scale seed enterprises. Support to agricultural inputs will also be provided for FFS and demo plots.

Box 6. FFS in Tanzania

FFS APPROACH AND FFS HISTORY IN TANZANIA

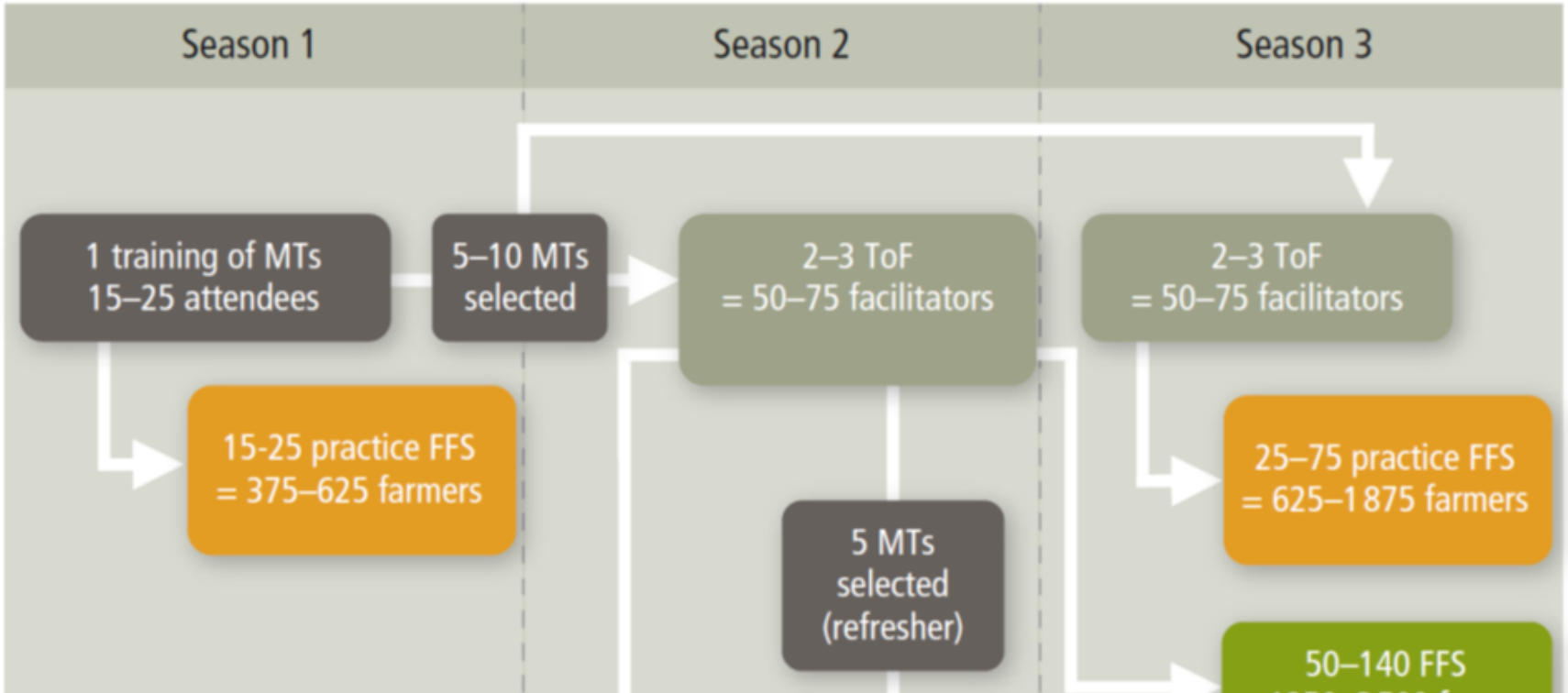
The FFS is an approach to extension that is based on people-centered learning and was developed as an alternative to the conventional, top-down, extension approaches. It uses innovative and participatory methods to create a learning environment, including learning networks, in which land users have the opportunity to learn for themselves about particular production problems, and ways to address them, through their own observation, discussion and participation in practical learning-by-doing field exercises. However, this organizational capacity can also be applied challenges throughout the value chain - to credit and other financing modalities, to processing, to marketing, and to sales and investments.

The curriculum of the field schools includes team building and organization skills, as well as covers special topics suggested by the field school members themselves. The field schools are a way for farming communities to improve their decision-making skills and to stimulate local innovation for sustainable agriculture. The emphasis is on empowering farmers to implement their own decisions in their own fields.

Farmers are supported by a facilitator, who is trained and may be responsible for more than one FFS. The facilitator of an FFS is normally an extension worker or another farmer who has "graduated" from another field school. The facilitator guides the group, helps them decide what they want to learn and to think of possible solutions, and advises them if they have questions. The facilitators are trained by master trainers through the use of detailed curriculum and training modules. The facilitators also ensure that a range of top-level scientific expertise is brought to FFS through the master trainers and the training modules. The FFS are therefore an ideal approach for linking field to extension services to scientific research, with, most importantly, information and knowledge flowing equally in all directions.

A typical FFS will have 15-25 members, who, through the FFS experience, become empowered to identify, analyze and understand challenges and mobilize solutions. This can then be rapidly scaled up, season after season, to reach more farmers across the landscape as more individuals acquire the skills and knowledge to become facilitators and master trainers (i.e. cascade training, see Figure below).

Figure 9: Scaling-up FFS – a case from Africa



Out-scaling approach

The project will contribute to mainstreaming SLM/SFM into farmer support programs, enabling the Ministry other investments (such as ASDP II) and other partners (such as IUCN under the SUSTAIN 2 project) to also contribute to out-scaling good SLM/SFM practices through FFS. In the meantime, the Ministry of Agriculture technical assistance as well as additional investments, through the Agricultural Sector Development Program phase II (ASDPII) for instance, will be channeled to scale-out integrated SLM and SFM results obtained by the DSL IP child project.

Furthermore, the work of the Ministry of water, providing co-financing, will also help ensure that good SLM/SFM practices, but also LDN approach, is upscaled at the sub-basin and basin level. Among others, the Ministry of water will develop and implement catchment management and conservation/amelioration plans for degraded catchments in the Ugalla sub-basin that consider both development and environmental objectives, as well as SLM/SFM good practices and LDN response hierarchy. It will also implement effective riparian buffers for ecosystems and water resources protection, and implement water resources Monitoring and Assessment program in order to ensure availability and reliable water resource data and information. This data could then feed into the LDN monitoring and reporting system that will be put in place under output 3.1.1.

(i) Generation and dissemination of knowledge on SLM/SFM for LDN

This project will take several steps to bring positive impact across genders, beginning with supporting SLM and SFM practices which can bring about transformational change in communities. First, these approaches will be identified in a participatory manner in PY1, giving a voice to the most vulnerable groups. The approach taken by the GEF Kagera TAMP project will be replicated to identify appropriate, good and gender sensitive SLM and SFM practices. All evidence collected will be compiled in PY2 for subsequent dissemination to target communities.

Some good practices have already been identified from GEF Kagera TAMP and WOCAT, and the pre-selection for the target landscape refined based on SHARP and LD assessment results conducted as part of PPG. These good practices will be further evaluated for suitability within this landscape and may be part of the APFS/FFS curriculum/training.

Dissemination of these good and gender sensitive practices will be done through their incorporation in village and landscape land use planning processes (Output 2.1.1). All relevant stakeholders will be targeted by this activity, and extension services will be tailored to the needs and ambitions of different groups, in particular women. Indeed, some of these technologies and approaches will target specifically women, while others specifically men. Participatory Rural Appraisals (PRA) will be conducted in every APFS/FFS (Component 2) to identify specific gender differentiated technologies and practices.

(ii) Strengthening advisory and supply services

The success of the FFS approach is highly dependent on the voluntary participation of farmers, and therefore the project will make every effort to first identify communities and forest and farm producer organisations that are interested in integrating community forestry alongside farming within their productive landscapes. These will become the target communities for the establishment and running of 70 FFS starting in PY2, with season-long farmer learning sessions, so as to ensure that farmers are trained practically from land preparation all the way to harvesting (from seed to seed).

Subsequently, the project will conduct a participatory process involving FFPO members and farmers (both men and women) to identify capacity building and training priorities. This will be done by District extension officers in PY1, with the support of local experts from Ministry of Agriculture and Ministry of Livestock and Fisheries.

Once these are established, the appropriate SLM and SFM good practices identified and compiled will be integrated by the Ministry of Agriculture, Ministry of Water, and the Ministry of Livestock and Fisheries into comprehensive FFS learning curriculum/training where gaps currently exist, and shared with other initiatives. Focus will be put on ensuring FFS have the capacity to transfer knowledge on, and implement in the field, these good practices. The GEF Kagera TAMP has produced important lessons in this field, and set up structures which will be used in this project. Increased adoption of SLM and SFM will have multiple benefits, including increasing productivity. Focus will be put on the sustainable on-farm intensification of key crops, including staple food crops such as maize, and exploring the potential of neglected and underutilized species (e.g. pigeon pea), within an integrated landscape planning approach. Intercropping will be promoted as it helps to reduce the risk of crop failure, to ensure availability of food and marketable product at different periods during the year, improve soil fertility, and increase the productivity of available land and labor. This will help reduce clearing and deforestation for shifting cultivation (attributable, amongst others, to an increased competition for arable land) which is a key disturbance in the landscape as mentioned above. Similarly, overgrazing is causing significant soil erosion, and training could also cover sustainable livestock management and increased forage production. The curriculum could take the form of a toolbox to enable farmers to implement SLM and SFM options, measures and practices that are specifically adapted to their agro-ecological environment and socio-cultural specificities.

Beyond the SLM and SFM related issues, the updated curricula and training manuals will also include value chains and market access aspects that are necessary to support climate resilient agricultural production and to diversify farmers' livelihood options. Often major constraints to farmers' willingness or ability to adopt new techniques lies in these 'off-farm' factors of value chain and market access. Links to school feeding programmes will be made. Indeed, beyond nutritional benefits to schoolchildren, school feeding programmes when linked to local smallholder farmers and agriculture development, can also create business opportunities (and reduce risk aversion) for smallholder farmers and other vulnerable producers (including women, youth and members of traditional communities), boosting income-generating opportunities for local communities. It can ensure the diversification of food procurement, by increasing the use of traditional and underutilized foods [55].

In addition to the FFS material aimed at farmers themselves, further training tools shall be developed for capacity development of FFS master trainers and facilitators themselves. After an initial season-long training in PY2, FFS Master Trainers will be updated/re-trained once/twice a year in line with the evolving curricula and field needs and coached throughout implementation. An additional FFS facilitators (50% women), from agriculture, livestock and environment district services and selected farmer organizations, will also be trained in integrated crop/livestock/forest user systems.

Finally, farmer Apex/umbrella association (including Agricultural marketing cooperative society, MVIWATA, MJUMITA and Tree Grower Association), and at least 10 sub- national Forest Farm Producer Organizations will be technically supported to effectively implement SLM/SFM at landscape level, starting in PY3.

The FFS activities in the country will benefit from regional exchange workshops as well as targeted exchange visits organized for country project teams and national FFS experts on "Geographical coverage and approaches to manage targeted Mopane /Miombo area and cross border linkages". In addition, the national FFS actors will be linked to the global FFS knowledge platform website hosting key thematic pages; 460+ documents, 270+ FFS experts, a member area, a network of partner organizations (IFAD, CARE, Oxfam, CGIAR centres). The global FFS online discussion group was launched at the end of 2017. It connects 1250 FFS practitioners from 122 countries, enabling many spontaneous exchanges on business and marketing, climate change, institutionalization, as well as webinars and structured exchanges.

In addition, Innovative water harvesting and irrigation systems will be provided by the Least Developed Country Fund (LDF) project "Integrated Adaptation Program to enhance resilience of communities and ecosystems in the dry Miombo Woodlands of Tanzania Mainland and Dryland of Zanzibar" currently under design.

(iii) Community seed banks established/or strengthened and capacitated

As access to seed and seedling inputs was also deemed a key barrier to sustainable management of the landscape, the project will ensure that community seed banks are set up to provide improved varieties, as well as indigenous species, which are otherwise poorly accessible. This will contribute to both crop and tree diversification on farm, and with it an increase in productivity and resilience, improve agro-biodiversity across the landscape while taking the pressure off the forest.

To strengthen agricultural intensification and sustainable local food systems within countries and regionally, CSB activities will be scaled out, scaled up and scaled deep to inject new diversity, know-how and technologies in targeted areas. CSBs will operate as local innovation hubs that connect a range of activities and people to enable the discovery and use of crop diversity that is adapted to environmental changes and the local needs and preferences of women and men farmers.

The project will organize community and stakeholder consultation meetings with key partners, community leaders and other stakeholders to define the area of work of the CSB within the community. This includes: the location of CSBs and reasons for choosing sites; which crop and/or pasture varieties will be stored; how collections will be carried out; documentation systems and/or crop diversity registers; viability testing and frequency; regeneration of materials stored in CSBs; storage, distribution and marketing of seeds; linkage with seed and food fairs; on-farm seed production; seeds stored in the CSB can be used for PPB/PVS or PVE work; technical and operational mechanisms needed; financial viability mechanisms/strategies needed; necessary steps and timeline. Governance modalities will also be defined through the community and stakeholder consultation. The type of governance of the CSB that is more suitable for the community (e.g. cooperative) will be selected.

The project will also conduct in PY2 an assessment of available or existing facilities to identify suitability and/or need for CSBs. Shall the assessment deem the infrastructure to be insufficient, new CSB infrastructure will be built or existing buildings renovated as necessary, and equipment will be purchased or improved to suit the needs of the decided activities. Capacity development for the operation and management of CSBs will also be undertaken to prepare managers and actors for the activities to be carried out, such as collection, documentation, seed storage, seed multiplication and regeneration, accounting, etc.

Overall, a total of 14 CSBs will be established and operationalized in the target landscape starting in PY2. This will be done by District extension officers with support from relevant ministries and TFS. FAO will provide technical support through external expertise when needed. The project will provide support for seed (germplasm) collections and documentation of collected materials using pre-established protocols in consultation with the national gene bank scientists, as well as support for accessing germplasm from national and international gene banks and breeding programmes. Moreover, the project will support conservation and use of farmers' varieties and landraces, including those of neglected and underutilized species, in CSBs and on-farm, as well as the collaboration for the development of new varieties with research institutions through participatory plant breeding, variety evaluation and enhancement and Farmer Field Schools (FFS). Support will also be provided for the exchange of seed and planting material. The project will facilitate seed multiplication and farmer exchange of seed and planting materials to those in need and integration of formal and informal (farmer) seed systems.

In addition to the CSBs, the project will contribute to establishing a tree seeds and tree seedlings production center in Tabora Region, focusing on producing Miombo forest indigenous trees seedlings and conserving Miombo forest trees seeds (PY2), starting production and distribution of seedlings in PY3).

The CSB activities will benefit from the regional exchange mechanism in support of a regional network of community seed banks to catalyze the sustainable management of the targeted landscape at wider scale. The regional level will support the country in peer learning by facilitating cross-border farmer-to-farmer seed and knowledge exchanges with the participation of (young) women and men farmer experimenters and innovators and members of community seedbanks, accompanied by technical support staff with relevant expertise (e.g. extension agents, national gene bank staff) where appropriate.

(iv) Capacity development on Farmers' Rights at Community Seed Banks

Farmers' Rights are a precondition for the maintenance of crop genetic diversity, and the growing awareness and importance of the implementation of Farmers' Rights has been addressed at each session of the Governing Body of the International Treaty on Plant Genetic Resources for Food and Agriculture. At its Seventh Session in November 2017, the Governing Body in its Resolution 7/2017 "Invites each Contracting Party to engage farmers' organizations and relevant stakeholders in matters related to the realization of Farmers' Rights as set out in Article 9 of the International Treaty, the conservation and sustainable use of plant genetic resources for food and agriculture, and to promote awareness-raising and capacity-building towards this aim".

While not formally defined in the ITPGRFA, the following definition has been proposed for Farmers' Rights: "Farmers' Rights consist of the customary rights of farmers to save, use, exchange and sell farm-saved seed and propagating material, their rights to be recognized, rewarded and supported for their contribution to the global pool of genetic resources as well as to the development of commercial varieties of plants, and to participate in decision making on issues related to crop genetic resources".

With these factors in mind, the current project therefore proposes to contribute to the development of capacity on Farmers' Rights, by providing trainings and other capacity development activities on Farmers' Rights at CSB and government levels to increase understanding and linkages with the International Treaty. It will also promote the recognition of the technical, organizational and financial support required for the implementation of Farmers' Rights at national level, including through policy/legal, technical and financial support to community seedbanks.

(v) Support for small-scale seed enterprises

To further ensure the sustainability of interventions relating to accessing seeds and seedlings, nursery enterprises will be supported to form larger associations (with increased opportunities to participate in policy-making processes and easier access to input and output markets).

Small-scale seed enterprises have the potential to play a significant role in improving access to seeds for farmers, including NUS seed. The project therefore intends to establish new and legally-recognized small-scale seed enterprises within target communities in the wider landscape building upon existing producer organization structures. These seed enterprises will be involved in both production and commercialization of seeds, as well as offer effective and affordable information about climate conditions and crop diversity to smallholder farmers. Special attention will be given to young and to women entrepreneurs.

Support and capacity development for the new seed enterprises will be ensured through Farmer Business School (FBS) methodology, which will support farmers to transition into small-scale commercial production. Capitalizing on lessons and established services from local businesses, the project will facilitate cooperation between new and established seed enterprises. The suite of services provided by enterprises that are already operating in the target areas of intervention, such as seed multiplication, varietal testing, etc. will be recommended and guidance on how to access these existing services will be provided during the establishment of the new seed enterprises.

Further guidance on the development of quality seed will be integrated into the development of these new seed enterprises. Following the general guidance of the Quality Declared System (QDS) promoted by FAO, the project will support the design and testing of innovative procedures for seed quality control. To complement this, the project will move to promote the adoption of, and access to, quality declared seed by raising awareness for the possible acceptance of QDS to be sold at the community level.

Finally, the project will work towards building community level capacity in quality seed production. It will capitalize, amongst others, traditional knowledge of women and men for training purposes. In addition, training on modern technology for improving quality seed production at household and community levels will be provided using the FFS approach.

Corresponding outputs:

Output 2.2.1: *Evidence based good, sectoral, local and gender sensitive SLM and SFM practices identified, compiled, implemented, and disseminated*

Key activities:

1. Demonstrate and upscale good, sectoral, local and gender sensitive SLM and SFM practices in the landscape, through the setting up of 70 FFS
2. Rolling out the SLM/SFM training and support implementation of SLM and SFM in the 70 FFS in the target landscape;
3. Disseminate good SLM and SFM practices to decision-makers, communities, and FFPOs to facilitate mainstreaming into development plans and budget
4. Support formalization and strengthen ofexisting FFPOs with management structures, roles, responsibilities and negotiated by-laws.
5. Support identification, development, and conservation of water sources

Output 2.2.2: *Community seed banks and tree seed and seedlings production center established/or strengthened and capacitated*

Key activities:

1. Support establishment and capacitate 14 CSBs in the landscape.
2. Trainings and other capacity development activities on Farmers' Rights at CSB
3. Support establishment of tree seeds and tree seedlings production center in Tabora region
4. Support and capacity development for the establishment of Quality Declared Seeds (crop, pasture and forest) enterprises through Farmer Business School (FBS) methodology

Outcome 2.3. Key green value chains and associated finance and business development strengthened

Limited access to markets and business opportunities are preventing households from diversifying livelihoods, and further exacerbating their dependence on natural resources to supplement incomes, leading to land degradation, deforestation, and biodiversity loss. Overharvesting, sub-optimal management strategies for those natural resources, and low agricultural productivity exacerbate the problem. That being said, these same forest resources, if sustainably managed and markets developed, could be significant sources of alternative incomes. Similarly, the development of agricultural value chains, including for NUS, could improve livelihoods and increase food security.

The project will support community organizations in the identification, selection of basket of options (value chains) and in the development of bankable business plans for key crops, including NUS, as well as selected NTFP value chains (e.g. honey) with the most potential for LDN.

In addition, climate resilient storage facilities and processing technologies for key value chains will be provided by the LDCF project "Integrated Adaptation Program to enhance resilience of communities and ecosystems in the dry Miombo Woodlands of Tanzania Mainland and Dryland of Zanzibar" currently under design.

Box 7 (Pre)Identified Dryland Value Chains

PPG consultations identified seven dryland value chains of particular importance in the Miombo landscape of Tanzania. A thorough analysis, taking into consideration the project target to sustainably intensify the agricultural production while simultaneously addressing land degradation and climate change in view of resilience, was undertaken to identify those with applicability for LDN. Considering the results of MSG, interviews, SHARP report and project focus on SLM and SFM, four value chains have been taken into considerations namely: beekeeping/honey; medicinal plants; alternative sources of energy; and the intercropped maize and legumes system. The former two are described in more detail below.

Beekeeping Value Chain

Production from apiculture result in several different end products including honey, beeswax, royal gel, pollen, bee venom, glue and propolis. Due to underdevelopment of the sector in Tanzania on both supply and demand sides, most beekeepers and processors are only able to use honey and beeswax, leaving the potential of other more profitable products untapped.

Tanzania is one of the largest honey producers in the developing world. Despite this, it has been assessed that the production of honey and beeswax in Tanzania stands at a mere 3.5% of its potential. It is estimated that 90 % of all honey produced in Tanzania (10,000 MT) is consumed within the country as food or input for making local beer. Tanzania honey on the global market has been on decline systematically despite the rise in global demand. Processed Tanzanian honey is officially exported to Kenya, Uganda, Oman, India, Belgium and Germany.

Beekeeping is regarded as a traditional activity by rural communities. The use of traditional, less sophisticated, hives dominates the sector, although there is a growing awareness of improved and commercially-orientated hive technology. Traditional beehives are made up of logs and barks, and debarking trees to obtain materials for constructing beehives kill tree and consequently affect the forest negatively. Commercial hives can produce at an average of 10-15 kg of honey per season (two cycles of harvesting honey), compared to 7-10 kg for traditional hives. Mlele District Council has a capacity to produce more than 800 Tonnes of honey per annum (from 57,840 traditional beehives and 17,300 modern hives in 2017, up to 43,958 modern hives in 2018), while in 2017 only about 72 Tons of honey and 3.5 Tons of wax were produced in Kaliua District Council (from about 10,280 traditional bee hives and 577 modern hives). Improved hives are available, for example, through the Tabora Beekeeping Training Institute (BTI), but are relatively expensive. A modern commercial beehive costs up to TZS 140,000 while the traditional are sold at TZS 5,000-25,000 which in a way results in prevalence of traditional hives.

Honey is typically processed in traditional facilities which sometimes compromises quality due to the lack of hygiene standards while productivity remains low. In the surveyed areas, only one private processing plant exists at Mlele District Council (funded by UNDP and owned by Mlele Youth SACCOS), and there is another processing facility at the Tabora Beekeeping Institute. The Mlele District Council plant has a potential to process 30 tonnes per month, but due to financial constraints on operating capital and marketing they can only process 400 l/month. The. It should be noted that in all these plants only honey and wax are processed.

Medium and large companies (such as Mohamed Enterprise Limited (METL), Fida Hussein, Honey Care Tanzania, Honey Show Tanzania) buy combed honey from beekeepers and do primary processing at their own collection centres. Thereafter, liquid honey is transported to urban facilities for final processing, packing, labelling, and sale to retailers or exported to international markets. The prominent regional markets for honey from Kaliua District Council and Mlele District Council are Dar Es Salaam, Dodoma, Mbeya and Arusha.

Beekeeping has limited extension services and relies on the use of local types of equipment and tools in harvesting, extraction, processing and packaging. The chain is regulated by the National Forest Policy of 1998 and Acts of 2002. Tanzania Bureau of Standards controls the chain in terms of quality assurance of the product. However, compliance to standards and quality is minimal is mostly done for export purposes.

Commercial beekeeping is a key priority for TFS, which has identified the following major outcome areas in its 2018-2023 Commercial Beekeeping Strategy in Tanzania: (i) Production of bee products increased; (ii) Diversification and value addition of bee products attained; (iii) Bee forage and forest cover improved; (iv) Products' harvesting, processing, packaging and storage facilities are targeted for improvement; and (v) Market information system will be developed and coordinated.

Medicinal Plants

A wide range of medicinal plants are found in miombo woodlands of Tanzania, which require local knowledge for their identification. These include, predominantly: Munzoka (*Cassia abbreviata*); Mtuzya (*Ekebergia benguelensis.DC.*); Mguluka (*Boscia salicifolia*); Mpapa (*Markhamia obtusifolia*); Mkurungu (*Pterocarpus tinctorius*); Mgogondi (*Phyllnthus engleri*); Myegea (*Kigelia Africana*); and Msana (*Combretum zeyheri*). While often part of informal markets, a majority of individuals reported relying on medicinal plants for health care needs. Communities perceive medicinal plants to be more organic with less side effects than other medicines. In fact, while the product flow is not well established, collectors asserted that medicinal

(i) Communities supported in improving efficiency for transition towards sustainable alternative energy and consumption

The project will aim to increase the transition towards sustainable alternative energy, through a series of measures, building on the successes of FAO's innovative Forest Farm Facility (FFF) approach and lessons learned provided by the REM. This will start in PY2, and will be conducted by TFS together with District extension officers.

Sustainable land management and harvesting practices that are adapted to the respective agro-ecological and socio-economic context of the intervention area will be promoted. The sustainable production of woody biomass will take place in various forms, by: (i) using existing wood resources (e.g. sustainable harvesting in forests, SFM); (ii) planting and maintaining trees on-farm (e.g. agro-forestry, SLM) in close alignment with FFS trainings, (iii) establishing woodlots/plantations (with focus on institutions that consume a lot of fuelwood for cooking, such as schools – once again linking to the school feeding programme).

The project will contribute to the identification and dissemination of practical and cost-effective technologies and practices for briquettes production (from wood and agricultural waste products).

At the end-use level, the project will support the wider production and off-take of energy end-use appliances. Awareness raising sessions for communities and institutions on use of alternative sources of energy will be held, to increase the demand for these.

(ii) Communities supported in the selection and development of Miombo woodlands value chains ("basket product approach")

The project will support natural-resource based income generating activities, in particular key NTFP value chains. **The first key value chain jointly selected through a participatory process during the PPG phase is beekeeping**. The project will promote not only honey, which is the most common bee product, but also underutilized products such as bee pollen, beeswax, pollen, venom, royal gel, propolis etc. While beekeeping activities are growing, and modern beehives are increasingly being used, the full capacity in the landscape has yet to be achieved and degradation is still being caused by traditional beekeeping methods.

Building on this momentum, the project will raise awareness on the importance of pollinator services linked to SLM and sustainable intensification of on-farm production, as well as provide support to establish bee hives on-farm (in combination with on-farm diversification - NUS crops and agroforestry).

The project will support the implementation of the commercial beekeeping strategy through a series of actions:

- key specific trainings for beekeepers offered at BTI (i.e. training of 300 participants from 15 villages from Kaliua District Council on beekeeping value chain, and 360 participants from 18 villages from Mlele District Council on beekeeping value chain);

- adoption of appropriate technologies and techniques for production, moving away from traditional/unsustainable production patterns, including the phasing out of traditional beehives;

- develop standards of beehives and supplying modern beehives to beekeepers;

- adopt technologies of product diversification;

- develop and promote varieties of value added bee products;

- equipment for two processing and packaging facilities;

- equipment for honey collection centers in 4 Wards of Ukumbi – Siganga, Zugimlole, Usinge and Igagala comprising 15 villages; and 2 honey collection centers in Ilunde and Inyonga;

- Establish one geographical branding of bee products.

These activities will start in PY2, and will be led by Districts and TFS together with BTI. Districts and TFS will co-finance through their annual recurrent budget.

In addition to the honey and bee product value chain, the project will focus on supporting the development of the following key value chains identified during the PPG: wild mushroom, wild fruits, medicinal plants and the maize and legumes intercropping value chain. It will follow a series of actions: i) Mapping of eligible producers / producer organizations in the targeted landscapes; ii) VC territorial approach developed and implemented through FFS groups; iii) support domestication and production of wild mushrooms and wild fruits on farm; iv) Improved resilience and efficiency of value chains based on innovative business models, technologies and practices; and v) support local and regional marketing (marketing segmentation, marketing mix, form groups of wild mushrooms and/or wild fruits producers and dealers). These activities will start in PY2, and will be led by TFS.

In addition to the awareness raising described above in terms of pollinator services, the project will raise awareness on the potential of NTFPs trade to the majority of communities in the project sites (along awareness raising conducted under component 1 as part of the development of the NTFP strategy).

These activities will be complemented with Income generated activities (IGA) that will be supported by the LDCF project "Integrated Adaptation Program to enhance resilience of communities and ecosystems in the dry Miombo Woodlands of Tanzania Mainland and Dryland of Zanzibar" currently under design.

(iii) Communities supported in the development and implementation of bankable business plans for selected value chains

The project will build institutional and organizational capacity of producer groups, in particular through: Training in business plan development (through MA&D support) with focus on selected dryland commodities and integrated SLM/SFM interventions; Support for legal registration if needed; Business plan development for commercialization; and Organizational coaching. For instance, the project may coordinate with the Honey Council of Tanzania to explore opportunities for business development. Training will be provided to women and men to build entrepreneurial ability to assess markets and financial profitability, technologies, sustain the natural resource supply-base, and undertake the legal registration of FFPOs. These activities will start in PY2-3, and an NGO, specialized in providing technical and institutional support to farmers association will support implementation of this activity. The project will further partner with financial institutions (e.g. CRDB bank, among others) to provide knowledge on different financial opportunities which can be accessed by farmers/FFPOs, as well as help them in securing credit at affordable rates.

The activities under this Outcome will benefit from the regional exchange mechanism where financing options, including certification and labelling (e.g. for sustainable produced Miombo honey) will be elaborated on. Experience from the project will be shared with other initiatives, such as the SUSTAIN 2 programme, which also focuses on green and inclusive value chains, and will be able to replicate good practices beyond the intervention areas.

Corresponding outputs:

Output 2.3.1: *Improved efficiency for transition towards sustainable alternative energy sources and consumption*

1. Awareness raising sessions for communities and institutions (eg. schools, prisons, and colleges) on use and production of alternative energy (briquettes)

2. Engaging rural communities and relevant institutions with high consumption rate of fuel wood in the targeted landscape on use of alternative energy sources and energy saving cooking facilitates (Schools, prisons, collages);

3. Support the establishment of community woodlots of fast growing tree species in the 14 pilot villages;

4. Support for the wider production and off-take of energy end-use appliances at household level (eg. biogas).

Output 2.3.2: *Improved development of Miombo woodlands value chains ("basket product approach")*

Key activities:

1. Training of 150 beekeepers from 7 villages in Kaliua District Council; and 150 beekeepers from 7 villages in Mlele District Council on beekeeping value chain to be provided by BTI;

2. Facilitate local production and supply of modern beehives to trained beekeepers as well as beekeeping equipment (hive tool, bee smoker, gloves, hat and veil); moving away from traditional/unsustainable production patterns, including the phasing out of traditional beehives;

3. Develop and promote varieties of value added bee products – bee pollen, beeswax, pollen, venom, royal gel, propolis: harvesting and semi-processing equipment, establishment of bee house/apiary or cage, packaging, marketing strategy;

4. Support establishment of two semi-processing and packaging facilities;

5. Support establishment of honey collection centers in 4 Wards of Ukumbi – Siganga, Zugimlole, Usinge and Igagala comprising 15 villages; and 2 honey collection centers in Ilunde and Inyonga;

6. Support and facilitate certification, and packaging of bee products in the targeted landscape.

7. Trainings on sustainable harvesting techniques, production, processing of NTFPs (eg. wild Mushroom, fruit and medicinal plants),

Output 2.3.3: *Business plans developed, financed, business development mechanisms established and implemented*

Key activities:

1. Support capacity building on development and implementation of bankable Agro/livestock/NTFPs business plans[57];
2. Support market opportunities and access; and
3. Support FFPOs to develop gender-sensitive saving group and access to micro-credits with support from financial institutions such as CRDB Bank.

Component 3. Strengthening knowledge, learning and collaboration to support progress towards achieving national LDN targets

As discussed earlier, the absence of harmonized approaches to monitor the effect of improved practices for SLM and SFM, the limited awareness of LDN and its key contribution to meeting local development needs and achieving the SDGs, the insufficient knowledge sharing on successful models for SLM and SFM to guide land-use planning, and limited coordination between countries to address common management challenges of the Miombo woodlands are all barriers to transformational change towards sustainable management of the landscape. This lack of transboundary perspective leads to lower impacts from interventions, leakage to other regions and beyond country borders.

Consequently, Component 3 has a strong focus on knowledge management, including information flow at and between district, national, regional and global partners, identification of lessons and best practices, and promoting regional and global collaboration to strengthen national efforts to address land degradation.

Component 3 will support the systematic creation and sharing of knowledge related to best practices on sustainable dryland management and contribute to increasing the capacity of Tanzania to meet its national targets on LDN as well as enhance collaboration to achieve a less piecemeal and more coherent approach to dryland management regionally, including exploring opportunities for potential joint initiatives targeted at addressing common challenges across neighboring country borders and throughout the Miombo-Mopane region.

This Component will be designed to be gender sensitive and take into consideration the needs and ambitions of women in the generation of knowledge, its communication, and the outreach which will ultimately take place. Knowledge management activities will include, amongst others, dissemination of best practices through FFS, establishing network of community seed banks, VC support (e.g. honey markets, certification), evidence based best practices on efficient energy alternatives, and cross-site visits at local, national and regional level. In addition, exchange with the global IP platform, and other Drylands child projects, will be an important aspect of this component.

In addition, opportunities for exchange with other SFM-DSL-IP child projects in the Miombo-Mopane region and with the global IP platform, will be an important aspect of this component. Component 3 will also support project M&E for effective project coordination and adaptive management, and to provide important information and knowledge on project results of relevance to national and global knowledge platforms on SLM/SFM and LDN. This will help the project in achieving the anticipated impact at wider (transboundary/regional/ ecosystem/global) scale. Component 3 activities also seek to promote programmatic consistency, cohesion and synergies.

Outcome 3.1. LDN-related policy, planning, management and decision-making at national and global levels informed

The project seeks to strengthen the national LDN assessment, monitoring and reporting systems and tools, and management of the data collected, to support assessing progress towards LDN targets. This will facilitate national LDN reporting responsibilities under the UNCCD. It will be led by VPO.

The project will support the development of a comprehensive monitoring and assessment system and define a process for regular monitoring of land use/land degradation and biodiversity in the target landscapes, feeding into national reporting requirements on LDN achievements and targets, building on existing monitoring processes. This will also help foster greater cross-institutional collaboration on addressing land degradation and integrated land-use planning and management.

This Outcome also responds to calls from the UNCCD Science-Policy Interface for consideration of the effectiveness of land degradation data and monitoring systems as well as wider consideration of the three global LDN indicators.

(i) Developing a LDN monitoring and reporting framework and procedures

Tanzania suffers from the absence of a centralized, publicly available database system hosting LDN-related information at the national level, which impedes the efficient and timely sharing (and reporting) of information between relevant sectors and agencies at both national and sub-national levels, as well as the regional and global levels. This works against the adoption of effective SLM and SFM practices across sectors and scales to address degradation drivers in the Miombo-Mopane system and enable transformational change towards the sustainable management of the landscape. Strengthening the LDN national assessment, monitoring and reporting framework will help to better inform decision-making and scale out SLM/SFM and LDN practices to other Miombo-Mopane areas within the country. The project will support further definition of goals, core indicators, metrics, data sources, and some baseline data for monitoring progress on LDN in the target landscapes using LDN methodologies that can be scaled out for national reporting purposes to UNCCD.

The current national LDN monitoring and reporting framework needs additional effort to agree on measurable, achievable benchmarks for progress including the development of a system for collecting, storing and analyzing data.

This Output particularly links with Output 1.1.1 – strengthening of the LDN WG, providing the WG with improved information sources to support evidence-based decision-making for LDN.

Field monitoring data will be matched with remote sensing data collected at national level. This will be facilitated by FAO, through capacity development of members of National and Local Government on the use of the ILAM for effective LDN planning under output 1.1.1 using a variety of relevant tools, including the SEPAL[58] tool or other GIS-based systems that combine high-resolution imagery with a cloud-based architecture and user-friendly interface for monitoring. The REM will also assist the PMU and the LDN Working Group to establishing remote sensing data collection system that will complement the field data where needed.

The design/strengthening and operation of the platform will be informed by experience and lessons emerging from the regional suite of SFM-DSL IP child projects as well as international data and information depositories (e.g., WOCAT, SADC, CAADP, DRIP, etc.). It will draw on and consolidate information currently available from other existing knowledge platforms of relevance to SFM, SLM and LDN objectives. The LDN platform will be linked to other relevant national platforms and information sources, as well as regional and global information sources (including those of other SFM-DSL IP country projects), and be open to other experiences from SADC, AFR100 countries, TRI, and elsewhere.

This project will cover the operational costs, equipment, capacity development and technical assistance to enhance national capacity to monitor the impact of LDN in the long-term.

Corresponding outputs:

Output 3.1.1. National and sub-national LDN assessment, monitoring and reporting systems and tools developed and operational, with relevant reporting to global level

Key activities:

1. Support establishment and operationalise a participatory targeted landscape LDN assessment, monitoring and reporting system and framework

2. Support a LDN platform for storage, management and analysis of LD and LDN-related data (tools, software), practices and lessons learned;

3. Establish a specific 'dashboard' within the LDN knowledge platform targeted at government decision-makers to facilitate ease of reporting under international requirements;

4. Further develop/refine the ILAM toolbox, piloted during the PPG process, for LDN monitoring and reporting purposes, including consideration of the Neutrality Mechanism Balance Sheet;

5. Operationalise the LDN Framework to guide LD and SLM/SFM assessments, monitoring and decision-making, including further development and promotion of the use of the concept of avoid, reduce, reverse concept employed in the VLUP process; and

6. Develop and operationalise a plan for the sustainability (financial, institutional and human capacity) of the LDN monitoring and reporting system.

Outcome 3.2. Knowledge and awareness to support progress towards achieving national LDN targets enhanced

Outcome 3.2 is concerned with the dynamic process of knowledge generation and its management, monitoring and evaluation, learning lessons and communication to facilitate the sharing, transfer and up and out-scaling of knowledge produced through the project (and DSL-IP) on SLM/SFM and LDN to key local, national and global stakeholders for decision-making and to the wider audiences.

The knowledge management and communication and awareness-raising activities will be linked to the capacity development, monitoring and reporting efforts promoted through Components 1 and 2. It will be led by TFS.

(i) Knowledge Management and Communications Strategy (KMCS)

The documentation and dissemination of information and knowledge about SLM/SFM and LDN methodologies, tools and best practices is a critical component of the project. KM, communications and outreach activities will be guided by a Knowledge Management and Communications Strategy (KMCS) supported by a project web-based knowledge management portal and innovative information-sharing program.

Knowledge exchange at global level facilitated by the GCP will take place in two ways: the project will actively "feed" knowledge to the global and regional platforms while benefiting from recent scientific knowledge and global evidence-based good practices provided by the platforms/exchange mechanisms in return through the REM (See Box 8). Further details about this Mechanism and how it is aligned with the GCP are provided in Annex X-4.

All communication and awareness-raising materials will consider the information needs and ambitions of women and minority groups in the generation of knowledge, its dissemination, and the outreach that will ultimately take place.

The KMCS will address the systematic creation, documentation and sharing of knowledge on sustainable dryland management and LDN as well as contribute to global knowledge platforms. It will set out a systematic knowledge management process to capture and exchange lessons learned and best practices in SLM/SFM and LDN; and will support knowledge development and communication activities to systematize and disseminate them at local and national levels, as well as with other SFM-DSL IP countries. It will address the needs of practitioners, decision-makers and local stakeholders, making use of both traditional and new communication media and networks.

Project communication materials (culturally appropriate and in relevant languages) for dissemination to all relevant national and landscape-level government agencies and key stakeholders will include various digital and printed knowledge products (e.g. publications, leaflets, journal articles, booklets, case studies, best practice documents, presentations and audio-visual materials) as well as social media content, a quarterly electronic project newsletter. Communication events with stakeholders may include information days, on-farm demonstrations, local fairs, radio programs, information vans and community announcers. TV and radio stations will be key partners in the dissemination of news about the project.

KMCS activities will be aligned with the GEF communication and visibility policy and FAO's corporate communication strategy. It is expected that a series of national-level workshops and conferences to promote project results and lessons will also be organised and an annual 1-day meeting will be held to disseminate the project results, key lessons learnt and best practices captured through the project.

Communication work will be structured and have tailored products according to the national, landscape/district/community (supported by members of the Landscape Management Committees) and international levels (through the REM).

The KMCS for the project will be closely aligned with that at the program level, as well as harmonized with those of the other Miombo/Mopane child projects (through the REM). This will facilitate the sharing of evidence-based good practices across investments, which will be done through existing global (e.g. working groups on drylands, UNCCD) and regional (SADC's GGWI-S) knowledge and exchange mechanisms.

(ii) Implement a results-based project monitoring system, including baseline research, data analysis and reporting

The project will develop and implement a detailed M&E framework (see section 9) to support an adaptive, results-based management approach to improve the efficiency and effectiveness of project management and implementation. Lessons learnt and recommendations produced by the Terminal Evaluation will inform discussions on sustainability/durability of project results and impacts and future replication and scaling up initiatives. The project M&E framework will be fully integrated into the learning programme of the REM (see Outcome 3.2) established by the GCP.

The project's M&E framework will generate and systematically document lessons learned (supported by the REM on methodology to best document experiences and capture lessons learned) that will contribute to the knowledge base on SLM/SFM approaches and practices and means to achieve LDN targets. The project will identify and share lessons through sub-national, national and regional level meetings, exchange visits and various knowledge products, with neighbouring IP and non-IP countries. It is expected that the project will provide important lessons on land tenure and access, resilience, the role of women in the sustainable management of drylands, effectiveness of public-private partnerships in addressing land degradation, and the effectiveness of market-based instruments such as 'branding' to encourage and maintain sustainable land management practices.

The project will hire an M&E specialist during PY1 to develop and oversee delivery of the M&E system, collect and collate information on progress in meeting targets and, evaluate results; and to facilitate lessons learning and the systematization of experiences. The results matrix (Annex 1) presents the results expected from the project, related objectively verifiable indicators and means of verification. Monitoring reports will be prepared by the PMU according to the M&E system throughout the duration of the project.

Project M&E will also contribute to the LDN assessment and monitoring framework through the LDN Working Group (Component 1), providing important information to help populate the national LDN information platform (Output 3.1.1). Links will also be established with program-level monitoring organised through the REM, with the relevant M&E data fed to the REM to consolidate data at the regional and global levels. M&E tools used by the individual child projects will be harmonised as much as possible to facilitate program-level reporting and monitoring, knowledge sharing, and the good practices identified and their successes highlighted.

Corresponding outputs:

Output 3.2.1: *Project knowledge management, communication and dissemination framework and strategy developed and implemented*

Key activities:

1. Develop a project gender-sensitive Knowledge Management and Communication Strategy (KMCS), and associated financing plan;

2. Produce project communication materials and events (including final workshop) for multiple stakeholder audiences (from national to community levels);

3. Develop a synthesis of all new project-generated knowledge acquired about SLM/SFM and LDN in Miombo-Mopane landscape and publication of relevant results in academic journals

4. Establish an online web-based platform for hosting and disseminating project-related; communication materials, lessons learned and best practices from the project and the wider SFM-DSL IP network;

5. Liaising with the REM, establish two-way flow of project-generated information and knowledge between the child project in Tanzania and the GCP and another SFM-DSL IP countries ;

6. Design and deliver a training module on communication and outreach to develop the capacity of project management unit and key stakeholders for communication and outreach

Output 3.2.2: *Project M&E framework, supporting lesson learning and adaptive management, developed and operational*

Key activities:

1. Further develop and implement the project M&E strategy (section 9)
2. Develop a set of performance/process indicators to measure delivery and achievement of project activities and outputs and incorporate set of global platform indicators (provided by REM)
3. Establish a framework and methodology (process) for the identification, capture and dissemination of lessons learned and best practices[59] from the project (supported by technical input from the REM) with the results disseminated among relevant audiences (feeding through the KMCS under Output 3.2.1)
4. Undertake Mid-term Review (MTR) at year 3 and Terminal Evaluation (TE) in year 5
5. Organise an annual project retreat for PMU staff and key stakeholders to provide an opportunity to reflect on project management and operation and delivery and identify practical solutions to overcome issues hindering project performance and impact
6. Feed results and recommendations from project M&E activities into project Knowledge Management framework (Output 3.2.1) as appropriate
7. Provide support for, and development of, community level participatory monitoring of project activities

Outcome 3.3. National and sub-national measures to deliver LDN enhanced through improved regional and global opportunities for collaboration, exchange and learning lessons

This Outcome aims to both support the Tanzanian project's national and sub-national efforts as well as leveraging its results, experiences and lessons learnt for wider impact at the regional and global scales, and enhancing its contribution to South-South cooperation. It seeks to enhance the delivery and impact of the Tanzania child project both at the country and regional and global levels through engagement with additional wider opportunities available through collaboration with other DSL-IP countries and the global DSL-IP. It seeks to connect the Tanzania project and its partners to additional shared support for knowledge exchange and mutual learning, networking and partnership development, as well as, potentially, offering increased opportunities for market development for SLM/SFM products and collaborative and coordinated actions to address common challenges in sustainably managing the region's natural resources to maintain the ecological integrity of the Miombo-Mopane ecosystem, including exploring the possibility of new cross-border and regional initiatives and investments. As a member of a program (the DSL IP), the Tanzania child project has the possibility to access additional resources and opportunities that would likely not be available to a stand-alone project.

Activities under this Outcome are largely developed through partnership with the REM, which aims to ensure that the project and its partners can benefit from these additional shared opportunities and which will play a key role in supporting the project in delivery of all Component 3 outputs. As mentioned above (Box 8) the REM functions as a mechanism to strengthen national- and landscape-level project delivery through its service function provided on a demand basis across all components of the project, as well as facilitating regional and global exchange of knowledge, lessons learned and best practices, acting as a conduit for information flow and exchange between national, regional and global stakeholders to accelerate and amplify the uptake of such practices. However, a key role of the REM is also to support and promote opportunities for regional collaboration and coordination on sustainable land management between neighbouring countries that share Miombo-Mopane ecoregion concerns.

The project will use part of the SFM-DSL IP incentive to "access" additional services and opportunities offered by the global project on a demand and adaptive basis in order to support the child project in achieving the anticipated impact at wider (transboundary ecosystem) scale. This support will be available to meet technical capacity needs (e.g. improved access to SLM and SFM technologies, tools and practices) identified under Components 1 and 2, but also under Component 3 to access opportunities for exchange and knowledge sharing, explore new commercial possibilities for SLM/SFM products promoted through the project, networking opportunities for market development, as well as support development of joint initiatives between the countries to promote sustainable drylands management of the Miombo-Mopane eco-region..

(i) Participatory identification of priorities for action, collaboration and investment

The project will support regional and cross-border collaboration and coordination to maintain the ecological integrity of the Miombo-Mopane eco-region, involving both DSL-IP countries and non-DSL-IP countries, and develop joint solutions to common challenges in sustainably managing the region's natural resources, including exploring the possibility of new cross-border and regional initiatives and investments. In doing so it also facilitates the sustainability and scaling up and scaling out of project results across the region.

The output begins with the identification of common or transboundary land degradation, sustainable drylands management and other environmental challenges across the region, and progresses to prioritizing actions to jointly address them.

(ii) Coordinating and prioritizing initiatives and investments across Miombo-Mopane countries

The project will contribute to establishing mechanisms for coordinating and prioritizing initiatives and investments across Miombo-Mopane countries. This output addresses, through the support of the REM, the identification of and networking with cross-border, regional and global markets for LDN-compliant land-use products promoted by the project.

The REM will provide a dedicated 'business development facility' function, supporting the (largely) underdeveloped value chains for SLM/SFM products from the target areas. Amongst other support the REM will compile information (on a database) on potential products, businesses, sources of financing and markets, which will be available to the Tanzania and other DSL-IP child projects. The REM will also explore the possibility of developing a Miombo-Mopane 'brand', drawing FAO's experience with developing Geographical Indication (GI) schemes[60][13].

Products from areas under SLM/SFM practices with global appeal and markets are relatively limited in Tanzania, with some exceptions such as honey markets. Consequently, it is expected that much of the business and market development through the project will be relatively local (district or provincial or national).

(iii) Sharing knowledge products with stakeholders from other countries

The project will seek to identify and promote opportunities for project stakeholders to exchange knowledge, experiences and lessons learnt and enhance mutual learning with other DSL-IP projects, as well as connecting them with other relevant regional and global knowledge sources and learning opportunities. This will further strengthen evidence-based decision-making capacity for LDN in Tanzania.

The project's framework is closely aligned with the DSL-IP's global framework, as well as harmonized with that of the other Miombo/Mopane child projects, which should facilitate the sharing of evidence-based good practices across initiatives. The REM will play a major role in assisting the Tanzania project to engage in and deliver this output.

Box 8. Miombo/Mopane Regional Exchange Mechanism (REM) and opportunities offered to child projects

The role of the Miombo/Mopane REM is to increase the magnitude, durability and scope of impacts of the GEF-7 investments in sustainable drylands management in the DSL IP countries (Angola, Botswana, Malawi, Mozambique, Namibia, Tanzania, and Zimbabwe). The REM will offer individual child projects increased access to capacity development, knowledge exchange, and outreach and scaling out opportunities, as well as facilitating multi-country collaboration and synergies. In doing so the REM will enhance both the delivery of results and benefits at national and landscape levels as well as the regional dimensions of the DSL IP child projects. This effort will particularly focus on improving the availability of technical assistance to child projects (offered on a demand basis) and ensure that demand for services is coordinated and met through the best and most cost-effective means available (offering economies of scale for common capacity development across countries, for instance). A harmonized, programmatic yet flexible approach to delivering comprehensive and targeted support to child projects in the DSL IP is expected to significantly improve outcomes for capacity development and knowledge sharing in the participating countries, as well as at the regional and global levels, and supports South-South Cooperation. The REM will also support sustainability of project results and impacts through helping to identify financial support options to target projects/countries (including mapping suggested pathways to ensuring access to finance beyond and outside DSL IP for long term sustainability). REM activities will be financed largely through the GCP but also child project contributions. The following five outcomes are expected:

Outcome 1: Increased collaboration and coordination among Miombo/Mopane child projects resulting in new or strengthened synergies, enhanced impacts and efficiencies, and avoidance of duplication. This outcome will focus on facilitating the identification and strengthening of synergies among child projects to avoid duplication of country efforts, including: facilitating engagement between countries to identify common challenges where collaboration might yield benefits; assisting countries in identifying, developing and applying solutions to common management challenges/barriers; and supporting/ensuring linkages to regional value chain opportunities (particularly supporting project Outcomes 2.3 and 3.3).

Outcome 2: Improved availability and delivery of demand-driven technical, methodological, financial and other capacity development support to child projects. The REM will assist countries in identifying child project capacity development needs, captured in a regional capacity development program, and channeling technical support resources to target projects/countries based on their agreed needs. Common capacity development topics may include, for example, integrated approaches to land use planning and landscape management, applying the LDN framework at landscape level and undertaking LDN assessment and monitoring in accordance with global best practice, implementation of specific good SLM and SFM practices, green value chains/regional business development, and more. Capacity support will be provided through national or Miombo/Mopane regional experts where possible/appropriate. Activities associated with this REM Outcome are expected to support delivery of most project Outcomes under Components 1-3, but particularly Outcome 2.1, 2.2 and 2.3.

Outcome 3: The program and its child projects contribute to knowledge access and knowledge exchange on DSL options. Activities associated with this outcome will focus on improving knowledge access and exchange, including: facilitating coordinated knowledge management (KM) to support capacity development and awareness raising by gathering, collating and making available the knowledge products created through the projects under the IP in the region; and facilitating the capturing and sharing of key results, lessons and promising/successful/good practices and other innovative approaches by child projects (e.g. SLM/SFM best practice in Miombo/Mopane countries). This REM Outcome will support delivery of project Outcomes 3.1 and 3.2, but also contribute to delivery of many others.

Outcome 4: Impacts scaled out in and beyond IP countries in the Miombo/Mopane region. REM activities under this outcome focus on: connecting key stakeholders working across the region to promote discussion and sharing of best practices related to DSL (e.g. through facilitating conferences and networking events and peer-to-peer learning); and promoting integrated landscape management through the supranational bodies that are involved in regional 'policy setting' as well as related programs, projects and other initiatives regarding DSL in the region. This Outcome mostly supports project Outcomes 3.2 and 3.3.

Outcome 5: Regional level M&E allows adaptive response to regional impacts and trends. The REM will provide centralized technical advisory support to the child projects on the design and execution of their project-specific M&E plans, including formulation of their indicator sets. The REM will also lead program-level M&E at regional level, channeling up relevant M&E results from the child projects and regional level to the GCP, for aggregation, review and reporting at global IP level, including reporting on contributions to standardized program-level indicators, specifically GEF-7 core indicators and LDN indicators. This Outcome particularly helps deliver project Outcome 3.2.

The project and the REM will jointly identify the most suitable learning opportunities in other DSL-IP countries and organize at least two visits of approximately one week to relevant sites, with the help of the host partner. Visits are expected to involve between 8-10 participants from Tanzania. Participants will be required to prepare a report for dissemination and conduct post-return workshops or meetings to share the knowledge acquired on returning to Tanzania and identify how it might be applied in a brief action plan. Actions will then be monitored and reported to the PSC. In return for the Tanzania project participating in wider learning opportunities, the PMU will liaise with the GCP to host similar learning visits for other DSL IP partners, based on the most successful achievements of the project in Tanzania.

Corresponding outputs:

Output 3.3.1: *Actions, collaboration and investments identified to address common land and environmental degradation priorities in Miombo-Mopane ecoregion and bi-/multi-lateral initiatives established to progress towards LDN*

Key activities:

1. Key project stakeholders participate in regional review and identification of priorities for transboundary and regional collaboration to address environmental and natural resource degradation and loss; sustainable resource use in the Miombo-Mopane region (e.g. veldt fires, invasive alien species, illegal mining, charcoal, extraction of indigenous plant resources, watershed management); and identify means to address them in a collaborative manner), organised through the REM with development of an action plan

2. Identify and develop proposals for trans-boundary and regional initiatives to address common challenges to managing the Miombo-Mopane system, such as biodiversity (e.g., endangered species' ranges covering several Miombo-Mopane countries)

3. Participation in review (organised by the REM) of regional and global initiatives and investment sources (including private sector companies and institutions) with a mandate to cover sustainable drylands management (e.g. Miombo Forum SADC-GGWI) to identify potential financing (sources, innovative financial tools) in support of both regional priorities identified through the activities above and the national LDN targets (database held by REM)

Output 3.3.2 – *Collaborative actions to support business and develop markets for SLM/SFM products across the Miombo-Mopane region undertaken*

Key activities:

1. Provide national inputs into REM assessment of market analysis and business opportunities for further development of trans-boundary, regional and global markets (with a focus on linkages with other DSL countries) for SLM/SFM products, including identification of potential sources of commercial financing

2. Engage with REM promoted regional business networking events for support of value chain development and promotion of products from target areas under SLM/SFM practices

3. National input to any proposed development and promotion of a Miombo-Mopane 'brand' for SLM/SFM products delivered through the project to support market development

Output 3.3.3 *– Opportunities for national and landscape-level stakeholders exchange knowledge and lessons learnt at regional and global levels identified, developed and supported*

Key activities:

1. Liaise with the REM, other DSL-IP countries and other relevant initiatives and platforms to identify appropriate exchange, learning and capacity development opportunities being offered through the DSL-IP to improve Tanzania's access to regional and global knowledge and expertise in relation to sustainable drylands management and LDN

2. Organise (supported by the REM) national and sub-national participation in regional and global 'cross-fertilisation' exchanges, study tours and peer-to-peer learning opportunities, including exchange-learning visits (with cross-site visits at local, national and regional levels) for key project participants and partners to other DSL-IP projects in the Miombo-Mopane ecoregion, and to other projects providing best practices under the AFR100 network to improve mutual learning

3. Develop linkages (supported by the REM) and engage with key global forums and working groups on drylands and related platforms (e.g. Collaborative Partnership on Forests, Global Landscapes Forum, Global Soils Partnership, Global Agenda for Sustainable Livestock, FAO's Family Farming Platform, GEF-6 IAP Policy and Science Interface, and the World Overview of Conservation Approaches and Technologies - WOCAT) and regional-level platforms (e.g. SADC GGWI, Miombo Network), with specific training provided on a demand basis to relevant departments on the use of existing sources of information (e.g. WOCAT, TerrAfrica) and develop associated user-friendly guides where necessary.

4. Ensure close coordination with FAO's Committee on Forestry (COFO) Working Group on Dryland Forests and Agrosilvopastoral Systems, including support for country's representative to participate in relevant meetings in order to help channel knowledge and policy support between the child project, regional level and GCP steering committee.

5. Organise (facilitated by the REM) participation of the Tanzania project team and partners to the annual meetings of DSL IP and other capacity development events and networking opportunities organized by the GCP, SADC, UN COPs (particularly UNCCD), IUCN Global Congress, among others.

The table below shows the budget allocated per output.

Table 7. Budget per output

Outcome 1	
Output 1.1.1: Cross-sectoral LDN national working group and Miombo landscape level technical working group operational, strengthened and capacitated in the application of tools and approaches	285'167
Output 1.1.2: Values of Miombo woodland's ecosystem services assessed across the two targeted sub-landscapes and fed into a policy/decision-making	73'667

Output 1.1.3: Strategies, plans and other sectoral frameworks reviewed and by-laws clarified/developed	121'167
Outcome 2.1	
Output 2.1.1: Joint Village Land Use Plans (forest, rangeland and cropland areas) updated, reviewed, developed and implemented in a participatory manner, supporting security of land tenure and access rights	581'767
Output 2.1.2: Integrated landscape management mainstreamed into forest management plans (including fire management)	1'193'668
Outcome 2.2	
Output 2.2.1: Evidence based good and gender sensitive SLM and SFM practices identified, compiled, implemented, and disseminated	1'138'667
Output 2.2.2: Community seed banks and tree seed and seedlings production center established/or strengthened and capacitated	536'667
Outcome 2.3	
Output 2.3.1: Improved efficiency for transition towards sustainable alternative energy sources and consumption	539'052
Output 2.3.2: Improved development of Miombo woodlands value chains (“basket product approach”)	1'114'667
Output 2.3.3: Business plans developed, financed, business development mechanisms established and implemented	148'667
Outcome 3.1	
Output 3.1.1. National and sub-national LDN assessment, monitoring and reporting systems and tools developed and operational, with relevant reporting to global level3	157'288

Outcome 3.2	
Output 3.2.1: Project knowledge management, communication and dissemination framework and strategy developed and implemented	195'388
Output 3.2.2: Project M&E framework, supporting lesson learning and adaptive management, developed and operational	425'213
Outcome 3.3	
Output 3.3.1: Actions, collaboration and investments identified to address common land and environmental degradation priorities in Miombo-Mopane ecoregion and bi-/multi-lateral initiatives established to progress towards LDN	114'788
Output 3.3.2: Collaborative actions to support business and develop markets for SLM/SFM products across the Miombo-Mopane region undertaken	114'788
Output 3.3.3: Opportunities for national and landscape-level stakeholders exchange knowledge and lessons learnt at regional and global levels identified, developed and supported	277'288
Project Management Costs	350'895
TOTAL	**7'368'807**

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

As a child project for the Sustainable Forest Management Impact Program on Dryland Sustainable Landscapes, this project directly supports the achievement of the program objectives (i.e. 1. Integrated landscape management with particular focus on sustainable forest management and restoration, rangelands, and livestock production; 2. Promotion of diversified agro-ecological food production systems in drylands considering their biodiversity; 3. Creation of an enabling environment to support first two objectives) by focusing on LDN, SLM, and SFM for Miombo woodlands of southwestern Tanzania. The project will take an integrated landscape approach alongside a focus on diversifying agro-ecological food production systems to contribute to increasing the resilience of ecosystems and livelihoods, and directly address the barriers which have been preventing LDN, SLM, and SFM from being successfully implemented and achieved.

The project directly supports the Land Degradation Focal Area Objective 1, to "Support on the ground implementation of SLM to achieve LDN". By focusing on SLM and SFM at the landscape level, in conjunction with land-use planning, the project aims to directly contribute to achieving the country's LDN targets. Ultimately, the project will contribute to maintaining, and where possible restoring, ecosystem services to sustain livelihoods in the Miombo woodlands of southwestern Tanzania through improved governance and capacity for sustainable dryland management. Further benefits will arise from working on strengthening and greening agricultural and forest value chains, and increasing their sustainability.

More specifically, the DSL IP intends to contribute to global environmental benefits in the Land Degradation Focal Area LD-2-2: "Maintain or improve flow of ecosystem services, including sustaining livelihoods of forest-dependent people through Sustainable Forest Management (SFM)", as well as LD 1-1: "Maintain or improve flow of agro-ecosystem services to sustain food production and livelihoods through Sustainable Land Management (SLM)".

The project will also contribute to Biodiversity Focal Area Objective BD-2-1: "Mainstream biodiversity across sectors as well as landscapes and seascapes through biodiversity mainstreaming in priority sectors", by considering Miombo related biodiversity as part of the VLUP planning/development and district plans (spatial land use planning) and by including protected areas and forest reserves in the planning process, as well as conducting VLUPs and joint VLUPs for villages adjacent to the forest reserves. Through promoting CSB and sustainable intensification of agriculture, the project will also increase agro-biodiversity and decrease pressure on Miombo woodlands.

Through landscape-level interventions which target SLM and SFM, in support of LDN targets, the project will contribute to maintaining, and in some cases increasing, forest carbon stocks, and soil organic carbon stocks. Further focus on greening the charcoal value chain will make significant and systemic contributions to reducing GHG emissions.

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•e) Incremental/additional cost reasoning and expected contributions from the baseline

Table 8. Incremental Cost Reasoning

Current Baseline (B)	Alternative (A)	Global environmental benefits (A – B)

Current Baseline (B)	Alternative (A)	Global environmental benefits (A – B)
In the business-as-usual (BAU) scenario, the target landscape is facing an accelerating rate of deforestation and forest degradation, associated with a number of socio-economic and biophysical factors. Increasing competition for natural resources and land are putting pressure on the ecosystems, which are struggling to support the services they provide to communities and sustain livelihoods.	In the alternative scenario, the project will contribute to the strengthening of institutional capacity to do cross-sectoral and landscape level planning towards LDN. It will directly address the barriers to SLM and SFM in the landscape, and hence provide the enabling environment for the scaling up of sustainable dryland management for Miombo woodlands in Tanzania.	Applying the **Landscape Approach**, the project will deliver GEBs by turning science-based land degradation data generated through ILAM tools into **a powerful decision support tool**, as well as a ***mechanism***, for planning and implementing SLM/SFM at scale across varied landscapes. In terms of scale considerations in the landscape approach, the project will combine ground-level data collection and participatory land-use management assessment and planning with remotely sensed data. It will thereby become **an example of land-use management for SLM that operates with multiple-scales and involves multiple-stakeholders in the process.**
Complex legal and policy frameworks exist for land-use planning and forest management in Tanzania, with sometimes overlapping and conflicting components, and the low systemic integration of SFM and SLM. Institutional capacity for land-use planning remains low, and often limited to administrative boundaries. Importantly, there are no mechanisms in place to do KM or M&E at the regional scale, leading to leakage and leaving transboundary issues unaddressed. Compounded by siloed mandates of the different institutions involved in forest management, these factors all contribute to preventing the effective application of cross-sectoral landscape approaches and the overall unsustainable management of forests. Although TFS zonal offices are promoting land use planning on villages surrounding natural forest reserves, one of the challenge TFS is facing is the fragmented institutional arrangements between central and local government authorities in forest management, and forest management not being fully integrated with other sectors in landscape planning and management	The GEF project will bring together local stakeholders together with TFS for integrated landscape planning, going beyond administrative and sectoral / mandate boundaries, promoting LDN at the Miombo landscape level. The project will also support TFS in overcoming the challenges associated to the limited supply of quality tree seed and other propagating materials, as well as strengthening the NTFP value chains (including honey), and institutional capacity building and strategic framework strengthening for LDN. The approach taken will be evidence-based, and the creation, transfer, and use of knowledge for SLM and SFM for miombo woodlands will be anchoring the project's first two components. Stakeholders at all levels will benefit from knowledge management interventions, increasing their capacity to address land degradation in a more holistic way. This will be further strengthened by Component 3, where the project will apply KM and M&E at the local, national and regional levels, to ensure leakage and transboundary issues are effectively addressed.	The scales will include: § **A Wider Landscape covering the following regions and districts: Tabora Region (Kaliua, Urambo, Sikonge, Uyui District Councils), Katavi Region (Mlele, Tanganyika District Councils), Rukwa (Nkasi, Sumbawanga District Councils) and Songwe (Mbozi, Momba, Songwe District Councils).** The Wider Landscape is the project's a broad target for demonstrating SLM results. § **Demonstration landscapes** with a combined surface of approx. **1,244,340 ha of multi-use landscapes.** Demo landscapes are located in selected wards and villages of the Districts Councils of Mlele, Kaliua and Urambo, and within which land degradation trends will be monitored and SLM/SFM plans developed. § **Six forest reserves where TFS will implement SFM activities, encompassing the demo landscapes above but being wider; covering a surface of approx. 3,100,949 ha**
Widespread poverty, low access to markets, and the lack of alternative livelihoods entails that households lack the means to implement improved agricultural and land management practices. Moreover, there is a general low knowledge regarding improved agricultural and land management practices, and how they can contribute to sustaining ecosystem services.	The project will contribute to building institutional capacity, structures and resources at to contribute to achieving LDN targets, using a multi-stakeholder approach and ensuring vertical information sharing and decision-making. Knowledge generated by other projects, as well as that from the project itself, will be capitalized to enhance decision- making at regional, national, local, and farm	§ **Demo sites, which are targets at micro-landscape level for agroecological intensification within demo landscapes which cover a total 21,000 ha** (rounded off). The estimated area corresponds to approximately 5% of croplands and rangelands in the two districts (calculated surface is 15,000 ha of croplands, plus 6000 ha of grasslands, totaling up to 21,000 ha)

f) Global environmental benefits (GEFTF)

The project intends to deliver a range of Global Environmental Benefits (GEBs) by halting and reversing negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach.

On the one hand, it is expected that 796,237 ha of land within the Miombo Woodlands landscape of Tanzania will be under improved practices and will be adopting SLM/SFM practices; 34,885 ha of forest will be under restoration, and 2,729 ha of avoided deforestation; 15,000 ha of rain-fed agricultural land will be under improved climate-smart agricultural practices with annual crops (e.g. maize-legume system); and 6,000 ha of grasslands will be under improved pasture management. These improved practices will lead to increased ecosystem and community resilience, and the sustainable provision of ecosystem goods and services at the landscape level. Moreover, this will contribute to the conservation of globally significant biodiversity in the Miombo woodlands, and make significant contributions to the African Forest Landscape Restoration Initiative (AFR100) objectives by bringing degraded land into restoration by 2030.

A major co-benefit of these interventions to reduce land degradation and deforestation will be avoided GHG emissions and carbon sequestration, estimated at 1.318 million-tCO2 equivalent over the 20 years of the project lifespan. Policy changes and behavioural changes associated with capacity-building activities are also expected to contribute to this co-benefit.

In addition, the project will be supporting six upgraded Nature Forest Reserves of 3,100,949 ha in total, contributing to ensuring their natural regeneration as well as sustainable management of 2,069,455.44 Ha. These activities will contribute to strengthening key value chains for sustainably harvested NTFPs, and contribute to diversifying livelihoods and reduce poverty. It will contribute to the conservation and sustainable use of biodiversity in those productive landscapes, especially through interventions relating to NTFPs such as honey. Through promoting CSB and sustainable intensification of agriculture, the project will also increase agro-biodiversity and decrease pressure on Miombo woodlands.

g) Innovativeness, sustainability and potential for scaling up

Innovativeness

Current land-use planning in Tanzania is restricted by administrative boundaries, often remaining at the village level. Moreover, the development of Village Land Use Plans remains limited. This project proposes to build on existing processes and innovate by bringing land-use planning to the landscape level, while integrating SLM and SFM principles to achieve LDN targets, focusing on a new cross-sectoral and participatory approach. Hence, mechanisms will be put in place to allow vertical information sharing and decision-making on LDN through the land-use planning process, a significant innovation in itself.

Business model innovations will also take place through the activities on strengthening and greening key value chains, focusing on those which remain largely underdeveloped and have the potential to bring positive transformational change in the landscape. Several value chains targeted in the landscape remain poorly developed, despite their great potential (e.g. honey), while others do not have the required structure to be financially viable. The project will therefore support structuring of producer organizations, encourage linkages with the private sector, and provide technical assistance to develop bankable business plans, amongst others.

For the first time, it will be possible to practically demonstrate how LDN informed decision making (based on integrated / innovative assessment tools and approaches and following a LDN response hierarchy) can be included in integrated landscape planning efforts and the impact monitored (with support of the DSL IP).
A central innovation of the project is through the regional coordination of the DSL IP for Miombo and Mopane, including the sharing of knowledge, as well as monitoring and evaluation. Through these activities, the project will be able to tackle issues such as leakage and transboundary issues, which most projects this scale would normally not be able to address.

Sustainability

The basis for project sustainability and a successful exit strategy are underpinned by a number of factors integrated into the design of this project. Amongst those is the fact that the project will be building upon existing land-use planning processes, and enhancing those to achieve LDN targets and integrating SLM and SFM concerns. Enhanced environmental resilience to anthropogenic and natural shocks, associated with the increased adoption of SLM and SFM at the landscape level, will result in the capacity of the ecosystems to continue providing essential services in the future. Long-term sustainability will also be ensured through the highly participatory process adopted by the project and focused on social inclusion, which will contribute to reducing conflicts over land uses and build ownership of the project's interventions and objectives. In addition, the project aims to strengthen capacity at national and local level to for the management and restoration of dryland ecosystems, which will ultimately contribute to ensuring SLM and SFM, as well as LDN, can be well integrated into policy frameworks across scales. Furthermore, the project will be strengthening value chains which implement sustainable management practices, and thereby increasing the financial security of households involved in those value chains as they become more formally established. The preparation of robust business plans for those value chains will entail that they should become self-sustained beyond the implementation period of the project.

Potential for scaling up

In line with GEF STAP recommended guidance on scaling out, up and deep, the project is designed to generate models combined with system-wide capacity development that can be upscaled and amplified to increase impact. The up-scaling potential of the project is significant, given its complementarity with national policies, strategies, and plans, as well

as its engagement with actors at different levels through a cross-sectoral and participatory approach. In particular, the project intends to put the emphasis on market transformation by making the private sector a stronger partner, and therefore make the private sector an agent of scaling for transformational change (Section 4. Private Sector Engagement).

The project will also aim to support replication and scaling by building capacity at the national and local levels for landscape-level planning and management. Through its first component, the project will strengthen the capacity of individuals and institutions at national and landscape level to achieve LDN, and enhance land-use planning approaches. Proper cross-sectoral coordination mechanisms will be established, enabling vertical information sharing and decision-making. This will facilitate the replication of other LDN, SLM and SFM initiatives throughout the miombo woodlands of the country. Moreover, the knowledge generated by the project will be share well beyond the target landscape, through the regional level knowledge sharing mechanisms put in place by the DSL IP.

Furthermore, the Ministries in charge of Agriculture, livestock and water technical assistance as well as additional investments, through the Agricultural Sector Development Program phase II (ASDPII) for instance, but also SUSTAIN phase 2 or the cofinancing provided by the Ministry of water, will be channeled to scale-out integrated SLM and SFM results obtained by the DSL IP child project. It will also help ensure that good SLM/SFM practices, but also LDN approach, is upscaled at the sub-basin and basin level.

System-wide capacity development

The project is incorporating a system-wide capacity development approach to maximize country ownership, sustainability and scale of intended results[2]. This approach aims to empower people, strengthen organizations, institutions and networks as well as enhancing the enabling policy environment interdependently across national and subnational levels and based on inclusive assessment of country needs and priorities.

The project formulation phase highlighted several capacity gaps across individual, organizational, institutional and the enabling policy environment capacities at national and sub-national level including but not limited to, the limited skills and limited human resources of local government staff for adequate community engagement; low presence of extension officers at district level; limited technical capacities of farmers; limited knowledge and capacity of producers for SLM/SFM/LSN; and limited institutional capacity to coordinate NR management and planning at landscape level. At the beginning of project implementation, the capacity gaps and needs of all stakeholders belonging to institutional, private, civil society, and community sectors across national and sub-national levels will reassessed, to verify and complement these initial findings during formulation phase. The FAO Capacity Needs Assessment Tools will be applied including implementing a system-wide capacity assessment across to assess the three CD dimensions – individual, organizational and enabling environment. As a result of the assessment, a capacity enhancement strategy will be designed informing and guiding the fine tuning of the capacity development actions throughout the three project components.

Indeed, to address this, the project's first Component will contribute to the capacity development of people and institutions for LDN, in line with established country targets, ensuring enhanced country ownership of the process. It will ensure that the mechanisms put in place include actors across scales, to enable the vertical sharing of information and transfer knowledge from the national level to the districts and villages.

Moreover, under Component 2 it will work on land-use planning processes across administrative boundaries to enhance the capacity to coordinate NR management at the landscape level. In addition, the project focuses on building the capacity of communities/FFPOs to engage in sustainable value chains, and enhance the local adoption of SLM and SFM practices for LDN. Tools used to achieve this under Components 2 and 3 will include the training of trainers; the establishment and running of FFS; training on PLUM; training and demonstrations on policy formulation to mainstream LDN; exchange visits within the Miombo & Mopane Ecoregion; participation in global and regional knowledge exchange platforms; and the participation of FFPOs to business incubators.

Methodologically, all envisioned training activities will apply effective learning practices including pre-event learning needs assessments, post-event follow-up support to facilitate the transfer of knowledge into practice as well as institutionalization of curricula through partnering with and enhancing the capacities of local universities and research centres. This will contribute to achieving sustainable results. Efforts will also include organizational and institutional capacity strengthening efforts such as to strengthen multi-sectoral and multi-coordination and collaboration mechanisms such as the LDN platforms at national and landscape levels. Finally, all capacity enhancement activities will be aligned with a harmonized approach across the GEF IP Programme including the capacity enhancement strategy of the global coordination project and individual child project capacity enhancement strategies.

The Project Technical Coordinator in the PMU will be in charge of following the systemic capacity development components together with knowledge management and stakeholder engagement. FAO will provide overall quality assurance through a dedicated member on the internal Project Task Force (PTF) who will be task with the knowledge management, stakeholder engagement and system-wide capacity development components.

PPG ASSESSMENT REPORTS

Remote Sensing:

https://drive.google.com/file/d/13B_be8Ms-tkJO44OLKYLJktkFJcUU_1t/view?usp=sharing

Capacity Needs Assessment:

https://drive.google.com/file/d/1suBWkksCNFR1G8g76l_8TMbS-un0JrkJ/view?usp=sharing

SHARP Household Survey survey:

https://drive.google.com/file/d/1uhYB-EZrYzgTUBV4y-XbaH5luidffrNy/view?usp=sharing

Land Degradation Assessment

https://drive.google.com/file/d/1rzrGoAbLbwtcS6OGSPaMQd3SssVpIomH/view?usp=sharing

Land Degradation Neutrality Checklist:

https://drive.google.com/file/d/1O4Zy6eQKW68BpIFFihnJmHFQbtAbm4vk/view?usp=sharing

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43. United Republic of Tanzania, Ministry of Natural Resources and Tourism. 2018. Forest resources management and conservation strategy Period 2018/19 – 2028/29
44. Ibid, p.23
45. MNRT. 2008. Participatory Forest Management in Tanzania Facts and Figures. https://www.tnrf.org/files/E-MNRT-FBD_PFM_Facts_and_Figures_2008.pdf
46. 'In the early 1990s a number of pilot PFM activities were started in Babati and Singida Districts (Manyara Region), which for the first time, provided a mechanism for the transfer of ownership and management responsibility from central to village government. Following these successful and well documented pilots, other forest areas were bought under community management or community co-management. Notable examples include the East Usambara forests of Tanga region, highland forests of Iringa as well as lower miombo woodlands, and more recently coastal forests in Tanga, Mtwara and Lindi regions. These pilots implemented by a range of actors including local and international NGOs, local governments and supported by bilateral donors, collectively demonstrated the viability of PFM under a range of social and ecological conditions.' (Blomley, T. and Ramadhani, H. 2006. Going to scale with Participatory Forest Management: Early Lessons from Tanzania. International Forestry Review. Vol. 8(1) 93-100); and GCF feasibility study Climate resilient development in refugee camps and host communities in Kigoma, 2020
47. Assumptions are external factors or conditions that need to be present for change to happen, but are beyond the power of the project to influence or address, e.g. turnover of government officials, global financial situation

The following gaps identified during the application of the ILAM methodology in the PPG phase will be addressed through selected additional baseline assessments and use the collective results for LDN decision making at sub-basin level:

48. Improved, more detailed LD assessment methodology to enable refined data analysis and results to enable counterbalancing of future LD losses and gains for LDN at sub-basin level

Identification of complementarity indicators to assess LD and SLM/SFM to enable LDN monitoring

Categorizing and accounting for land use decisions and the impacts of land use, land use change, and management with respect to a "no net loss" target (done at land use type level).

49. According to Riddell et al (2015), strategies for "scaling deep" relate to the notion that durable change has been achieved only when

people's hearts and minds, their values and cultural practices, and the quality of relationships they have, are transformed.

50. In Kaliua district there are 17 villages with VLUP out of 90 villages in total (Kaliua District strategic plan2016/2017-2020/2021)

51. Crawford, C. L., Volenec, Z. M., Sisanya, M., Kibet, R., & Rubenstein, D. I. (2019). Behavioral and Ecological Implications of Bunched, Rotational Cattle Grazing in East African Savanna Ecosystem. Rangeland Ecology & Management, 72(1), 204-209.

52. National Land Use Planning Commission. 2011. Guidelines for Participatory Village Land Use Planning, Administration and Management in Tanzania

53. UNIQUE Forestry and Land Use. 2019. Inception Report: Vulnerability and Impact Assessment Ecosystem-based Adaptation for Rural Resilience (EbARR) in Tanzania

54. UAT MNRT. 2006. Participatory Forest Management in Tanzania - Facts and Figures. http://www.tzonline.org/pdf/pfmstatus.pdf

55. FAO. 2018. Regional overview of national school food and nutrition programmes in Africa.

56. Augustino, S., Hall, J. B., Makonda, F. B., & Ishengoma, R. C. (2014). Medicinal plant parts and practices used by communities around the Miombo woodlands of Urumwa, Tanzania. Journal of Mediciinal Plant Research, 8(15), 599-606.

57. FFF project will provide start up capitals and banks will be involved in the trainings

58. http://www.openforis.org/tools/sepal.html and www.fao.org/3/a-i6509e.pdf

59. Best practices will also aim to cover "effective learning practices" to document the transfer of skills and knowledge into practice. See http://www.fao.org/3/a-be975e.pdf

60. For instance, regional discussions and knowledge sharing on sustainable charcoal value chains in the Miombo-Mopane ecoregion will build upon the recently conducted regional wood fuel workshop – hosted by FAO and Centre for International Forestry Research (CIFOR) in February 2020 – where eight countries in Southern and Central Africa discussed and shared lessons on the regional charcoal trade and movements, tenure and institutional arrangements for charcoal sourcing/production systems, options for sustainable wood sources and the promotion of efficient charcoal production practices.

61. See https://mcconnellfoundation.ca/wp-content/uploads/2017/08/ScalingOut_Nov27A_AV_BrandedBleed.pdf

1b. Project Map and Coordinates

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

Location of target sub-landscapes

Location - Sub-basin 1 (Kaliua/Urambo)

This sub-basin one is located in the western part of the country and covers an area of 873,162.75 hectares.

It spams across four districts, but it is located primarily in Kaliua district (covering about 35% of Kaliua district total area) and Urambo district (covering about 45% of Urambo district total area).

Both Urambo and Kaliua towns are located within the sub-basin boundaries.

Location - Sub-basin 2 (Mlele)

This sub-basin one is located in the western part of the country and covers an area of 371,178.21 hectares.

It is located entirely within the Mlele district, covering 12,5% of the district total area.

The area is also located among different reserves of ecological and touristic importance for the country.

Additional information including Land Cover and Land Cover changes can be found in the link below.

https://drive.google.com/file/d/1AnDG8Hv6ZV_hfx7tzLyGRSGLGN1OowK0/view?usp=sharing

1c. Child Project?

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

The child project's causal logic (set out in its ToC), is well aligned with the DSL IP programme's components and outcomes and reflects the programmatic approach that the Miombo/Mopane countries will take, to achieving sustainable integrated management in the targeted landscape.

Programme Outcomes	Child Project Outcomes
Outcome 1.1 and 1.3	Outcome 1.1 LDN cross-sectoral groups, committees, and other structures engaged in LD assessment, planning and monitoring at national and landscape level Outcome 2.1 LDN objectives mainstreamed into sectoral local gender sensitive development plans
Outcome 2.2 and 2.3	Outcome 2.3. Key green value chains and associated finance and business development strengthened or established
Outcomes 3.2 and 3.3	Outcome 3.1. LDN-related policy, planning, management and decision-making at national and global levels informed Outcome 3.3. National and sub-national measures to deliver LDN enhanced through improved regional and global opportunities for collaboration, exchange and learning lessons

2. Stakeholders

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

Civil Society Organizations Yes

Indigenous Peoples and Local Communities Yes

Private Sector Entities Yes

If none of the above,please explain why:

Please provide the Stakeholder Engagement Plan or equivalent assessment.

Stakeholder engagement is essential for the success of the project implementation, and its long-term sustainability. Therefore, the implementation strategy for the proposed project includes extensive stakeholder participation. Several stakeholder consultations were conducted during the project identification and preparation phases, with representatives of national and local governments, academic and research institutions, NGOs, private sector, FFPOs, CBOS, and local communities. First, national consultants and government counterparts from all Southern Africa DSL IP countries were trained in Johannesburg on harmonized PPG baseline assessment methodology. Then a participatory stakeholder mapping was conducted during the PPG inception workshop in September 2019 (see Figure 12 below). The analysis was further refined during the PPG phase based on consultations with stakeholders. Focus groups were conducted with local communities (women and men) to gain an in-depth understanding of the social, economic and environmental dynamics in the target landscape. The link below provides an overview of stakeholder consultations that took place at national level during the PPG phase.

https://drive.google.com/file/d/1njnBDF5Xbu83zxf44p3q3kj_5DKodZ8d/view?usp=sharing

The Stakeholder Engagement Matrix (here: https://drive.google.com/file/d/1Uu7qEaSWNaTjmQf3DGA5e90GNq6vOmuf/view?usp=sharing) includes information on how stakeholders will be involved and consulted in the project execution. It is anticipated that a stakeholder engagement plan will be refined during the inception phase of the project. The plan will ensure the effective participation of women, youth, and other vulnerable groups (e.g. indigenous people when present in the intervention areas). Stakeholders will be consulted throughout the implementation phase to: i) promote community understanding of the project's outcomes; ii) promote local community ownership of the project through full engagement in planning, implementing and monitoring of the interventions; iii) communicate to the public in a consistent, supportive and effective manner; iv) ensure gender equality and social inclusion; and v) maximize complementarity with other ongoing projects.

Finally, as result from the Stakeholder Mapping Exercise, undertaken during the PPG phase, the key, primary and secondary stakeholders identified vis-à-vis the national LDN agenda in the context of this project in Tanzania include the following:

Figure 12. Results from the Stakeholder Mapping Exercise

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

The Stakeholder Engagement Matrix (provided above) includes information on how stakeholders will be involved and consulted in the project execution. It is anticipated that an initial stakeholder engagement plan will be refined during the inception phase of the project. The plan will ensure the effective participation of women, youth, and other vulnerable groups (e.g. indigenous people when present in the intervention areas). Stakeholders will be consulted throughout the implementation phase to: i) promote community understanding of the project's outcomes; ii) promote local community ownership of the project through full engagement in planning, implementing and monitoring of the interventions; iii) communicate to the public in a consistent, supportive and effective manner; iv) ensure gender equality and social inclusion; and v) maximize complementarity with other ongoing projects.

The project will engage the stakeholders in different ways. Direct implementation modality (OPIM) will be used to engage national partners in the implementation of activities agreed in the OPA package. Besides that, various subcontracting of local partners had been considered through a letter of agreement (LOA). Where needed, capacities of national partners will be enhanced based on a capacity needs assessment.

Different budget lines have been allocated to ensure the identified stakeholders are meaningfully involved throughout decision making process. This includes several capacity development workshops at local, and regional levels, regular consultation meetings and surveys, knowledge and communications strategy, among others. The engagement of the stakeholders related to lessons learned of other participant countries in the program will be made through regional exchange mechanism (REM).

The results framework has been structured to include indicators that ensure stakeholder participation in all components of the project (see ProDoc Annex A1). The engagement of national and local institutions is also reflected in the results of institutional capacity development, strengthening of policy, regulatory and planning frameworks. At local level, the communities, farmers, entrepreneurs will be engaged through FFS, FFF as main actors in sustainable land management of drylands. At landscape level, the development and

implementation of integrated land use plans will involve extensive consultation of local stakeholders. At the regional level, the engagement of stakeholders will be through transboundary approaches as LDN dialogue platforms, intergovernmental agreements and sharing of lessons learned.

The Project Management Unit (PMU), under the overall supervision of TFS and FAO will be responsible for implementing the stakeholder engagement activities as outlined in the Stakeholder Engagement Plan and Stakeholder Engagement Matrix. It will also be responsible for monitoring and reporting on stakeholder engagement through the annual project implementation reports (PIRs). Relevant tasks have been incorporated into the Terms of Reference of the project staff and budgeted for accordingly.

In the annual PIRs, the PMU will report on the following indicators:

- Number of government agencies, civil society organizations, private sector, vulnerable groups and other stakeholder groups that have been involved in the project implementation phase.
- Number of engagements (such as meetings, workshops, official communications) with stakeholders during the project implementation phase.
- Number of grievances received and responded to/resolved.

Select what role civil society will play in the project:

Consulted only;

Member of Advisory Body; Contractor; Yes

Co-financier;

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

Executor or co-executor; Yes

Other (Please explain)

3. Gender Equality and Women's Empowerment

Provide the gender analysis or equivalent socio-economic assesment.

Agriculture is the largest sector of employment in Tanzania Mainland, with the vast majority of rural women employed in agriculture (70 per cent). In 2014, the category of the unpaid family helper in agriculture made for the largest share of the total employed persons in Tanzania (6.91 million people out of the total employed 20.03 million), among which women outnumbered men significantly (i.e. 4.8 million or 69.6 per cent vs 2.1 million or 30.4 per cent)[1] . Female-headed households (FHHs) account for 25 percent of households nationally and for 24 percent of households in rural areas (URT 2013).

Farm activities are the most important source of income for rural households, and account for approximately half of household incomes across all expenditure quintiles (FAO 2014). Self-employment in agriculture is the most common form of labour deployment among rural people, in particular rural women who play a major role in farming. Land is an essential resource and asset to women. According to FAO (2014) in Tanzania Mainland, 73 percent of landholders are men, whereas only 27 percent are women. While women play a key role in agriculture, they have less access to the productive resources and services required by agricultural producers as well as limited involvement in leadership and decision-making processes. Male-headed households are, for example, are much more likely to received credit than female-headed households (86.7% versus 13.2%) as well as extension services.

Despite women being the main producers of crops for both cash and domestic use, their sociocultural environment does not allow them to build on their own potential. High levels of food insecurity are not just a result of low productivity, but important post-harvest losses due to low technologies and preservation facilities. The gender-imbalanced workload is also a major factor, hence the need for labour-saving technologies.

The Focus Group Discussions, Multi-Stakeholders workshops, and consultations in the five villages selected for the baseline survey as well as SHARP Survey, indicate there is a predominance of women in household agricultural production at the project sites. Women play a significant role in agriculture, as they are usually engaged in many agricultural and domestic activities. The intensity of labor is sharper in female-headed households which do not have an adult male. Women-headed families observed in the pilot were mostly widow, divorced and single mother families.

In the landscape as well as in the pilot area, there is a clear division of labour between genders in the households. It was noted that women tend to have a heavier workload in productive and reproductive activities, while they have limited involvement in leadership positions. It was observed that women care for the family while men were responsible for outdoor activities, as well as setting customs and norms of agro pastoralist communities.

Households headed by men may make larger contributions to degradation of the forest resources (SHARP survey 2020). Men are sometimes engaged in illegal exploitation of forest resources such as trees for poles and timber, charcoal making, wild animal hunting, and business on the forest products. On the other hand, the field data (SHARP 2020) reveals that women and young girls are the major actors in accessing and carrying firewood from the collection sites. Women were also reported being one of the main harvesters of non-timber forest products including mushrooms, medicinal plants, and vegetables, though honey remained a male-dominated area.

It was noted that some of the farming activities are shared between men and women as well as youth including land preparation, weeding and harvesting. However, in villages where there is cultivation of tobacco, men are involved in cutting logs (firewood) and curing of tobacco. In households where they keep livestock, activities such as milking and taking care of calves within the homestead is done by women and children while livestock grazing is done by men as it involves taking livestock sometimes far outside the village. Women are more responsible for small livestock, such as poultry.

Women and young girls were the major actors in accessing and carrying water. As such, they cannot be involved in income-generating work or regularly attend school, as the majority of their day during the dry season is spent walking miles to provide for their households' daily water needs (SHARP 2020).

Gender inequalities in land rights are pervasive, despite the fact that land may be owned by family (men and women). Women-headed households tended to own smaller plots of land. Men are also the ones who make final decisions on properties such as land/ farmland, ownership of livestock such as cattle and goats, as well as trees (especially for timber). During the Focus Group Discussions, it was also noted that women relative to men, especially in agro pastoral communities, have a limited understanding of their fundamental rights as well as different laws and improved land use management skills. Given the extensive involvement of women in different activities, they constitute an essential channel for dissemination of good practices in a vast range of socially and environmentally relevant areas, including those related to SLM and SFM.

With regards to the main decisions taken in a household, women seem more prone to take decisions alone in some aspects of household management, while55% of men vs 40% of women state to take the decisions on how to spend their own money alone. On some aspects, most women felt that they did not participate at all in the decisions, including to decisions on wage employment (including paid casual labour on other farms). They also often felt excluded from decisions on whether to engage in a non-farm business activity (e.g. opening a shop, tailoring, basket making, rope making, brick making) (SHARP 2020).

In view of the above, Tanzania has made notable progress on gender equality and women's empowerment. The National Development Vision 2025 for Tanzania Mainland stipulates equality between men and women as laid down in the Constitution and recognizes gender equality and the empowerment of women in all socio-economic and political relations and cultures as one of the strategies to attain the vision. Tanzania's Five Year Development Plan (FYDP) emphasizes women's economic empowerment as a means of bringing about equality in economic empowerment. Tanzania has established the Ministry of Community Development, Gender and Children (MCDGC) to deal with gender matters from the national to landscape level. This is supported by the Women and Gender Development Policy and Strategy and an Implementation Plan on Gender. The government has also introduced Gender Responsive Budgeting (GRB), led by the Ministry of Finance (MoF) for improved allocation and tracking of

financial allocations in support of gender equality and women's empowerment. In addition, in 2010 the government adopted the SADC Protocol on Gender and Development which calls for a 50/50 representation in all decision-making organs. In addition, a number of changes to the laws governing land ownership were made during the 1990s, most notably the introduction of the Lands Act (1999) and Village Lands Act (1999). (http://www.tanzania.go.tz/home/pages/61). The new acts included a number of clauses aimed at encouraging female land ownership. However, a number of declarations that explicitly discriminate against female land ownership are still on the books, and there are reportedly problems with the implementation of a number of the clauses in the new acts, especially where they conflict with customary and religious legal systems, such as in the case of female land ownership. While there is evidence of substantial effort/initiatives made at national level to address gender inequality as well as women's empowerment, it was revealed that such changes are poorly reflected at landscape level and insignificantly at village and at household (micro) level. The 2013 National Agricultural Policy recognizes that gender relations are among the several challenges that hamper agricultural development in the country. The policy for instance acknowledges that the insecurity of land tenure has led to decline in the productive capacity of agricultural land because of non-sustainable land use practices, and commits the Government to 'promote gender-equitable land tenure governance and seek to eliminate those that are discriminatory or exclusionary'.

Since gender equality is at the center of the proposed project and following the GEF Guidance to Advance Gender Equality, a gender-sensitive approach and analysis were considered during the PPG process and will continue to be enforced through project implementation as well.

The project is designed to support these rural communities and the individual farmers/herders, men, women and youth, to make choices in their land use and management systems which help resolve conflicts, improve their socio-economic well-being (food security, reduced poverty and labour) and also, through the engine of agriculture, to break out from the vicious cycle of land degradation through opportunities generated from land restoration and sustainable use. This requires a major shift in resource planning and management dimensions, through consideration of commodity-based opportunities for raising farm-household income, the driving force today for land use decisions, alongside and as an integral part of longer term options for generating household and community livelihood benefits and environmental benefits. Communities need to be empowered in village land use planning to assess their communal resources and their needs (quality soils, grazing, fuelwood, water, housing materials, medicines, etc), to identify and weigh up the options and make joint decisions for improved resources management that will both meet their immediate needs and generate long term benefits

In the landscape, there are various small groups involved in various socio-economic businesses (existing opportunity as entry point). For example, in Kaliua District Council there are 412 small groups formed in different villages comprising of women, youth and disabled people. This is also applicable in Mlele District Council where there are about 120 small groups. Such groups were formed as a condition to get loans which were used to support various small economic activities. Through such spirit of group formation, this can provide good entry point for the project to promote the economic empowerment of rural women by enhancing their livelihood and entrepreneurship skills and improving their access to information, finance and technology.

From the above, women implication in the project is therefore crucial to achieve the expected transformational shift towards SFM and SLM. The project will address gender gaps through increasing women's access and control over natural resources and income-generating resources, and investing in their technical and leadership skills and their own enterprises and organizations towards equitable participation in decision-making. Also, by taking gender consideration into the project design it will ensure that the direct and indirect benefits of SLM and SFM are equitably shared.

During the PPG process, mechanisms, activities and indicators to assess and mainstream gender equality through the project were identified and will be considered in every step of the way during the project's implementation. In order to improve the socio-economic situation of rural women and families, the project will: i) ensure sustainability of land use and agricultural and livestock production, and ii) reduce land degradation impacts among the most vulnerable social groups by making use of their traditional knowledge base to better cope with LD impacts and improving food security. Women are therefore expected to be especially involved in the project's activities to ensure they will have their share of benefits from the project outcome.

GENDER MARKING: The current project has been tagged as **G2A** (see cover page) – i.e. it "[...] *addresses gender equality in a systematic way, but this is not one of its main objectives*".[2]

Table 9. Gender Entry Points For Monitoring During Project Implementation

#	Question	Answer	Comment
1	*Does the project expect to include any gender-responsive measures to address gender gaps or promote gender equality and women's empowerment?*	Yes	Following a gender-sensitive analysis during the PPG process, gender-responsive measures were designed to increase women's participation and leadership role in the agricultural sector, especially in family farming, and promote women's empowerment through the project's activities.
2	*Which area(s) the project is expected to contribute to gender equality:*	*[as below:]*	The project is expecting to contribute to gender equality in the landscape through creation of specific opportunities targeted to women as part of the project activities. Such opportunities will focus on improving women access and control over natural resources, improving women participation in decision making, improving women access to socio economic benefits from

#	Question	Answer	Comment
2a)	*Closing gender gaps in access and control over natural resources*	Yes	the project's outcomes.
2b)	*Improving women's participation and decision-making*	Yes	
2c)	*Generating socioeconomic benefits or services for women*	Yes	
3	*Does the project's results framework include gender-sensitive indicators?*	Yes	Specific gender-sensitive indicators were included in the project's Logical Framework in order to assess the project's progress on promoting gender equality and improvements in women's participation in decision-making process, as follows: o # of Landscape specific and gender sensitive development plans incorporating SLM and SFM best practices in place, updated and implemented o Number of direct beneficiaries disaggregated by gender as co-benefit of GEF investment. The above is a strong token of gender mainstreaming for a project tagged as "G2a" for its gender mark.
	Source: GEF Guidance to Advance Gender Equality 2018.		

[1][1] https://data.em2030.org/wp-content/uploads/2019/05/TZ-Country-Gender-Profile-004.pdf

[2] With reference to FAO's Guidance Note on Gender Mainstreaming in project identification and formulation.

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

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

Improving women's participation and decision making Yes

Generating socio-economic benefits or services or women Yes

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

Yes
4. Private sector engagement

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

Private sector involvement will be key to the success of the project's interventions, and to scale-up its impacts and bring transformative change. Indeed, the project intends to make contributions to Pillar II of the GEF Private Sector Engagement Strategy: "More emphasis on market transformation by making the private sector a stronger partner".

During the PPG phase, a number of private sector actors were consulted, including financial institutions and different actors from the targeted value chains (e.g. FFPOs), and further corporate partnership opportunities identified. The CRDB Bank, in particular, expressed a strong interest during a PPG Multi-Stakeholder Group Workshop to support the project through providing loans to different groups such as beekeepers, livestock keepers, timber dealers, and farmers in the landscape through its branches in Tabora Region and Katavi Region. In addition, CRDB Bank is willing to be part of the project and support to provide training and producers on issues related to credit and financial literacy, areas which were identified as key barriers to the development of value chains in the intervention area.

In terms of planned project interventions with key value chains, a number of challenges were identified for the private sector, including: (i) limited certification and quality control; (ii) limited capital to invest in improved production and transformation technology (e.g. modern beehives); (iii) sub-optimal linkages between actors of the supply chain; (iv) limited organization of producers; (v) limited access to competitive markets.

For the honey value chain, the Tanzania Bureau of Standards has the mandate to control quality assurance of the bee products, especially for export purposes. It will therefore be important, when strengthening and greening that value chain, to ensure they are involved in the project and can effectively play their role of quality control and assurance of bee products to ensure FFPOs can improve market access. This would enable producer groups to access business partnerships with larger traders, such as Upendo Honey and Mohamed Enterprises Tanzania Limited (METL) & Fida Hussein.

Furthermore, the project will coordinate with the Honey Council of Tanzania to explore opportunities for business development. Training will be provided to women and men to build entrepreneurial ability to assess markets and financial profitability, technologies, sustain the natural resource supply-base, and undertake the legal registration of FFPOs.

The project will also work directly towards the capacity-building of FFPOs, and improve the structuring of producer groups (in particular for those underdeveloped value chains), to increase access to competitive markets. The project will also support FFPOs in the development of bankable business plans, and provide innovation platforms to link them/enable engagement with other key actors of the value chains.

5. Risks to Achieving Project Objectives

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

The main risks to the project are summarized below:

Description of risk	Impact[1]	Probability of occurence3	Mitigation actions	Responsible party

Description of risk	Impact[1]	Probability of occurence3	Mitigation actions	Responsible party
1) Shift in government priorities lead to slow implementation/delays.	Moderate	Moderate	*The project will put in place adaptive management measures to ensure shifting political contexts are taken into account and proper responses put in place in a timely manner. Local elections took place in Tanzania in late 2019, and major shifts are not expected in the near future. It is anticipated that most activities will be implemented as planned, even after the 2020 Presidential elections, and that LDN and land use planning will remain government priorities at all levels.*	PMU
2) Stakeholders lack willingness to engage with the reformulated LDN NWG and local counterparts and the cross-sectoral approach	Moderate	Moderate	*The project will ensure a fully participatory process to build ownership of interventions associated with the newly reformulated NWG.*	PMU and VPO
3) Land tenure and rights issues lead to disputes, delaying or preventing project interventions	Moderate	Moderate	*The project will be directly addressing tenure and access rights issues through its activities. In particular, the participatory approach to land use planning will provide a platform for conflict resolution upfront.*	PMU and NLUPC
4) Transboundary sharing of information and protocols fail to materialize	Moderate	Low	*The project will ensure adequate budgeting for travel to engage with the regional and global knowledge sharing platforms. It will ensure that strict requirements for dissemination of knowledge acquired abroad are also put in place, and that the required mechanisms for dissemination are operational. The project will also be coordinating its monitoring with the regional partners of the DSL IP across Southern Africa, and will therefore have to actively engage in this transboundary sharing of information through the M&E system.*	PMU
5) Failure to incorporate land degradation and biodiversity considerations into land management plans due to conflicting interests at the local level.	Moderate	Moderate	*The priorities of the project are well aligned with the objectives of the current land management planning process, as well as sectoral and local government priorities. An extensive participatory process will be undertaken during project implementation, to ensure that different views can be expressed, potential conflicts resolved, and an overall buy-in of the LDN priorities and process is developed in the target landscape.*	PMU, VPO

Description of risk	Impact[1]	Probability of occurence3	Mitigation actions	Responsible party
6) Long-term climate change impacts cancel out positive impacts of the project and lead to increased conflict over natural resources and increasing threats to biodiversity.	Moderate	High	*The project is designed to increase the resilience of both livelihoods and ecosystems, including to the impacts of climate change (e.g. increased aridity). Amongst the interventions which will contribute to increased resilience are the focus on alternative revenue generation, SLM, and SFM. Moreover, it also aims to strengthen local governance, capacity for land use planning, and clarify associated legal frameworks, thereby potentially reducing conflicts over the use of natural resources. It will also introduce climate-smart crop production practices that address soil erosion and soil fertility loss. Despite these mitigation measures, there will remain a risk that the interventions will not be sufficient to fully mitigate climate change risks. See section on climate risks below for further details.*	PMU, NLUPC, Ministries of agriculture, livestock and water
7) Pressure from continued influx of migrants causes damage to the Miombo woodlands	High	Moderate	*Demographic pressures, conflicts, and natural events contribute influx of migrants in the region. By capacitating local authorities on the development of land use plans, and reducing the ambiguity between land tenure policies to the extent possible within the scope of the project, it will be possible to enhance the adoption of SFM and SLM. This will also contribute to increasing productivity of the land, reducing further need for clearing additional land and reduce the practice of shifting agriculture.*	PMU
8) Political will for LDN processes is overpowered by short-term economic considerations of households, driven by high market prices for commodities such as tobacco and charcoal.	Moderate	High	*The project has a number of activities which will contribute to mitigating this risk. Amongst them, is the focus on developing value chains of key crops and NTFPs, promoting sustainable alternative energy sources, and generating revenue through alternative means, and working alongside financial service providers (e.g. CRDB) to provide loans to different groups such as beekeepers, livestock keepers, timber dealers, and farmers, as well as support producers on issues related to credit and financial literacy.*	PMU
9) Low national civil servant staff numbers (e.g. TFS field offices) will be compounded by high staff turnover and negatively impact project implementation.	Moderate	Moderate	*The project will work towards increasing the capacity of decentralized authorities, including regional and local governments, in support of national institutions. It will also foster partnerships with other institutions to provide additional capacity.*	PMU

Description of risk	Impact[1]	Probability of occurence3	Mitigation actions	Responsible party
10) Improved forest and land management in the Miombo Woodlands of Tanzania may cause leakage by transferring pressure on other areas, including the rainforests of the Congo Basin.	Moderate	Low	*The project will be coordinating its monitoring with the regional partners of the DSL IP across Southern Africa, and will be used for adaptive management when necessary. However, the project does not have the capacity to fully mitigate this risk, which is compounded by growing demand for forest resources at the regional level. Moreover, the project does not intend to prevent the use of forest products, but rather introduce sustainable management practices and alternative resources.*	PMU
11) The global COVID-19 pandemic causes major disturbances to the ability of stakeholders to participate in project activities	High	High	*While the project will likely be impacted in the short and medium term by the crisis, much of the impacts are outside its sphere of influence. From an operational perspective, the project will ensure it puts in place the following mitigating measures as part of a broader adaptive management strategy: (i) Modified working arrangements to permit effective communication and coordination while social distancing among team members, as well as changes to the media and methodologies used for interactions (for example using remote communication where possible, and/or limiting participants, which may potentially rely more on the participation of limited numbers of stakeholder leaders in representation of their constituencies); (ii) Adjustment of implementation and stakeholder engagement arrangements in the short and medium term to account for reduced involvement by Governments and other partnership actors in project activities, due to staff shortages, reorientation of institutional priorities, and social distancing; (iii) Evaluate the need for design modification to reduce the dependency of project functionality from a decreased availability of co-financing; (iv) Adjustment of projects' stakeholder engagement plans, to provide for adjustments to the proposed timetables for interactions.*	PMU

Project strategy towards COVID-19 risk:

There is a negative feedback between tropical deforestation, climate change and biodiversity loss, that has serious repercussions, including many that are unpredictable as pandemic crisis. Experts have warned that human encroachment of natural habitats for wildlife will drive the emergence of further zoonotic diseases, as pathogens that historically did not

interact with people can now jump from animals to humans, as seems to be the case of COVID-19. According to the UN Framework for the Immediate Socio-economic Response to COVID-19, published in April 2020, the success of pandemic recovery is intimately linked to supporting efforts to arrest ecosystem encroachments and harmful practices, restore degraded ecosystems, close down illegal trade and illegal wet markets, while protecting communities that depend on natural habitats for their food supply and livelihoods.

As a global impact program, the DSL IP will adopt the principle of diversification at all levels (e.g. species diversification in forest restoration and agroforestry interventions; tree-crop-livestock landscape integration; diversification of climate-adaptive crop species/varieties and NTFPs in agriculture/forest production systems and green value chain development, as a way to diversify livelihood opportunities and enhance food security under lock down situation) as the best strategy to stop and reverse habitat encroachment and biodiversity loss in the Miombo and Mopane woodlands, increase landscape resilience against climate risks, reduce sources of social vulnerability associated with lack of knowledge, food and economic insecurity, and reinforce the participatory governance of landscape stakeholders, and the capacity of public services and social safety nets to react in times of pandemic crisis.

In this sense, the DSL IP child project will address the COVID-19 crisis in a multiple way, responding to the recommendations of the UN Framework for the Immediate Socio-economic Response to COVID-19:

Category	***Risks***	***Measures***
Implications at national level		
Short to medium term	· Reduced financial (co-financing) support from Government, development partners, and private sector, due to limited overall funding availability resulting from the COVID-related economic downturn, and/or the reorientation of available funding to actions directly related to COVID · Government expenditure and prioritization of different programs and sectors, including agriculture, food security and natural resources might change. For instance, existing District resources could be re-allocated	· Thorough discussion with co-financiers (including government) initiated during the PPG stage will be pursued to ensure continuity of resource allocation to ongoing initiatives in project target areas. · It is anticipated that the project scope will help to support the Government's response to COVID-19 through its focus on SLM and SFM, food security and agriculture diversification for vulnerable communities in areas already impacted by climate risks and hazards.
Implications during PPG roll-out		

Short to medium term	· Reduced involvement by Governments and other partnership actors in project activities · Reduced opportunities for face-to-face interactions with project beneficiaries, for consultation, participation, validation and representation, due to social distancing	· Review and potential adjustment of implementation and partnership arrangements in the short and medium term. · The ProDoc work plan will be adjusted during the project inception phase to reflect any possible challenges related to COVID-19 as well as for interactions and/or changes to the media and methodologies used for the interactions (for example using remote communication where possible, and/or limiting number of physical participants – which may potentially require relying more on the participation of limited numbers of stakeholder leaders in representation of their constituencies). This will also include taking into consideration whether the effectiveness of the representation of certain stakeholder sectors (e.g. women, the poor, indigenous peoples) may be disproportionately affected by these changes. · Risk matrix has been expanded to cover COVID-19 impacts
Implications for project activities (on the ground)		
Short to medium term	· Potential or partial disruption of food system logistics is anticipated · Increased losses and spoilage in high value commodities/perishables (fruits, vegetables) · Disruption of markets, due to temporary closure of hotels and restaurants which are the main buyer of fruit and vegetables for tourists	· Provide advice to farmers and government to meet immediate food needs · Ensure close collaboration with private sector entities and logistic companies to understand barriers and establish feasible options · Support producers organizations in linking with export markets and encourage use of online markets

Climate change risks:

The Miombo/Mopane child projects will follow a similar process that takes identified climate risks, vulnerabilities and corresponding management actions into account.

Component 1: Climate risks will be systematically incorporated in the integrated land use planning process to anticipate future extreme weather events and plan positive actions of sustainable land management. This joint planning process will benefit from climate change related assessments conducted during the PPG (SHARP) as well as available climate change analysis (e.g. IFAD/ACDI climate analysis) and other available data sets. The National Meteorological Authorities (NMA) and other institutions leading the collection, analysis and use of climate data should be engaged in the development and implementation of LDN strategies. Trainings and capacity building of relevant stakeholders should include activities on the use of climate information for informing strategies and planning, certain activities can be led by the NMAs.

Component 2: The selection of evidence-based climate smart SLM/SFM practices will follow the results of the joint planning process (component 1) to ensure they are adapted to local contexts and supported by scientific evidence of project climate conditions. The identified practices should be integrated in the forest and farm producers' training manuals and be part of the Famers Field Schools curricula. The newly developed global note for FFS facilitators on integrating climate change adaptation into farmer field schools can inform this

process as well as lessons learned from participatory engagement approaches such a PICSA. Climate field schools can link to demonstration plots of sustainable intensification practices and resilience measures post-harvest.

The selection of dryland value chains should also consider climate related risks. Their selection should be based on (i) their viability under climate change in the mid to long term; (ii) their contribution to drivers of climate-related impacts; and (iii) their ability to increase the resilience of the most vulnerable populations. Development of green value chains, including appropriate infrastructure or technologies to climate proof food value chains, should be based on results of climate impact assessments. Planning around drying, storage and transport can be informed by climate impacts at each stage.

Additional information:
https://drive.google.com/file/d/1Ng-VWBnviBbLVHTxccbN4msvHWUSnrOy/view?usp=sharing

[1] H: High; M: Moderate; L: Low.

6. Institutional Arrangement and Coordination

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

The Tanzania child project is a part of six Southern African countries under the GEF SFM DSL IP pursuing the overall goal: to support a transformational shift towards a sustainable and integrated management of multi-use dryland landscapes of the Miombo and Mopane ecoregions. The overall programmatic approach will facilitate the project in effectively addressing the barriers to the sustainable management of Miombo and Mopane woodland landscapes, and to delivering global environmental benefits. In this regard, close collaboration between participating countries will be highly encouraged supported by FAO to address common management challenges facing the targeted ecosystem in a cost-efficient and harmonized manner. For that purpose, the Global Coordination Project (GCP) which consists of National Child Projects (NCP) in 11 countries of Africa and Asia will support a Regional Exchange Mechanism (REM) under which targeted system-wide capacity development, knowledge management (South-South Cooperation) and investment

support tailored to the Miombo/Mopane context can take place. Demand-driven capacity development and peer-to-peer learning events will be made available for each participating country under the REM in collaboration with existing regional platforms such as SADC (GGWI) and the Miombo network

The project will be implemented for five (5) years, whereby the Food and Agriculture Organization (FAO) will be the GEF Implementing Agency (IA) responsible for providing guidance and support services during the project life cycle as established in the GEF Policy. As the GEF IA, FAO holds overall accountability and responsibility to the GEF for delivery of the results. In the IA role, FAO will utilize the GEF fees to deploy three different actors within the organization to support the project (see Annex K for details):

- The FAO Budget Holder (BH), which is usually the most decentralized FAO office (i.e. FAO Representation in the country), will provide oversight of day-to-day project execution. The BH office will be supported with Operational Officer and Project Implementing Support Officer.

- The Lead Technical Officer(s), drawn from across FAO, specifically from decentralized office (Sub region office) will provide oversight/support to the projects technical work in coordination with government representatives participating in the Project Steering Committee.
- The Funding Liaison Officer(s) within FAO will monitor and support the project cycle to ensure that the project is being carried out and reporting done in accordance with agreed standards and requirements.

FAO responsibilities, as GEF agency, will include:

- Administrate funds from GEF in accordance with the rules and procedures of FAO;
- Oversee project implementation in accordance with the project document, work plans, budgets, agreements with co-financiers, Operational Partners Agreement(s)and other rules and procedures of FAO;
- Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned and tailored technical assistance on a demand-based basis;
- Conduct at least one supervision mission per year;
- Reporting to the GEF Secretariat and Evaluation Office, through the annual Project Implementation Review, the Mid Term Review, the Terminal Evaluation and the Project Closure Report on project progress; and
- Financial reporting to the GEF Trustee.

The Tanzania Forest Services (TFS) Agency will be the lead executing agency with overall technical responsibility for the project and operations of day-to-day project activities, supported by other executing partners. The Ministry of Natural Resources and Tourism will provide overall guidance on policy issues during project implementation. TFS will be responsible and accountable to FAO for the timely implementation and delivery of the agreed project results, operational oversight of implementation activities, timely reporting, and for effective use of GEF resources for the intended purposes and in line with FAO and GEF policy requirements and host the Project Management Unit (PMU).

Implementation of the project will involve other partners including (i) Kaliua and Mlele District Councils (in charge of outputs 1.1.1 (with support from VPO-DoE), 2.2.1, 2.2.2, and 2.3.3), (ii) PO-RALG, which will provide over-sight supervisory mandate for project activities under Regional Administration and Local Government Authorities, and the creation and capacitation of the Miombo landscape consortium/platform level LDN working group in the target landscape, (iii) the Vice President's Office, Division of Environment (VPO-DoE), which will play a central role in LDN process coordination, (iv) the National Land Use Planning Commission (NLUPC), which will support Village Land Use Planning (VLUP) preparations, and (v) the Ministry of Agriculture, Ministry of Water, and Ministry of Livestock and Fisheries, will provide project guidance and support for the implementation of activities related to agriculture, water, and livestock at all levels.

To realize the contribution of this child project to the regional and global impact, FAO will support implementation of output 3.1.2 and component 3 through recruitment of international consultants who will provide technical support and guidance and build capacity of community and government staff (see uploaded justification document and GEF OFP letter for tailored technical support).

The project organization structure:

The Project will establish a **Project Steering Committee (PSC)**, which will be the supreme body responsible for overseeing project implementation. The Permanent Secretary for the Ministry of Natural Resource and Tourism shall be the chairperson of the Committee. The PSC will be comprised of Permanent Secretaries (PSs) from VPO, PO-RALG, Ministry of Agriculture, Ministry of Livestock and Fisheries, Ministry of Water, Ministry of Finance and Planning, Conservation Commissioner, Regional Secretariats (Tabora Region and Katavi Region), and District Executive Directors, , FAO, and Non-State Actors will be co-opted members as appropriate. The PSC will approve Annual Work Plans and Budgets (AWPBs) on a yearly basis and will provide strategic guidance to the Project Management Team and to all executing partners. The Terms of Reference (TOR) for the PSC are provided in Annex X-1. The PSC will meet at least twice per year.

TFS will designate a **National Project Director (NPD),** who will be responsible for coordinating the activities with all the national bodies related to the different project components, as well as with the project partners. He/she will also be responsible for supervising and guiding the National Project Coordinator (see below) on the government policies and priorities.

A **Project Management Unit (PMU)** will be funded by the GEF and established within TFS HQ under the Directorate of Resources Management. At site level, there will be the Project Focal Person for TFS Zonal Office at Tabora. The main functions of the PMU, following the guidance of the Project Steering Committee, are to ensure overall efficient management, coordination, implementation and monitoring of the project through the effective implementation of the annual work plans and budgets (AWP/Bs). The PMU will be composed of a National Project Coordinator (NPC) who will be fully dedicated for the project. In addition, the PMU will include a Project Accountant/Administrator; an M&E Expert and a Driver (TOR for PMU is attached as Annex X-1). The GEF fund will cover salaries for the PMU staff. The PMU staff will be recruited on competitive basis or seconded from the government entities for the lifespan of the project. TFS will designate a Procurement Officer to support procurement activities on demand base. A pool of national technical experts will also be hired on a part time basis and covered by GEF fund.

The **National Project Coordinator** (see TOR in Annex X-1) will be the Secretary to the PSC. The NPC will be in charge of daily implementation, management, administration and technical supervision of the project within the framework delineated by the PSC.

The project will establish a **Project Technical Committee (PTC)** to advise the PMU on technical aspects of project implementation, the quality of project progress reports, AWPBs, technically oversee activities in their sector, and ensure exchange of technical knowledge between their agency and the project activities. The PTC will be composed of Focal Persons for the project from respective agencies (PORALG, VPO, MoW, MLF, MoA, NLUP, Kaliua & Mlele DCs, Non State Actors, and RSs contact persons) and chaired by TFS. The PTC will meet as necessary to guide specific project activities.

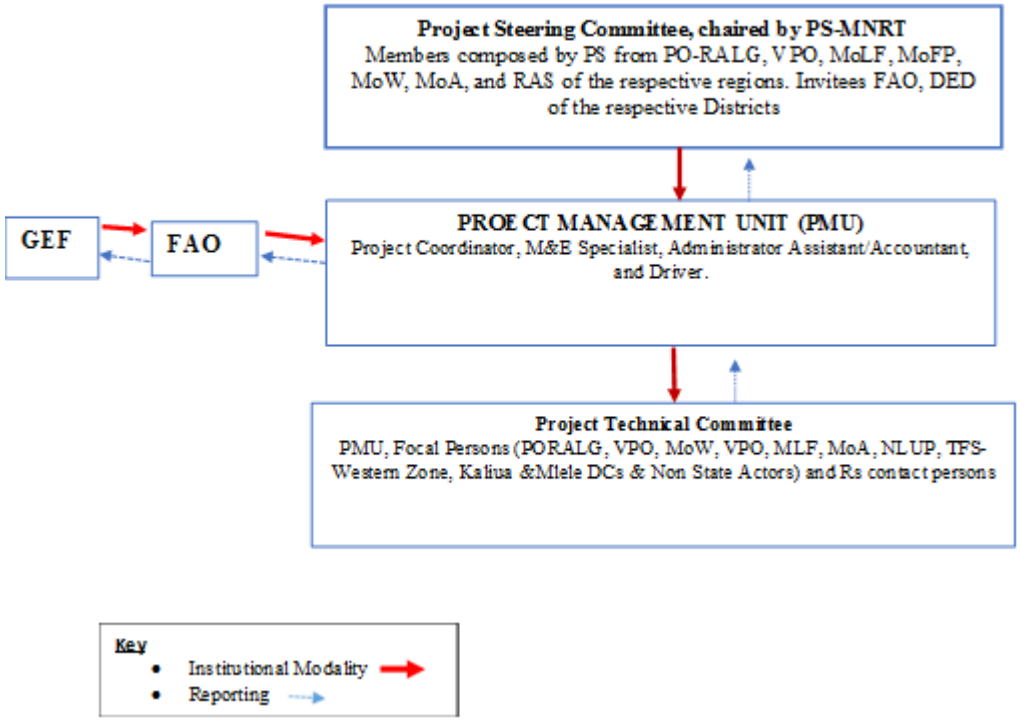
The execution of the project at the District level will be supported by the **District Project Facilitation Team (DPFT),** which will follow the guidelines for decentralization by devolution (D by D). The DPFT will be set up in the selected districts (Kaliua and Mlele), and their offices equipped. The DPFT will be at the front line of the project, engaging with communities and their leaders at the village level, therefore they will have the responsibility to implement the project activities as per their mandate, and to monitor and report on implementation and financial progress directly to PMU and to their Regional Secretariat. The District Council Management Team will be responsible for approving the district-level Annual Work Plan and Budget (AWPB) and monitoring the progress of implementation. The team will be consisting of District Project Focal Points and Technical Staff responsible for Environment, Agriculture, Land Use Planning, Livestock, Forestry and Water Resources, Community Development, and Beekeeping. The District Project focal points will have the responsibility to ensure that there is good communication between the project sites and the PMU and that within each site the required links and collaborative arrangements are developed to support implementation of project activities.

Disbursement/Flow of funds among implementing stakeholders

FAO will use Operational Partner Agreement (OPA) to transfer funds to operational partner. The counterpart is expected to use its own rules, regulations and systems. Procurement will follow operational partners' rules and regulations for the procurement of supplies, equipment and services. The counterpart is required to comply with terms and conditions of the signed agreement.

Through established government procedures for channeling donor funds, FAO will establish an OPA with Tanzania Forest Services Agency (TFS), that will be signed by the Permanent Secretary, Ministry of Finance and Planning (MoFP) on behalf of the United Republic of Tanzania. The MoFP will be responsible establishing an account within the Bank of Tanzania on behalf of TFS. Projects funds will be channeled from FAO to the TFS account in accordance with the Government of Tanzania internal regulations, rules and procedures, which shall provide adequate controls to ensure that the funds are properly administered and expended in accordance with the signed agreement. TFS will manage the fund and be responsible to transfer fund to other executing partners from the project account[1].

FIGURE 1. PROJECT ORGANIZATION STRUCTURE[1]



[1] It should be noted that the Operational Partner results that will be implemented by the OP and budget to be transferred are non-binding and potentially subject to change due to FAO internal partnership and agreement procedures which have not yet been concluded at the time of submission

There are currently several GEF-financed projects under implementation or recently completed across Tanzania, with a focus on LDN. To ensure lessons can be learnt from those projects, even if not located at the same intervention sites, and that proper coordination is established to avoid a duplication of efforts, these projects are identified below:

Table 10. Other relevant GEF-financed projects and other initiatives

Project title	**Implementing Agency**	**Period**	**Project description**
Integrated Adaptation Program to enhance resilience of communities and ecosystems in the dry Miombo Woodlands of Tanzania Mainland and Dryland of Zanzibar	FAO	2022 - 2026	Project under design which will be structured in close alignment with the DSL IP child project. Its aim will be to reduce vulnerability and increase climate change resilience of communities and priority sectors through introducing, testing and adapting selected appropriate technologies and innovative practices, through 4 components: 1. Improving the enabling environment to promote the uptake of climate change adaptation technologies in priority sectors in Tanzania 2. Supporting resilient production systems for resilient livelihoods 3. Scaling up adaptation technologies and practices in NTFPs and horticulture value chains through markets and investments 4. M&E and knowledge transfer

Project title	Implementing Agency	Period	Project description
Food Systems, Land Use and Restoration in Tanzania's Forest Landscapes	WWF	2021 – 2025	Because of the close alignment between these projects, both in scope and timing, MNRT and TFS, with the support of FAO and WWF, have identified a range of opportunities for creating synergies between these projects. Oversight of the implementation of the approaches defined herein will be provided by the respective project steering committees, under the chairmanship of the Permanent Secretary, MNRT. · Overall project management and coordination: - Opportunity for creating synergies at the project coordination level, e.g. through the MNRT /TFS coordination role; and through potential joint/back-to-back PSC meetings; - PS MNRT to chair the two Steering Committees · Synergies around ILM approaches: - Promoting sustainable land management - Opportunities for cross-learning, working on potential guidelines (e.g. development of VLUPs/implementation plans/working beyond administrative boundaries) - Cooperation around capacity building and awareness raising (e.g. developing joint training and awareness raising packages; advisory services; capacity-building) - Opportunity to jointly support review of existing policies and approaches towards ILM · Synergies on value chain work - Link between DSL work on value chains (diversification small scale farmers, community banks, etc.) and work at policy/strategy level - Potential synergies towards strengthening SMEs: cross-learning, technology development, etc. · Landscape (restoration and) management - Establishment of VLUPs (joint/multi-village) - Management plans for forest reserves (TFS) · Monitoring, Evaluation and Learning - Potential for a joint knowledge sharing platform hosted through MNRT

Project title	Implementing Agency	Period	Project description
Mainstreaming Sustainable Forest Management in the Miombo woodlands of Western Tanzania	UNDP	2012-2017	The overall Goal of the project is that ―Sustainable Forest Management secures ecosystem and biodiversity values while providing a buffer to the Congolian Rain forest, ensuring food security and sustainable livelihoods. To achieve this, biodiversity conservation has to be mainstreamed into economic planning and development, so that agricultural productivity and sustainable livelihoods are improved while simultaneously improving the ecological integrity of the ecosystem, including securing its productivity from negative effects of climate change. The objective of the project is ―To enable miombo dependent communities to adopt productive practices that are favorable to biodiversity conservation, reduce carbon emissions from land use change and improve livelihoods‖. The project's immediate focus is an area of 133,400 hectares covering 4 wards (Usinge, Imalamakoye, Mbola, Inyonga) in Urambo, Uyui and Mpanga districts.
Securing Watershed Services through Sustainable Land Management in the Ruvu and Zigi Catchments, Eastern Arc Region, Tanzania	UNDP	2015-2020	The project's objective is to use sustainable land and natural resource management to alleviate land degradation, maintain ecosystem services and improve livelihoods in the Ruvu and Zigi sub-catchments of the Eastern Arc Mountains of Tanzania. It has four expected outcomes: (1) . An institutional arrangement in place and supports the mainstreaming of SLM into over 100,000 hectares of land in the Ruvu and Zigi Catchments through the implementation of an integrated natural resource management (INRM) framework; (2) Finances for SLM investments increased and existing financial contributions from the forestry, agricultural and rangeland sectors better aligned to support SLM practices more effectively, thereby reducing pressure on competing land uses in the landscapes; (3) Institutional capacities emplaced for promoting sustainable forest and land management in the Ruvu and Zigi catchments through INRM across the landscape; and (4) Incentives for increasing tree cover within the SLM context leads to increased forest cover and ecological connectivity between and within different forest blocks; securing watershed and other ecosystem services.

Project title	Implementing Agency	Period	Project description
Sustainable Land Management of Lake Nyasa Catchment in Tanzania	UN Environment	2016-2019	This project aims to improve natural resources management and livelihoods of communities in Lake Nyasa catchment through sustainable land management systems. The project is envisaged to improve the management of the critical lake catchment and reduce degradation of the lake environment emanating from unsustainable human activities. The project will focus on improvements in alternative income opportunities, improvements in Watershed Management and Project Management. The project supports national effort to improve the Lake watershed that would improve the lake environment and capacity of the lake to provide ecosystem and social services. Specifically, the project will reach this goal through supporting the community to improve alternative income opportunities through activities that promote more sustainable land management and develop alternative income opportunities, thereby reducing pressure on economically important fisheries and direct utilization of catchment forest resources. The project will also support the communities to improve Watershed Management, through improved agricultural (e.g. through Conservation Agriculture), forest management and tourism practices, and related alternative livelihood activities like bee keeping.
Food-IAP: Reversing Land Degradation Trends and Increasing Food Security in Degraded Ecosystems of Semi-arid Areas of Central Tanzania	IFAD	2017-2022	The project aims to reverse land degradation trends in central Tanzania and Pemba (Zanzibar) through sustainable land and water management and ecosystem-based adaptation. The project aims to achieve the following four outcomes: (1) Institutional capacity in place at district and local village levels to support SLM practices and conservation of ecosystem services at the landscape level; (2) Reduced land degradation, improved soil health and increased productivity of and income generation from agro-pastoral ecosystems; (3) Diversified and climate resilient production systems that increase allseason income generation through producer groups and better market linkages; and (4) Improved evidence-base for joint village land-use planning and improvement of ecosystem services and up-scaling at district, region and national level.

In addition to the above mentioned GEF-financed projects, the following initiative is also noteworthy:

The Agricultural Sector Development Programme Phase Two (ASDP II)'s strategic objectives are closely aligned with this project. They are to (i) create an enabling policy and institutional environment for enhancing modernized competitive agriculture sector, driven by inclusive and strengthened private sector participation; (ii) achieve sustainable increases in production, productivity, profitability and competitive value chain development of the agricultural sector driven by smallholders; and (iii) strengthen institutional performance and effective coordination of relevant public and private sector institutions in the agriculture sector at national and local levels, enabled by

strengthened resilience. The programme has four interlinked components : *(i) Sustainable Water and Land use Management*, *including mainstreaming resilience of sustainable and smart farming systems; (ii) Enhanced Agricultural Productivity and Profitability by sustainable technology generation and promotion/use; (iii) Rural Commercialization and Value Addition to build competitive CVCs; and (iv) Strengthening Agricultural Sector Enablers, including policy framework, food security and nutrition, institutional capacity and coordination, and sector-wide M&E.*

Phase 2 of the Sustainability and Inclusion Strategy for Growth Corridors in Africa (SUSTAIN 2): The vision for SUSTAIN 2 is of integrated landscapes that balance economic growth with ecosystem resilience and social inclusion for future prosperity, under a changing climate. The overall programme has the following Outcomes: 1. Improved implementation of public and private policy frameworks for inclusive green growth; 2. Public and private investments mobilise inclusive green growth in selected growth sectors; and 3. Shared solutions for balanced use of land, water and ecosystems for inclusive green growth and climate resilience. At the landscape level, intermediate outcomes are: 1.1 Integrated governance systems for the management of land and water optimise trade-offs between uses and secure rights; 2.1 Increased financial flows to and from sustainable and inclusive businesses; 3.1 Improved natural resource management practices increase resilience and generate inclusive business opportunities. The DSL-IP project will benefit from SUSTAIN interventions regarding the integration of the landscape approach to planning and management of land, water and ecosystems, as well as its supports for greening value chains and the development of bankable business plans. Moreover, SUSTAIN will use the FFS approach to promote integrated landscape planning, NRM, and ecosystem restoration, which will complement this project's activities in this area.

The Zambezi Watercourse Commission (ZAMCOM) projects and programs, including the development of the Strategic Plan for the Zambezi Watercourse and the linkages with the planning process to be conducted under the DSL IP child project and the work that will be conducted by the Ministry of water at the basin and sub-basin levels, as well as the Zambezi Water Resources Information System (ZAMWIS) and the linkages to be developed with the knowledge sharing system to be developed under component 3.

Key global forums and working groups on drylands and related platforms (e.g. Collaborative Partnership on Forests, Global Landscapes Forum, Global Soils Partnership, Global Agenda for Sustainable Livestock, FAO's Family Farming Platform, GEF-6 IAP Policy and Science Interface, and the World Overview of Conservation Approaches and Technologies - WOCAT) and regional-level platforms (e.g. SADC GGWI, Miombo Network).

7. Consistency with National Priorities

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

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

The project strategy and proposed outputs are consistent with national development priorities, and have close substantive and institutional links and complementarities with the primary national and international development strategies and plans, including the following listed in the upcoming sections. In particular, it supports World Summit on Sustainable Development (WSSD) Commitments as contained in the Nationally Appropriate Mitigation Actions (NAMA); National Action Programme to Combat Desertification which is aligned with International 10 years Strategy for UNCCD (2008-2018); Sub-regional Action Programme to combat desertification (2015-2025); National Biodiversity Strategy and Action Plan 2015 in line with Global Strategic Plan for Biodiversity (2011-2020); Climate Change Strategy 2012.

Tanzania's National Action Programme to Combat Desertification under UNCCD 1999

The project will continue to be relevant for the National Action Programme to Combat Desertification under the UNCCD, in particular to its following objectives: a) To reduce the destruction of resources in arid and semi-arid areas and to promote their sustainable use for the wellbeing of the inhabitants of these areas; b) To introduce and/or improve intersectoral planning, management and monitoring approaches; and c) To establish partnership with stakeholders and other partners in development and management of drylands. As stated earlier, the lack of intersectoral planning continues to be a key barrier to the effective implementation of SLM and SFM in the country, and to the achievement of the newly formulated national LDN targets, an area this project will be addressing directly. Moreover, the nature of the project as part of a larger global initiative on drylands will contribute to the development of partnerships for the sustainable management of drylands at the national, regional, and global levels.

National Biodiversity Strategies and Action Plan (NBSAP) 2015-2020

The country's revised NBSAP (2015-2020) seeks to address national targets based on national priorities that contribute to the global targets. This project will make significant contribution to the following targets, through its activities focused on knowledge management, on promoting the development of sustainable value chains (crops and NTFPs), and its focus on restoring degraded ecosystems and their associated services: Target 1: By 2020, at least 60% of the population is aware of the importance of biodiversity and its impact on human wellbeing and socioeconomic development of the country; Target 4: By 2020 investments in systems of production and consumption based on sustainable eco-friendly practices increased. Target 5: By 2020, the rate of degradation and fragmentation of ecosystems and the loss of habitats is significantly reduced; Target 7: By 2020, biodiversity and agriculture related policies, laws and strategies promote sustainable management of forest, agricultural and aquaculture ecosystems; Target 14: By 2020, ecosystems that provide essential services, related to water, and contribute to health, livelihoods and well-being, are restored and safeguarded, taking into account the needs of women, local and vulnerable communities; and Target 15: By 2020, ecosystem resilience and the contribution of biodiversity to carbon stocks has been enhanced, through conservation and restoration, thereby contributing to climate change mitigation and adaptation and to combating desertification.

Land Degradation Neutrality Target Setting Program (LDN-TSP)

In the context of the on-going LDN-TSP, and with the national LDN target of "achieving LDN by year 2030 as compared to year 2010 and an additional 25% of the forest has improved (net gain)", this project will directly support the overall target, through measures aligned with Tanzania's specific LDN targets. Amongst those, the project will ensure the

restoration of forests through SFM (Specific Target 1), in particular Miombo woodlands. It will also seek to increase the productivity of croplands (Specific Target 4) through a range of measures including, but not limited to, promoting agroforestry, improved soil management practices, and sustainable management of natural resources.

8. Knowledge Management

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

In line with GEF Knowledge Management Guidelines, knowledge generation and management will be an essential component of the project. The knowledge management strategy of the project, which is central to ensure its sustainability and its complementarity with other initiatives, will rely on the following building blocks: (i) identifying and using the lessons learnt from previous initiatives to inform project interventions; (ii) the generation of new knowledge where gaps have been identified (e.g. good SLM/SFM and gender sensitive practices; value of Miombo woodland ecosystem services); (iii) communication/awareness raising of SLM/SFM/LDN issues and solutions; and (iii) knowledge sharing/exchange/dissemination of the lessons learnt through the implementation of the project itself, as well as the other DSL-IP experiences. The project will ensure coordination with other initiatives to avoid overlap, share good practices and generate knowledge products of good practices.

All project Components will be making direct contributions to knowledge generation and dissemination, with a particular focus on the latter in Component 2 at the project level, and in Component 3 at the regional and global levels. New knowledge acquired through Component 1 will be effectively applied in the field through capacity-building of FFPOs and FFS, and contribute to strengthening value chains, inform decision-making, and enhance livelihoods across the landscape.

The KM strategy will ensure to capitalize on traditional knowledge, and in particular the specific skills and capacities of women and other vulnerable groups, to ensure they can also be agents of change in decision-making processes. This will be enabled through participatory approaches and continued engagement with the communities and vulnerable groups throughout project implementation.

The project will be linking the knowledge it generates with existing processes at the national and local levels (e.g. LDN indicator monitoring), ensuring that new data produced can be directly integrated into decision-making processes. Awareness-raising activities will be taking place at different levels, and with a range of different stakeholders. The project leverage the PLUM process, as wella as the FFS approach in the landscape, which will ensure a continuous process for updating the skills and information base needed for communities to adopt SLM/SFM for LDN. Moreover, through the DSL-IP, knowledge exchanges will be made possible across national boundaries, and good practices shared for dryland management.

All outputs relevant to knowledge management are listed in Table 11 below, along with an expected timeline.

Table 11 Knowledge management outputs.

Output	Expected timeline
Output 1.1.2 Value of Miombo woodland's ecosystem services assessed across the two targeted sub-landscapes and fed into a policy/decision-making	The ESA and ELD assessments will take place in PY1, and will serve to inform subsequent project activities, including the review of policies.
Output 2.2.1 Evidence based good, sectoral, local and gender sensitive SLM and SFM practices identified, compiled and disseminated	In PY1, the project will proceed with the mapping of existing forest and farm producer groups and identification of groups that are interested in participating in this project, and subsequently proceed with the participatory selection and validation of appropriate SLM/SFM interventions based on PPG LDN assessment results and contribution from Output 1.1.2, as well as the participatory development of training SLM/SFM manual(s) that take assessment results and the management requirements for the targeted mixed landscape into account. The rolling out the SLM/SFM training and support in implementation of SLM and SFM (e.g. via FFS) will begin in PY2, and continue throughout project implementation.
Output 3.2.1 Project knowledge management, communication and dissemination framework and strategy developed and implemented	A gender-sensitive/responsive knowledge management and communications strategy to support implementation and replication of project activities will be developed in PY1. Development of an action plan for mainstreaming the ILAM as part of the national LDN Decision Support System will take place in PY3, should its utility have been demonstrated earlier in project implementation.
Output 3.2.2 – Opportunities for national and landscape-level stakeholders exchange knowledge and lessons learnt at regional and global levels identified, developed and supported	Key activities: Participation to global and regional learning platforms will take place throughout project implementation. Develop linkages (through the REM) and engage with key global forums and working groups on drylands and related platforms Participation of the Tanzania project team and partners to the annual meetings of SFM-DSL IP and other capacity development events and networking opportunities organized

In terms of communication strategy, the project will be using a series of tools to develop key messages to target communities, FFPOs, and institutional stakeholders at national and local levels to support the attainment of project objectives and ensure its visibility at all levels. Particular attention will be given to the piloting of novel strategies (IT-based) which would enable effective communication while allowing for social distancing, in the context of COVID-19, in addition to proposing to use some of the following: participatory rural radio programmes; participatory videos; local newspaper coverage; a project website; presentations at conferences; national TV coverage; and more.

The Project Technical Coordinator in the PMU will be in charge of following the knowledge management components together with stakeholder engagement and capacity development to assure that the KMCS is implemented. FAO will provide overall quality assurance through a dedicated member on the internal Project Task Force (PTF) who will be task with the knowledge management, stakeholder engagement and system-wide capacity development components.

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[1] See GEF Approach on Knowledge Management

https://www.thegef.org/sites/default/files/council-meeting-documents/EN_GEF.C.48.07.Rev_.01_KM_Approach_Paper.pdf

9. Monitoring and Evaluation

Describe the budgeted M and E plan

Project oversight will be carried out by the PSC, FAO-GEF Coordination Unit and relevant technical units in FAO headquarters, as well as TFS. Oversight will ensure that: (i) project outputs are produced in accordance with the project results framework and leading to the achievement of project outcomes; (ii) project outcomes are leading to the achievement of the project objective; (iii) risks are continuously identified and monitored and appropriate mitigation strategies are applied; and (iv) agreed project global environmental benefits/adaptation benefits are being delivered.

The FAO-GEF Coordination Unit, and HQ Technical Units will provide oversight of GEF financed activities, outputs and outcomes largely through the semi-annual project progress reports, annual PIRs, periodic backstopping and annual supervision missions.

Project monitoring will be carried out by the PMU, the FAO Budget Holder (BH), and TFS. Project performance will be monitored using the project results matrix, including indicators (baseline and targets) and annual work plans and budgets. At project inception, the results matrix will be reviewed to finalize identification of: i) outputs; ii) indicators; and iii) missing baseline information and targets. A detailed M&E plan, which builds on the results matrix and defines specific requirements for each indicator (data collection methods, frequency, responsibilities for data collection and analysis, etc.) will also be developed during project inception by the M&E Officer appointed at the PMU, and reviewed and approved by the PSC, FAO and TFS.

Project Monitoring and Evaluation Plan

M&E Activity	Responsible Parties	Timeframe	GEF Budget (USD)
Inception Workshop	Project Management Unit (PMU)	Within two months of project document signature	20,000
Project Inception Report	Project Manager	Within two weeks of inception workshop	M&E Specialist 210,000
FAO Annual financial audits and spot checks	FAO Tanzania Representation Office	Annually (1 per OPs)	66,375
Project Progress Reports (PPRs)	Project Manager and M&E Officer	Every six months	M&E Specialist (see above)
Project Implementation Review report (PIR)	Project Manager	Annually in July	M&E Specialist (see above)
Co-financing Reports	FAO Tanzania Representation Office	Annually	Co-financing
Mid-term Review	FAO Office of Evaluation	In the 3rd quarter of the 3rd year of the project	35,000
Final evaluation (including terminal report)	FAO Office of Evaluation	At least three months before operational closure	46,550
Total Budget			**377,925**

Specific reports that will be prepared under the M&E Unit are: (i) Project inception report; (ii) Annual Work Plan and Budget (AWP/B); (iii) Project Progress Reports (PPRs); (iv) annual Project Implementation Review (PIR); (v) Technical Reports; (vi) co-financing reports; and (vii) Terminal Report. In addition, assessment of the relevant GEF-7 core

indicators (see Annex A1: Project Results Framework) and capacity scorecards against the baselines (completed during project preparation) will be required at mid-term and final project evaluation.

Project Inception Report. It is recommended that the PMU prepare a draft project inception report in consultation with the FAO Lead Technical Officer (LTO), the FAO Budget Holder (BH), TFS and other project partners. Elements of this report should be discussed during the Project Inception Workshop and the report subsequently finalized. The report will include a narrative on the institutional roles and responsibilities and coordinating action of project partners, progress to date on project establishment and start-up activities and an update of any changed external conditions that may affect project implementation. It will also include a detailed first year AWP/B, a detailed project monitoring plan. The draft inception report will be circulated to the PSC for review and comments before its finalization, no later than one month after project start-up. The report should be cleared by the FAO BH, LTO, the FAO-GEF Coordination Unit, TFS, and will be uploaded in FAO's Field Program Management Information System (FPMIS) by the FAO BH.

Results-based Annual Work Plan and Budget (AWP/B). The draft of the first AWP/B will be prepared by the PMU in consultation with the joint FAO Project Task Force and reviewed at the project Inception Workshop. The Inception Workshop inputs will be incorporated and the PMU will submit a final draft AWP/B within two weeks of the Inception Workshop to the BH. For subsequent AWP/B, the PMU will organize a project progress review and planning meeting for its review. Once comments have been incorporated, the BH will circulate the AWP/B to the LTO, the FAO-GEF Coordination Unit, TFS for comments/clearance prior to uploading in FPMIS by the BH. The AWP/B must be linked to the project's Results Framework indicators so that the project's work is contributing to the achievement of the indicators. The AWP/B should include detailed activities to be implemented to achieve the project outputs and output targets and divided into monthly timeframes and targets and milestone dates for output indicators to be achieved during the year. A detailed project budget for the activities to be implemented during the year should also be included together with all monitoring and supervision activities required during the year. The AWP/B should be approved by the PSC and uploaded on the FPMIS by the FAO BH.
Project Progress Reports (PPR): PPRs will be prepared by the PMU based on the systematic monitoring of output and outcome indicators identified in the project's Results Framework (Annex A1). The purpose of the PPR is to identify constraints, problems or bottlenecks that impede timely implementation and to take appropriate remedial action in a timely manner. They will also report on projects risks and implementation of the risk mitigation plan. The Budget Holder has the responsibility to coordinate the preparation and finalization of the PPR, in consultation with the PMU, FAO LTO, FAO FLO, and TFS. After LTO, BH, FLO, and TFS clearance, the FLO will ensure that project progress reports are uploaded in FPMIS in a timely manner.

Annual Project Implementation Review (PIR): The PMU (in collaboration with the BH and the LTO) will prepare an annual PIR covering the period July (the previous year) through June (current year) to be submitted to the FAO-GEF Coordination Unit Funding Liaison Officer (FLO) for review and approval no later than (check each year with GEF Unit but roughly end June/early July each year). The FAO-GEF Coordination Unit will submit the PIR to the GEF Secretariat and GEF Evaluation Office as part of the Annual Monitoring Review report of the FAO-GEF portfolio. PIRs will be uploaded on the FPMIS by the FAO-GEF Coordination Unit.

Key milestones for the PIR process:

•Early July: The LTOs submit the draft PIRs (after consultations with BH, project team, and TFS) to the FAO-GEF Coordination Unit (faogef@fao.org, copying respective GEF Unit officer) for initial review;
•Mid July: FAO-GEF Coordination Unit responsible officers review main elements of PIR and discuss with LTO as required;
•Early/mid-August: The FAO-GEF Coordination Unit prepares and finalizes the FAO Summary Tables and send it to the GEF Secretariat by (date is communicated each year by the GEF Secretariat through the FAO-GEF Coordination Unit);
•September/October: PIRs are finalized. PIRs carefully and thoroughly reviewed by the FAO-GEF Coordination Unit and discussed with the LTOs and TFS for final review and clearance;
•Mid November: The FAO-GEF Coordination Unit submits the final PIR reports – cleared by the LTO and approved by the FAO-GEF Coordination Unit – to the GEF Secretariat and the GEF Independent Evaluation Office.

Technical Reports: Technical reports will be prepared by national, international consultants, and partner organizations under LOAs as part of project outputs and to document and share project outcomes and lessons learned. The drafts of any technical reports must be submitted by the PMU to the FAO BH, who will share it with the FAO LTO, and TFS. The LTO and TFS will be responsible for ensuring appropriate technical review and clearance of said report. The BH will upload the final cleared reports onto the FPMIS. Copies of the technical reports will be distributed to project partners and the Project Steering Committee as appropriate.

Co-financing Reports: The FAO BH, with support from the PMU and TFS, will be responsible for collecting the required information and reporting on co-financing as indicated in the Project Document/CEO Request. The PMU will compile the information received from the executing partners and transmit it in a timely manner to the FAO LTO, BH and TFS. The report, which covers the period 1 July through 30 June, is to be submitted on or before 31 July and will be incorporated into the annual PIR. The format and tables to report on co-financing can be found in the PIR.

Terminal Report: Within two months before the end date of the project, and one month before the Final Evaluation, the PMU will submit to the FAO BH, LTO and TFS a draft Terminal Report. The main purpose of the Terminal Report is to give guidance at ministerial or senior government level on the policy decisions required for the follow-up of the project, and to provide the donor with information on how the funds were utilized. The Terminal Report is accordingly a concise account of the main products, results, conclusions and recommendations of the project, without unnecessary background, narrative or technical details. The target readership consists of persons who are not necessarily technical specialists but who need to understand the policy implications of technical findings and needs for insuring sustainability of project results.

Evaluation Provisions

Two independent project evaluations, a Mid-Term Review (MTR) in the 3rd quarter of project year 3 and a Final Evaluation (FE) three months prior to the terminal review meeting of the project partners, will be carried out. The FAO BH will arrange an independent MTR in consultation with the PSC, the PMU, the LTO, the FAO-GEF Coordination Unit, and TFS. The MTR will be conducted to review progress and effectiveness of implementation in terms of achieving project objective, outcomes and outputs. The MTR will allow mid-course corrective actions, if needed. The MTR will provide a systematic analysis of the information on project progress in the achievement of expected results against budget expenditures. It

will refer to the Project Budget (see Annex A2) and the approved AWP/Bs. It will highlight replicable good practices and key issues faced during project implementation and will suggest mitigation actions to be discussed by the PSC, the LTO, the FAO-GEF Coordination Unit, and TFS.

An independent Final Evaluation (FE) will be carried out three months prior to the terminal report meeting. The FE is to be coordinated between the FAO Office of Evaluation and TFS. The FE will aim to identify the project impacts, sustainability of project outcomes and the degree of achievement of long-term results. The FE will also have the purpose of indicating lessons learned and future actions/recommendations needed to expand the existing project results, mainstream and upscale its products and practices, and disseminate information to management authorities and institutions with responsibilities for food systems, land use and restoration, and improvement of agricultural livelihoods to assure continuity of the project initiatives. Both the MTR and FE will pay special attention to outcome indicators, including the GEF core indicators and the capacity scorecards.

10. Benefits

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

The project will generate socio-economic benefits by maintaining and enhancing the resource base on which the local communities in Western Tanzania rely for their livelihoods. This includes, but it not limited to: i) increased financial security through diversified livelihoods, bankable business plans, and increased access to financial services; ii) increased food security, associated with better SLM practices, rehabilitated and restored ecosystem services of economic value, and strengthened food value chains; iii) increased tenure security enabled through policy frameworks and participatory land use planning; iv) enhanced/ecologically sensitive forest governance, with community-based forest management (CBFM); and v) women and youth empowerment.

This GEF investment will directly contribute to improving the livelihoods of 60,000 individuals in the project intervention areas, including 45% women, through halting and reversing land degradation and biodiversity loss. It will also have at least 150,000 indirect beneficiaries, the majority of whom are smallholders and pastoralists.

Moreover, the project will promote full and productive employment and decent work in the target landscape. The project will contribute to the following Pillars of Decent Work: (i) Pillar I - Employment creation and enterprise development, through its Component 2 targeting value chain development, with a focus on the needs and wants of women and youth among others; and (ii) Pillar IV – Governance and social dialogue, through working directly with FFPOs to enhance participation in agriculture and rural development processes, and strengthening decision-making capacity for LDN.

11. Environmental and Social Safeguard (ESS) Risks

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

Overall Project/Program Risk Classification*

PIF	CEO Endorsement/Approval	MTR	TE
	Medium/Moderate		

Measures to address identified risks and impacts

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

The project was reclassified from low to moderate risk mostly due to the fact that although the foreseen environmental and social impacts of project are likely to be positive considering the nature of the interventions, the project includes the following risks factors under the Environmental and Social Risk Identification Screening Checklist:

(i) **ESS 1 - Natural resources management:** The project will work to improve land tenure security and access rights through policy dialogue and multi-stakeholder policy and support implementation of participatory land use planning. This may result in changes to existing tenure rights (formal and informal) of individuals, communities or others to land, fishery and forest resources which triggers ESS 1.

(ii) **ESS 3 - Plant and Genetic Resources for Food and Agriculture:** The project interventions on crop diversification and community seed banks will involve the provision and transfer of seeds and planting material for cultivation which triggers ESS 3.

The identified risks are mostly temporal, localized and reversible. Considering the impact, appropriate mitigation measures have been developed to address and mitigate the identified risks above. The developed risk management plan in the table below will allow managing risks by monitoring mitigation actions throughout implementation.

The risks to the project have been identified and analysed during the project preparation phase and mitigation measures have been incorporated into the project design and will be further adjusted during project implementation. With the support and oversight of FAO, the Project Steering Committee (PSC) will be responsible for managing these risks as well

as the effective implementation of mitigation measures. The Monitoring and Evaluation (M&E) system will serve to monitor outcome and output indicators, risks to the project and mitigation measures. The PSC will also be responsible for monitoring the effectiveness of mitigation measures and adjusting mitigation strategies accordingly, as well as identifying and managing any new risks that have not been identified during Project preparation, in collaboration with Project partners.

The six-monthly Project Progress Reports (PPR) are the main tool for risk monitoring and management. The PPRs include a section covering the systematic monitoring of risks and mitigation actions that were identified in the previous PPRs. The PPRs also include a section for the identification of possible new risks or risks that still need to be addressed, risk rating and mitigation actions, as well as those responsible for monitoring such actions and estimated timeframes. FAO will closely monitor project risk management and will support the adjustment and implementation of mitigation strategies. The preparation of risk monitoring reports and their rating will also be part of the Annual Project Implementation Review Report (PIR) prepared by FAO and submitted to the GEF Secretariat.

Supporting Documents

Upload available ESS supporting documents.

Title	Module	Submitted
ESS Risk Mitigation Plan_Tanzania DSL IP_ Project entity 662382-1	**CEO Endorsement ESS**	
Risk Certification	**CEO Endorsement ESS**	

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

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Objective: To halt and reverse negative trends of land degradation and biodiversity loss in degraded areas of the Miombo woodlands in the south-west of Tanzania by applying an integrated landscape management approach Indicators:	1. 'Area of managed production system landscapes where the 'LDN response hierarchy' is being applied in project target areas : (1a) AVOID: (1b) REDUCE: (1c) REVERSE:	0 because project has not started	40% of end-of-project target	1a AVOID: 1,244,340 ha 1b REDUCE: 796,237 ha 1c REVERSE: 37,614 ha	USGS-Remote Sensing data collection Field verifications	(i) Lessons learned and capacitated actors with new knowledge will take forward and institutionalize good practice (ii) Domestic and international markets for green value chains products can be sufficiently developed and	PMU and district facilitation team, with technical support from FAO
	2. # of tCO2eq sequestered due to direct project interventions	0 because project has not started	0 M tCO2eq sequestered as per to direct project interventions.	1.318 M tCO2eq sequestered as per to direct project interventions.	USGS-Remote Sensing data collection Field verifications		PMU and district facilitation team, with technical support from FAO

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
	3. # ha under sustainable land management and sustainable forest management in productive systems. (*GEF Core Indicator 4, Sub-Indicator 4.3*)	To be determined during inception phase	20% of end-of-project target	789,966 ha	USGS-Remote Sensing data collection Field verification LDN monitoring and reporting	strengthen to provide secured sources of income for local producer organizations and buyer companies adopting sustainable practices over the long term (iii) Land related conflicts remain at a level where project activities are not threatened	PMU and district facilitation team, with technical support from FAO

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Component 1: Strengthening the enabling environment for the sustainable management of the targeted dry Miombo woodlands							
Outcome 1.1: Strengthened LDN cross-sectoral decision support system and framework for the management of the targeted drylands	1. LDN cross-sectoral groups, committees, and other structures engaged in LD assessment, planning and monitoring at national and landscape level	The LDN NWG, though no longer active and not capacitated, and the National Technical Committee on Land Use Planning recently re-launched	Reactivation of the LDN NWG with further inclusion of representatives from district and municipal levels Creation and capacitation of a Miombo landscape level LDN working group in the target landscape to coordinate/liaise with the NWG, as well as coordinate planning at landscape level	LDN NWG engaged in LD assessment, monitoring and reporting Miombo landscape level working group established and operationalied	List with active LDN-NWG members. Reports from capacity development actions. Cross-sectoral and multi-level MoUs and agreements.	(i) Sectoral institutions acknowledge the necessity to strengthen cross-sectoral and regional collaboration and participate (lead) accordingly and provide necessary human resources; (ii) High level policy support to LDN	PMU, and district facilitation team and VPO

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
	2. # and type of strategies and plans in support of LDN jointly reviewed, amended, developed and approved	Set of strategies and plans at national and landscape levels currently incomplete to provide the support necessary to LDN effective implementation	n/a	Tree seed strategy developed Livestock development strategy and action plan reviewed and strengthened to include access to seeds PFM policies and guidelines strengthened	New or modified strategies and plans Materials created and disseminated (e.g. Media articles, conference abstracts and articles, policy leaflets).		PMU, VPO
Output 1.1.1: Cross-sectoral LDN national working group and Miombo landscape level technical working group operational, strengthened and capacitated in the application of tools and approaches Output.1.1.2: Value of Miombo woodland's ecosystem services assessed across the two targeted sub-landscapes and fed into a policy/decision-making Output 1.1.3: Strategies, plans and other sectoral frameworks reviewed and by-laws clarified / developed							
Component 2. Demonstrating, implementing and scaling out SLM and SFM best practices at landscape level							

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Outcome 2.1: LDN objectives mainstreamed into sectoral local gender sensitive development plans	1. # of sectoral local gender sensitive VLUP incorporating SLM and SFM good practices in place and under implementation	In Kaliua District Council there are 17 villages with VLUP out of 90 villages in total	7 VLUPs and joint village land use plans	14 VLUPs and joint village land use plans developed according to the VLUP guidelines incorporating SLM and SFM best practices # of CCROs (tbc)	VLUPs	(i) the NLUPC has the capacity to lead the ILMP development process; (ii) A stable political/global health/market situation allows governments /communities to participate in planning exercises	PMU and district facilitation team
	2. # of forest management plans incorporating SLM and SFM good practices updated	0	3 FMPs	Six forest management plans (4 forest reserves at Mlele District Council and 2 at Kaliua District Council), integrating SLM and SFM practices	Forest management plans		PMU
Output.2.1.1: Joint Village land use plans (forest, rangeland and cropland areas) updated, reviewed, developed and implemented in a participatory manner, supporting security of land tenure and access rights Output 2.1.2: Integrated landscape management mainstreamed into Forest management plans (including fire management)							

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Outcome 2.2. Wide uptake and application of SLM/SFM practices in target landscapes following priorities actions of the VLUPs and FMP	1. # of direct beneficiaries of SLM/SFM project interventions disaggregated by gender (contributing to GEF Core Indicator 11)	0 because project has not started	40% of target members of rural communities (disaggregated by gender) directly benefitting of SLM/SFM project interventions.	0 because project has not started	Training reports/attendance records, SHARP report	District, area and village-level institutions, users' organizations, grassroot organizations, researchers, private sector, and other critical partners willing to join the works	PMU and district facilitation team, with FAO technical support
	2. # ha of **cropland** under sustainable agriculture intensification & diversification, following SLM best practice (contributing to GEF Core Indicator 4.3)	Annual cropland without improvements and residue burning (slash and burn practices & small scale farming for family production)	20% of end-of-project target	15,000ha of annual croplands converted into agroforestry system	USGS-Remote Sensing data collection Field verification		
	3. # ha of grasslands undergoing restoration (active and passive) management, (contributing to GEF Core Indicator 3.3) t	Moderately degraded grasslands, but early signs of decline under the land productivity assessment	20% of end-of-project target	Moderately degraded grasslands will be improved to non-degraded grasslands over 6000 ha, through pasture management plans with the community.	LDN monitoring (methodology)		

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
	4. # ha of **forest land** under improved forest management	Miombo forests have a low degradation level with a biomass loss of 20%	20% of end-of-project target	740,352 ha of forest will be under improved forest management. Participatory forest management, natural regeneration and restoration in highly degraded forests will allow forests to partially recover. The biomass loss will be reduced to 19%.			
	5. # ha of forest land undergoing restoration (active and passive) management, (contributing to GEF Core Indicator 3.2)		20% of end-of-project target	34,885 ha of forest will be under restoration			
	6. # ha of avoided deforestation	Currently, there are 697 702 ha of forest in the two sones and the 6 FR covers 3 million ha	20% of end-of-project target	The project aims to reduce deforestation by 10%, targeting 2,729 ha of avoided deforestation			
Output 2.2.1: Evidence based good, sectoral, local and gender sensitive SLM and SFM practices identified, compiled, implemented and disseminated Output 2.2.2: Community seed banks and tree seed and seedlings production center established/or strengthened and capacitated							

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Outcome 2.3. Key green value chains and associated finance and business development strengthened or established	1. # of people (disaggregated by gender) participating in and benefiting economically from sustainable value chains [Corresponding to GEF core indicator 11: number of direct beneficiaries as co-beneficiaries of GEF investment; and SDG 2.4.1 sub-indicators 1. (farm output value) and 2. (net farm income)]	0	Tbd during inception phase	Tbd during inception phase	Gender disaggregated participation tracking data Farmer organizations' business plans. Contracts and MoU between value chain actors. Reports from capacity development programs. Video footage and pictures. Proof of purchase and effective use of processing and marketing equipment and inputs	Local communities, CBOs, and FFPOs grasp the opportunities offered by SLM and SFM, and are willing to invest the required time and energy to make their livelihoods more resilient	PMU and district facilitation team
	2. # of business plans for targeted value chains for project-supported SLM/SFM products developed and approved	0	0	One approved business plan per selected VC			PMU and district facilitation team, and sub-contracted NGOs

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Output 2.3.1: Improved efficiency for transition towards alternative energy sources and consumption Output 2.3.2: Improved development of Miombo woodlands key value chains ("basket product approach") Output 2.3.3: Business plans developed, financed, business development mechanisms established and implemented							
Component 3. Strengthening knowledge, learning and collaboration to support progress towards achieving national LDN targets							
Outcome 3.1. LDN-related policy, planning, management and decision-making at national and global levels informed	1. LDN monitoring and reporting system operational	0		Functional LDN monitoring and reporting system in place	PIR PPR	n/a	PMU and VPO
Output 3.1.1. National and sub-national LDN assessment, monitoring and reporting systems and tools developed and operational, with relevant reporting to global level							
Outcome 3.2. Knowledge and awareness to support progress towards achieving	1. # knowledge and information products developed, disseminated and accessed through relevant knowledge sharing platforms (Eg. GCP)	0 knowledge products	5 knowledge products	10 knowledge products	GEF TT Products and platform data	n/a	PMU

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
national LDN targets enhanced	2. # of briefs presenting lessons learned shared and accessed by stakeholders	0	5	10	GEF TT and project monitoring system UNCCD PRAIS and LDN Target Setting reports		PMU
Output 3.2.1. Project knowledge management, communication and dissemination framework and strategy developed and implemented Output 3.2.2 Project M&E framework, supporting lesson learning and adaptive management, developed and operational							
Outcome 3.3. National and sub-national measures to deliver LDN enhanced through improved regional and global opportunities for collaboration, exchange and learning lessons	1. # of country participation in regional and/or global Knowledge Sharing events		-	8 events	Back to office Reports Proceedings of regional and/or global Knowledge Sharing events	(i) Stakeholders provide consent for sharing information (ii) Planned regional events are organized	PMU

Results chain	Indicators	Baseline	Mid-term target	Target	Means of verification	Assumptions	Responsible for data collection
Output 3.3.1 – Actions, collaboration and investments identified to address common land and environmental degradation priorities in Miombo-Mopane ecoregion and bi-/multi-lateral initiatives established to progress towards LDN Output 3.3.2 – Collaborative actions to support business and develop markets for SLM/SFM products across the Miombo-Mopane region undertaken Output 3.3.3 – Opportunities for national and landscape-level stakeholders exchange knowledge and lessons learnt at regional and global levels identified, developed and supported							

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

Note, STAP comments were addressed at programme level: https://drive.google.com/file/d/11BRZ-5juZkbZc8Z3SjwaKseKU3LLDipL/view

1b) GEF Sec and UNCCD upstream comments

GEFSec upstream comments	Responses
We note that the private sector co-financing appears to be limited in terms of number of sources. We understand that things still need to be confirmed.	Cofinancing is coming from public funding sources
The idea that the child project is a part of a larger global program and global drylands agenda comes in a bit late in the discussion. This could be made more clear, early in the narrative under the Context.	This was added in the context section
The ToC is well laid out, however the linkages with the Coordination project need to be more prominent (in Component 3)	Linkages with the coordination project and the REM have been strengthened in the ToC
The Institutional Arrangements are quite complex with a main executing partner- Tanzania Forest Service along with 2 other national agencies and an NGO serving as co-executing partners for specific outputs. We also note funds will flow directly to all executing partners from FAO. It would be useful to clarify the reasoning behind this arrangement, how fragmentation will be prevented and possibly share experiences Tanzania has had with a similar arrangement in the past.	Institutional arrangements have been clarified and simplified

Clarification is needed on the GEBs, as the figures mentioned under Para 150 and in Annex A don't appear to be consistent. Annex A however does suggest that the targets have increased since Concept stage for Core Indicator 4- 1,244,340 ha under improved practices; but reduced for Core Indicator 6- 1.318 M tCO2eq sequestered as per to direct project intervention At the Concept stage Tanzania reported: 764,047 ha (20% of the total area) will be under improved management practices by the end of the project. This will promote ecosystem services and enable the storage of approximately 12.57 million tCO2 equivalent over 20 years as a co-benefit.	GEBs have been clarified. See GEBs sub-section
FAO Execution functions appear to be reflected in the document. Points (a), (b) & (c) are explicit, while d) allows for the possibility of execution functions by FAO. Please clarify, noting GEF's policy on Implementation/Execution Arrangements. a. TFS together with FAO are mentioned as the executing entities for Component 3. (Pg 73) b. Para 206- FAO responsibilities, as GEF agency, will include: Provide technical guidance to ensure that appropriate technical quality is applied to all activities concerned and tailored technical assistance on a demand-based basis (see Annex X - Justification for tailored technical assistance) c. Annex K- (d) Administrate the portion of project GEF funds that has been agreed with the OP to remain for FAO direct implementation. These funds will be managed in accordance with the rules and procedures of FAO; d. Annex L (xl) FAO's responsibilities regarding financial management and execution of the Project will be as stipulated in the Project Document. FAO may, in consultation with the Government, implement Project components through partners identified in accordance with FAO procedures. Such partners will have primary responsibility for delivering specific project outputs and activities to the Project in accordance with the partner's rules and regulations, and subject to monitoring and oversight, including audit, by FAO	Implementation set-up, organizational structure and roles and responsibilities have been thoroughly revised
Overaching UNCCD comments	
There are lots of supporting activities however, there does not appear to be actual land restoration activities described. It should not be assumed that assumed that capacity building leads to application.	Specific land restoration activities are planned under component 2

Regarding defining a baseline, according to the document they are going to use mainly SHARP survey results and data from Collect Earth tools. More data sources (global and freely available ones) and data tools (national and international) should be mentioned/defined for the project. And it would be recommended that clearer statements are made on how to obtain, store, analyze, and present data (including baseline and the targets).	Data sources and data tools have been mentioned in the ILAM toolbox and elsewhere in the Project document. Component 3 now clarifies how data will be obtained, stored, analysed and presented
There are some blurred areas in the document regarding monitoring and knowledge sharing systems. It is not clear whether these systems will be developed, or existing ones modified, nor if they tools are innovative/interactive. In addition, it would be recommend to indicate which data sets will be shared, which activities will be monitored, and the monitoring periods in detail.	Component 3 now clarified how monitoring and knowledge sharing systems will be developed and implemented
It is not a critical point but there are many abbreviations were used in the document which would need to be defined	All acronyms have been defined
It will be worth mentioning that the project will set up / define SMART indicators (including the 3 LDN biophysical indicators) to track the project's contribution toward achieving the LDN targets	SMART indicators have been defined in the RF
The Land Use Planning participatory exercise should help in defining what to do at the right place at the right time following the LDN response hierarchy to avoid, reduce and reverse land degradation. The figure below could be used (source: Orr et al. 2017. Scientific Conceptual Framework for LDN)	The VLUP will indeed use a LDN centred approach and will follow the LDN response hierarchy to avoid, reduce and reverse land degradation
LDN features are well included, but LDN indicators need to be better included to monitor and assess country progress towards achieving LDN targets. There are some LDN indicator terms in the document but no mention of the 3 biophysical indicators in the context of LDN. These indicators (Land Cover, Net Primary Productivity, Soil Organic Carbon), LDN Target Setting Process (TSP), and the UNCCD reporting process should be added to the document.	LDN indicators added in the RF. Component 3 will aim at strengthening the national LDN assessment, monitoring and reporting systems and tools, and managing the data collected, to support assessing progress towards LDN targets. This will facilitate national LDN reporting responsibilities under the UNCCD. See component 3

Particular areas to strengthen: ð LDN targets and implementation are highlighted, though actual land restoration activities are assumed from training farmers. It should not be assumed that knowledge and skills transfer will change behavior. There is need to include restoration activities and to monitor actual application of SLM/SFM practices. ð LDN Monitoring and Evaluation system is mentioned. How innovative or interactive the tools need to be better described. LDN indicators need to be included. ð Support to the next UNCCD reporting exercise 2021-2022 should be considered (though the timeframe may make this irrelevant) ð Land use planning, gender, and potential linkages with other flagship programmes /initiatives included. No mention of links to ZAMCOM projects. ☐ Identify and leverage innovative and sustainable finance mechanisms which create incentives for and/or directly reward land stewardship; ☐ Promote innovative financing (e.g., blended finance, green bonds) from broad range of financing sources (climate finance, development finance, domestic finance – national forest funds, special taxation scheme, etc.).domestic finance – national forest funds, special taxation scheme, etc.). ☐ Ensure there are mitigating measures for potential leakage (negative offsite effects as opposed to positive spillover effects) beyond the project area; ☐ Apply methods to manage or minimise environmental, economic, social and cultural trade-offs; ☐ Strengthen or develop a grievance redress mechanism. ☐ Avoid forced displacement/involuntary resettlement resulting from the intervention	Specific land restoration activities are planned under component 2 LDN indicators included M&E system detailed Work under component will facilitate national LDN reporting responsibilities under the UNCCD Added in section 6c, including ZAMCOM projects Output 2.3.3 aims at developing business plans, and business development mechanisms to leverage innovative and sustainable finance mechanisms for local stakeholders. Risks of potential leakages are covered in the risk assessment section ESMP added

ANNEX C: Status of Utilization of Project Preparation Grant (PPG). (Provide detailed funding amount of the PPG activities financing status in the table below:

Please use the following link: https://drive.google.com/file/d/1g_j4p9gexrgw42akkaddfuoocfq5dmv_/view?usp=sharing

ANNEX D: CALENDAR OF EXPECTED REFLOWS (if non-grant instrument is used)

Provide a calendar of expected reflows to the GEF/LDCF/SCCF/CBIT Trust Funds or to your Agency (and/or revolving fund that will be set up)

ANNEX E: Project Map(s) and Coordinates

Please attach the geographical location of the project area, if possible.

Project maps and geo-coordinates are provided in the annexed file in the link below.

https://drive.google.com/file/d/1AnDG8Hv6ZV_hfx7tzLyGRSGLGN1OowK0/view?usp=sharing

ANNEX F: Project Budget Table

Please attach a project budget table.

Please use the following link to access the project's budget file:

https://drive.google.com/file/d/1RhDPt55AILoITH4mp-1BpINLuC21NB-A/view?usp=sharing

Justification for driver and purchase of vehicles

The Tanzania DSL project covers a large project area, with difficult road conditions and terrain in most of the area. In order for the PMU staff and project consultants to operate effectively and access the project sites, a driver and two vehicles required to be funded by the project. It will be difficult for PMU staff as well as national and international consultants to support and participate in the field work activities if there are no dedicated cars and driver for these activities.

The Government of Tanzania is providing substantial PMC co-financing to this project in the form of providing additional PMU staff including Procurement Officer, Administrator, and supporting staff (Secretary, additional driver, office attendants). At site level, there will be the Project Focal Person for TFS and Zonal Office at Tabora. The costs for procurement of a driver (USD 90,000) vehicle (2 x USD 60,000) is, thus, considered economical and cost-effective given the PMC costs provided as co-financing, including a driver.