IFAD
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United Republic of Tanzania

Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of semi-arid areas of Tanzania – GEF 9132

Detailed design report

Main report and appendices

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Currency equivalents

Currency Unit	=	Tanzanian Shilling (TZS)
US$1.0	=	2,187 TZS

Weights and measures

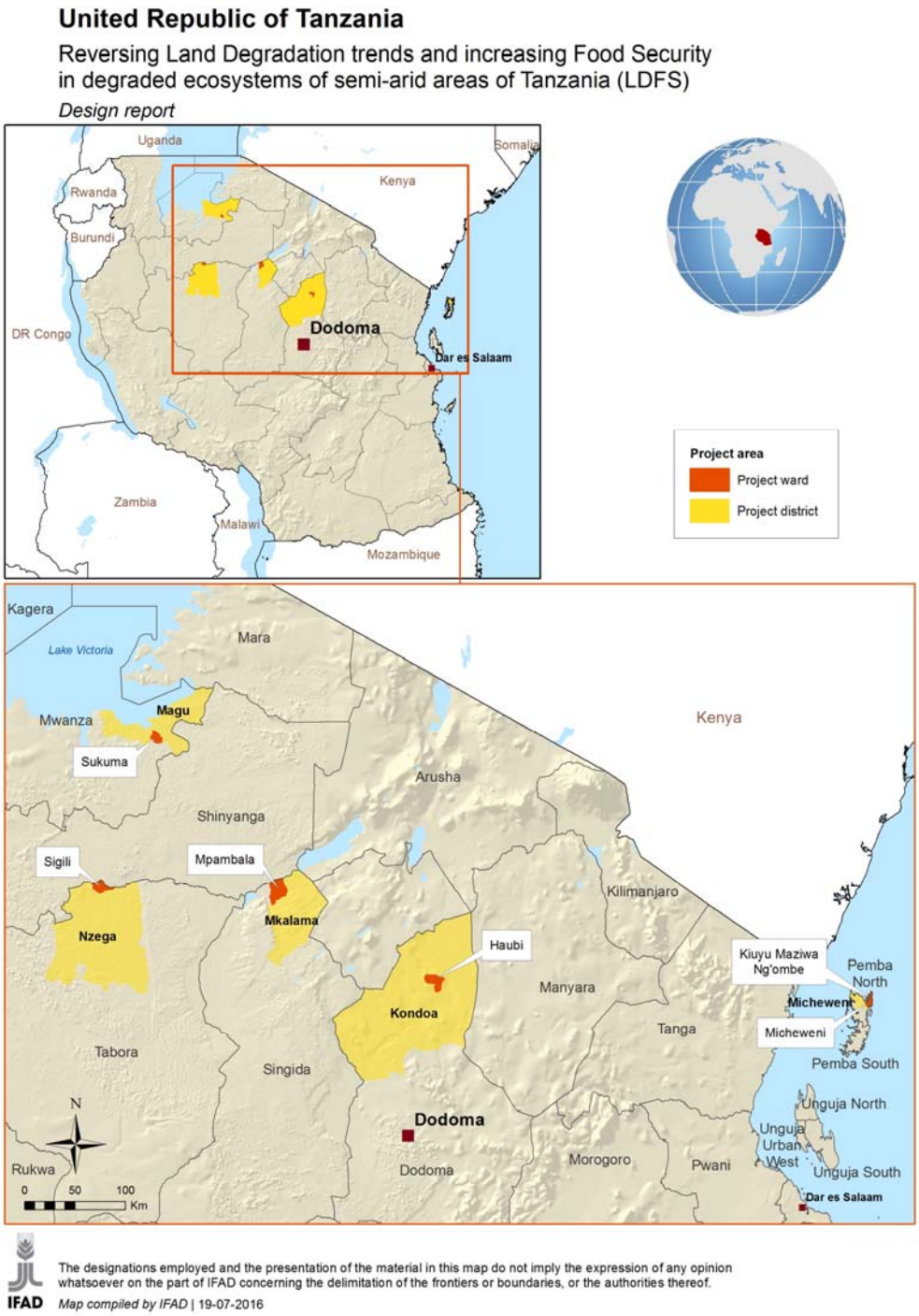
1 kilogram	=	1000 g
1 000 kg	=	2.204 lb.
1 kilometre (km)	=	0.62 mile
1 metre	=	1.09 yards
1 square metre	=	10.76 square feet
1 acre	=	0.405 hectare
1 hectare	=	2.47 acres

Abbreviations and acronyms

AfDB	African Development Bank
ASAP	Adaptation for Smallholder Agriculture Programme
ASDP	Agricultural Sector Development Programme (this acronym is used to refer to both a national sector-wide programme of the Government of Tanzania as well as to an IFAD loan title)
ASDP-L	Agricultural Sector Development Programme – Livestock
ASDS	Agriculture Sector Development Strategy
ASSP	Agricultural Services Support Programme
AWPBs	Annual Work Plans and Budgets
BFFS	Belgian Fund for Food Security
BRN	Big Results Now
CAHWs	Community Animal Health Workers
COSOP	Country Strategic Opportunities Programme
CPA	Country Programme Assessment
CPE	Country Programme Evaluation
CPMT	Country Programme Management Team
CSO	Civil Society Organization
DADPs	District Agricultural Development Plans
DDP	Dryland Development Project
DFT	District Facilitation Teams
DPs	Development Partners
EAC	East African Community
ECCA	Environmental and Climate Change Assessment
ERR	Economic Rate of Return
ESA	East and Southern Africa Division (IFAD)
EX-ACT	Ex-Ante Carbon Balance tool
FAO	Food and Agriculture Organization
FFs	Farmer Facilitators
FFS	Farmer Field School
FHHs	Female Headed Households
GDP	Gross Domestic Product
GEB	Global Environmental Benefits
GEF	Global Environment Facility
GEF-IAP	Global Environment Facility – Integrated Approach Pilots
HDI	Human Development Index
ICR	Implementation Completion Report
ICRAF	International Council for Research in Agroforestry
IFAD	International Fund for Agricultural Development
INDC	Tanzania's Intended Nationally Determined Contributions
IOE	Independent Office of Evaluation (IFAD)
KM	Knowledge Management
LCCS	Land Cover Classification System
LDC	Least Developed Country
LDCF	Least Developed Countries Fund
LDFS	Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of semi-arid areas of Tanzania
LDSF	Land Degradation Surveillance Framework
LGA	Local Government Authority
LMI	Livestock Modernization Initiative
M&A	Monitoring and Assessment
M&E	Monitoring and Evaluation
MALF	Ministry of Agriculture, Livestock and Fisheries
MDGs	Millennium Development Goals
MFI	Micro Finance Institution

MIT	Ministry of Industry and Trade
MIVARF	Marketing Infrastructure, Value Addition and Rural Finance Support Programme (IFAD)
MTR	Mid-Term Review
NAP	Tanzania's National Adaptation Plan
NAPA	Tanzania's National Adaptation Programme of Action
NBSAP	Tanzania's National Biodiversity Strategy and Action Plan
NSGRP	National Strategy for Growth & Reduction of Poverty (also known by the Kiswahili acronyms of MKUKUTA for mainland and MKUZA for Zanzibar)
NTFP	Non-Timber Forest Products
PCU	Project Implementation Coordination Unit
PIDP	Participatory Irrigation Development Programme (IFAD)
PIM	Project Implementation Manual
PIR	Project Implementation Review
PMD	Programme Management Department of IFAD
PSC	Project Steering Committee
RB-COSOP	Result-Based Country Strategic Opportunities Programme (IFAD)
RBMF	Result-Based Management Framework
RFSP	Rural Financial Services Programme (IFAD)
RIMS	Results and Impact Management System
SACCO	Saving and Credit Cooperative Societies
SHMDP	Southern Highlands Milkshed Development Project (IFAD)
SLM	Sustainable Land Management
SRMP	Sustainable Rangeland Management Project (IFAD)
SWAp	Sector-wide Approach
TA	Technical Assistance
TAC	Technical Advisory Committee
TACRP	Tanzania Agriculture Climate Resilience Plan
TE	Terminal Evaluation
TT	GEF-IAP Food Security Programme Tracking Tool
UNCCD	United Nations Convention to Combat Desertification
UNFCCC	United Nations Framework Convention on Climate Change
VCD	Value Chain Development
VICOBA	Village Community Bank
VLUP	Village land-use planning
VPO	Vice President's Office
WEAI	Women's Empowerment in Agriculture Index
ZASDP	Zanzibar Agricultural Sector Development Programme

Map of the project area



Executive Summary[1]

1. **Background.** The Integrated Approach Pilot (IAP) program on Fostering Sustainability and Resilience for Food Security in Sub-Saharan Africa (IAP-FS) is co-financed by the Global Environmental Facility (GEF) and has IFAD as the lead Agency. IAP-FS targets agro-ecological systems where the need to enhance food security is directly linked to opportunities for generating local and global environmental benefits. The programme aims to promote sustainable management and resilience of ecosystems and their different services from land, water, biodiversity, and forests, as a means to address food insecurity. At the same time, it will safeguard and climate-proof the long-term productive potential of critical food production systems in response to changing human needs.

2. The project for Reversing Land Degradation Trends and Increasing Food Security in Degraded Ecosystems of Semi-Arid Areas of Tanzania (LDFS) is one of 12 national child projects under the IAP-FS programme that will contribute to national, regional and global agendas. Anchoring the IAP firmly in local, national and regional policy frameworks will enable the scaling up of more sustainable and resilient production systems and approaches across the targeted geographies.

3. The LDFS concept was endorsed by the Government of Tanzania and approved by the GEF Counsel in June 2015 and will receive financing from the GEF biodiversity, climate change and land degradation focal areas. The project will contribute to the collective impact of the IAP-FS from the 12 countries. The regional IAP-FS program will, through its 'hub' project and cost sharing, generate knowledge exchange, deliver training and technical guidance, and develop knowledge management products of relevance to multiple child projects. Further, it will have an advocacy function which draws upon and creates visibility for the anticipated success stories from the country projects at the level of sub-regional and regional bodies within the context of food security debates and policy making. Each country project has committed to participate in the peer-peer exchange and host site visits and in communities of practice on specific themes of interest and value to multiple IAP-FS countries.

4. **Economic context**. Based on sound macroeconomic policies, Tanzania has experienced high economic growth, averaging between 6-7% per year, over the past decade. The country has a long coastline and borders with eight countries, giving rich opportunities for cross border commerce. Tanzania is currently ranked 152nd out of 182 countries on the HDI index, its business environment is ranked 134th out of 185 countries, and its government effectiveness 135th out of 212 countries.

5. **Poverty and demography**. The share of people living in poverty has declined from 34% in 2007 to 28% in 2012, but continues to be significant. At the national level, about 730,000 households (8.3% of all households) were food insecure or vulnerable to food insecurity in 2010-11, and of these, around 150,000 households (1.7% of all households) were considered chronically food insecure[2]. Rural areas are home to about 84% of the poor, or about 12 million people. Tanzania's drylands are home to almost 50% of its population. An historical legacy of limited and often inappropriate development have left the drylands of Tanzania with weaker institutions for governance and planning, less effective social and economic services, and greater levels of poverty than other areas of the country.[3]

[1]Mission composition: VPO - Constantine Shayo, Principal Environment Research Officer (M&E specialist); Daniel Nkondola, Principal Environment Officer (GEF and Adaptation Expert); Zainabu Shaban, Principal Forest Officer (Forest and Natural Resource Expert/SLM DESK); and Fainahappy Kimambo, Principal Livestock Tutor and Research Officer (GEF desk Officer and IGAs). IFAD -Rikke Olivera, IFAD Senior Natural Resource Management Specialist and Mission Leader; Juma Mwatima, IFAD Senior Programme Officer; Rachele Arcese, IFAD Programme Officer, Targeting and social inclusion (gender, youth, vulnerable groups); Guido Rutten, IFAD Environment and Climate Change Officer; Clara Champalle, Adaptation Expert, IFAD consultant; Richard Batamanye, Financial Specialist, IFAD consultant.
[2]Comprehensive Food Security and Vulnerability Analysis - Tanzania, WFP, 2012
[3]Coast, 2002; Homewood et.al, 2009, referenced in IIED, community and government: planning together for climate resilient growth, 2014.

6. In 2014, the country had met targets for two of the Millennium Development Goals (MDGs): reducing infant and under-five mortality and combating HIV/AIDs and malaria and planned to achieve universal primary education and ensure environmental sustainability by 2015[4]. Life expectancy at birth is 60 years; the literacy rate is 75% for men and 60% for women. In terms of gender equality, despite progress, women face challenges in working and access to decision-making at all levels. As of 2014, the total youth population aged 15-35 years is comprised of almost 15 million persons of whom 12.5 million (84%) are economically active. Out of the economically active youth population, 1.5 million persons (12%) are unemployed, while 1.3 million (10%) are underemployed[5].

7. **Agriculture sector**. The agricultural sector contributes about one quarter of GDP and provides employment to three quarters of all Tanzanian workers, while fulfilling 90% of the country's food need. About 80% of production comes from smallholder farmers, with little use of modern technologies and inputs, and is highly vulnerable to weather shocks. Agricultural production gains have been derived principally from expansion of the area cultivated rather than yield increases, which has been a driver of deforestation and land degradation. Despite its potential for production, the country imports significant volumes of cereals and pulses annually, which could be produced nationally.

8. Tanzania has a cattle population of 21-25 million heads, more than 95% of which consists of indigenous breeds, while 5% are crossbred and exotic dairy cattle. The livestock sector contributes 7.4% to the country's GDP; it is growing at only 2.2% p.a., performing well below its potential. Livestock plays an important role in the rural economy: about one-third of rural households – 2.8 million – keep cattle, and rely on them for a major part of their income, as well as for cultural and social capital. There are three main production systems: pastoral/agro-pastoral, crop-livestock and intensive dairy and beef production.

9. The dairy sector currently makes up 2% of GDP. Total milk off-take is about 2.1 billion litres a year, 70% of which comes from the traditional herd and the remaining 30% from the 780,000 cattle in the improved dairy herd. Productivity is generally low, the result of the intrinsic low productivity of the traditional breed and poor management. The northern and southern highlands and Tanga region are the most important areas for dairy production.

10. **Climate and land in semi-arid Tanzania.** Tanzania encompasses a variety of ecosystems, which can be categorized as (i) coastal areas, (ii) western plateau, (iii) highlands and (iv) semi-arid areas. Drylands in Tanzania, and the fragile food systems they harbour, face the following key challenges:

- **Land degradation and subsequent loss of productive areas.** Increasing population pressure, high poverty rates and unsustainable management practices contribute to a loss of cultivable land and grazing land.
- **Increasingly unreliable rainfall patterns.** The onset of wet seasons is reportedly becoming more variable, and dry periods are getting longer.
- **Scarcity of water and energy sources for production and household needs.** Women in particular spend high amounts of time fetching water and firewood for domestic use.
- **Limited capacity for land-use planning and natural resources management.** Lack of knowledge and practical skills amongst government staff and farmers hampers the introduction of landscape level joint village management of shared resources and more sustainable practices for land and water management.
- **Sea level rise** and saltwater intrusion destroying agricultural land as well as **sand mining** causing land degradation are additional important issues in the Micheweni district.
- **Biodiversity loss** is being accelerated by land degradation and deforestation, leading to the disappearance of habitats for key flora and fauna. Endemic species of trees, plants, small animals and large mammals living in the drylands are increasingly competing for scarce

[4] Country Report on the Millennium Development Goals 2014: Entering 2015 with MDG scores: http://www.povertymonitoring.go.tz/WhatisNew/MDGR%202014.pdf
[5] Integrated Labour Force Survey, ILFS, 2014

water, land, shade and forage. Expansion of agricultural lands to counter low productivity leads to encroachment onto game and forest reserves. In addition, there is gradual a degradation in the quality of genetic material used in agriculture, due to the low replacement rates and gradual replacement of native landraces by engineered or modified foreign varieties.

11. **Programme area and targeting.** The project focuses on geographic areas with high level of poverty, food insecurity, malnutrition of children under 5 years old, land degradation and average annual rainfall, as well as areas where there might be conflicts among communities related to access to and use of crop, grass and forest land and water resources. The project area covers twenty-two villages in five districts, counting almost 13,000 households (69,555 people).

12. The five districts are located in the semi-arid areas (Kondoa, Mkalama, Nzega, Magu) and in the coastal areas (Micheweni located on the island of Pemba). Climatic conditions are tropical and the annual rainfall is between 450 – 700 mm per year in a single wet season.

13. Smallholder agro-pastoral farmers vulnerable to climate change impacts will be the primary beneficiaries of LDFS, among which three main target subgroups have been selected:

(a) *Food insecure subsistence smallholder agro-pastoral farmers* – those with not enough access to productive land and water or other resources to produce enough to cover their food needs, who rely regularly on food aid and are very vulnerable to climate shocks. They account for approximately 50% of the project area population;

(b) *Mostly food secure subsistence smallholder agro-pastoral farmers* – this group includes those who are normally able to fulfil their own needs, but who are not able to produce much excess to sell. They are very vulnerable to climatic or other shocks to their livelihoods which in severe situations lead to periods with food insecurity, and want to improve their agricultural productivity. They account for approximately 40% of the project area population;

(c) *Market oriented agro-pastoral farmers* – this group includes those who are regularly able to sell excess production to market. They have adequate land and some skills that they wish to use to increase their surplus production available for sale. They account for approximately 10% of the project area population and can showcase income generation options and pull other farmers into market oriented activities through demonstration and participation in producer groups.

14. This proposed project is based on the recognition of the inextricable links between healthy ecosystems and productive food systems and food security. The project therefore seeks to leverage better natural resources governance and management approaches at all levels to enable communities to derive more stable, resilient and secure livelihoods in the short and long-term.

15. A key feature of this project, from which it expects to derive its transformative effect and to multiply benefits, is the landscape approach. A landscape approach aims at reconciling agriculture, biodiversity conservation, livestock grazing and other competing land uses in order for ecosystem services and their usage to co-exist within the landscape. It allows for decision-making on a larger scale with the involvement of all users of shared resources, rather than isolating each village and ignoring impacts beyond community limits or trade-offs between and among agriculture, conservation and livestock grazing.

16. The project will build on models and approaches build by the Sustainable Rangeland Management Programme (SRMP) phases I and II (2010-2012 and 2012-2014) and build synergies with the SRMP phase III (2016-2020), as part of the larger ILC-ILRI-led grant 'Fostering good land governance for inclusive agricultural development'. The SRMP I and II supported one of the first experiences in Tanzania in preparing joint Village Land-use Plans (VLUPs) in the central Tanzania drylands and the SRMP-III will aim to develop and demonstrate improved approaches based on the lessons learned. The LDFS project will also build close collaboration and synergies with the Dryland

Development Project (DDP) for mainland Tanzania currently under design under the lead of the MALF and which will be the main IFAD co-financing source for the LDFS project. The DDP will also facilitate joint VLUPs and support integrated dryland-based livelihoods including linkages to markets and income generation while providing ecologically sound strategies for land use planning and sustainable management of natural resources. The DDP will be designed to build direct geographical synergies with the LDFS project in Kondoa, Mkalama, and possibly Nzega. In these areas LDFS beneficiaries will be provided with support from the DDP for market linkages and income generation from dryland products. Further, the DDP provides an important scaling up opportunity for the LDFS. The LDFS project is foreseen to start implementation slightly ahead of the DDP and will as such be able to provide methodologies, approaches and lessons learned that can be picked up and scaled up by the PPD project in a much bigger areas of the Tanzanian drylands.

17. To achieve its objective, the LDFS is structured into three inter-related components: *Component 1* will set the enabling conditions for sustainable land and water management at landscape level sustaining ecosystem services and enhancing food security. It will strengthen institutional capacity at the village, inter-village and district levels and establish inter-village committees with the goal of developing landscape level inter-village participatory resources and livelihood diagnostics and land use planning processes to foster an integrated and holistic management of natural resources. *Component 2* will support the implementation of sustainable land and water management priorities, conservation of habitats for biodiversity, conservation farming practices, and income-generating activities agreed within said plans. *Component 3* will focus on monitoring and assessing the progress in sustaining ecosystem services, household resilience and food security. Based on assessment results. Component 3 will also support incorporating lessons learned in local and district level natural resources governance systems and contributing to the continuous improvement of the landscape level approach to natural resources management, supporting integration of best practices in policy making at the district, regional and national levels.

18. **Organisational framework.** The project implementation period will be of 5 years. IFAD will act as the **GEF Implementing agency** for the GEF funding of this project. The project will be coordinated by the Vice President's Office (VPO) Division of Environment as the **lead Executing agency** for the project.

19. A **Project Steering Committee (PSC)** chaired by the Permanent Secretary of the VPO, with representation of the relevant sector ministries[6], will be responsible for overseeing project implementation. Day-to-day project management and implementation will be the responsibility of the **Project Coordination Unit (PCU)** housed under the VPO office at a location to be agreed between all project partners at inception. The PCU will be responsible for the overall planning and management of project activities; guiding, supporting and supervising project implementation; procuring goods and services; financial management of the project resources; and monitoring and reporting on implementation and financial progress. It will work in collaboration with sector ministries and government services including the Regional Secretariat and District Facilitation Teams to define performance-based MoUs based on district AWPB and determine backstopping arrangements according to the needs and priorities of the target area.

20. A **Technical Advisory Committee (TAC)** will be established to advise the PCU and the PSC on the quality of progress reports, AWPBs, and on any technical issues. The TAC will assist the PCU in establishing potential linkages with relevant ministries for technical support. It will be chaired by the VPO Director of Environment and consist of: the VPO Director of Environment, the District Executive Directors of the respective project districts, and of the relevant Directors of the following sector ministries: Ministry of Agriculture, Livestock and Fisheries (MALF); Ministry of Water and

[6] Permanent Secretaries of: Ministry of Agriculture, Livestock and Fisheries (MALF); Ministry of Water and Irrigation (MoWI); Ministry of Natural Resources and Tourism (MNRT); President's Office Regional Administration and Local Governments (PO-RALG); Ministry of Finance and Planning (MFP); Ministry of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF)- Zanzibar; Ministry of Lands, Water, Energy and Environment (MILWEE) – Zanzibar.

Irrigation (MoWI); Ministry of Natural Resources and Tourism (MNRT); President's Office Regional Administration and Local Governments (PO-RALG); Ministry of Finance and Planning (MFP); Ministry of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF)- Zanzibar; Ministry of Lands, Water, Energy and Environment (MILWEE) – Zanzibar.

21. Project implementation at district level will follow the guidelines for decentralization by devolution (D by D). **District Facilitation Teams (DFT)** will be set up in the selected districts, and their offices equipped. The DFT 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 PCU and to their Regional Secretariat. The District Council Management Team will be responsible for approving the district-level AWPB and monitoring the progress of implementation. The quarterly reports of all five districts will then be reviewed and consolidated by the PCU and submitted to the TAC for approval and then to PSC and IFAD for clearance.

22. Project management is financed by GoT and GEF. An IFAD-GEF funded start-up grant will enable GoT to recruit key staff and initiate priority actions immediately upon signing the LDFS grant agreement with IFAD. This means that project implementation will be in full swing by mid-2017.

23. **Planning, M&E, Learning and Knowledge Management.** The PCU will coordinate the preparation of District Annual Work Plan and Budgets (AWPB) to structure the implementation process and consolidate into an overall AWPB. Procedures for planning, monitoring and learning are included in the Appendix 6 of the PDR. LDFS will undertake baseline surveys and data assessment exercises that trace Global Environmental Benefits supported by the Project (less degraded land; higher biodiversity in protected, crop and range lands; higher resilience to climate change). LDFS will also support national processes of learning and knowledge management through its third Component.

24. **Financial management, procurement and governance.** LDFS will be governed in accordance with the procedures for financial management and procurement that have been agreed with the VPOs office during the design following an external assessment of their Fiduciary Standards (see Appendices 7 and 8). Procedures defined for the Project have taken into account procedures of the Government as well as IFAD and GEF requirements. This will be reflected in the draft Project Implementation Manual, Financial Management Manual and Procurement Manual accordingly.

25. **Supervision.** IFAD will undertake supervision, implementation support, mid-term review and completion missions that will reflect both GEF and IFAD perspectives. A key responsibility of the supervision and review is to update the targets set in the Project's logical framework in accordance with the enhanced knowledge of the Project Development Area and the progress of the Project.

26. **Risk identification and mitigation**. As shown in the Logical Framework attached to this Executive Summary, the Project design is underpinned by assumptions with respect to risks that face the Project's intervention logic. An assessment of each of these risks has been made, and measures are included in the Project design to prevent, reduce and/or mitigate the risks.

27. **Project cost, financing, benefits and sustainability.** The total LDFS project costs are estimated at about USD 50.9 million over the five-year project implementation period including baseline investments of USD 42.94 million. The direct investments in the project will be USD 7.9 million funded as follows: GEF grant of about USD 7.15 million and GoT will mainly finance taxes and duties and provide technical backstopping at a cost estimated at USD 0.68 million, representing 8.5% of project costs (excluding baseline investments). Other anticipated funding sources will be from beneficiaries who will contribute their unskilled labour, local materials and plots of land for farmer field schools at a cost estimated at USD 0.19 million representing 2.4% of the total direct investment into LDFS project.

28. **Start-up facility.** The IFAD- GEF funded start-up grant is accessible when the grant agreement is formalised; and before conditions for implementation readiness (recruitment/secondment of the Project Coordinator and Senior Accountant, financial management, bank accounts, signatories, Annual Work Plan and Budget, Project Implementation Manual, first withdrawal application, etc.) are

met. This grant is provided to facilitate the early start of the Project and can be used to cover start-up expenditures.

29. **Environmental and climate risks.** The LDFS has been categorized under the Environmental and Social Safeguards as a Category B project. The project's potential negative environmental and social impacts, as listed in Appendix 12 B, are limited, site-specific and can be readily mitigated through measures already identified in the project design document.

30. The climate change risks faced by the Project in achieving its objectives are assessed as **Moderate**. The main risks relate to increasing incidence of floods and droughts, and increasing salt-water intrusion as a result of sea-level rise for Pemba. While the project is designed to enable farmers to adapt to these climatic trends, farmers may still experience increased levels of vulnerability.

31. The **Economic and Financial Analysis** (EFA) of the LDFS will be completed as an integrated part of the EFA of the DDP.

Logical Framework

A more detailed logical framework that will serve as the basis for the results-based management of the project is presented in Appendix 6.
Baseline figures will be adjusted during the first project year when the Exact, LDSF, resilience scorecard, and MPAT survey are conducted.

Results Hierarchy	Indicators				Means of Verification			
	Name	**Baseline**	**Midterm**	**End Target**	**Source**	**Frequency**	**Responsibility**	**Assumptions (A) / Risks (R)**
Goal: To improve food and nutrition security in the targeted villages	Percentage points reduction in food insecurity level (index)	50%[7]	5% reduction	10% reduction	Ministry of Health	Project years 2 and 5		(A) Broad systemic constraints to accessing food are controlled, such as market stability, security, fiscal policies (R) Climate shocks and regional economic shocks could impact food supply
	Percentage point reduction in malnutrition level for children under 5 years	TBD	5%	10%	RIMS baseline and impact surveys, household surveys			
Project Development Objective: To reverse land degradation trends in central Tanzania and Pemba (Zanzibar) through sustainable land and water management and ecosystem-based adaptation	Percentage point reduction in land degradation prevalence	45-70% of land affected	10% reduction	20% reduction	Land Degradation surveillance Framework (LDSF)	Annual		(A) It is assumed that restoring key productive ecosystems to productivity is possible, and that this will not lead to expansion but rather to increased productivity. (R) The current system of incentives may be insufficient to ensure continued long-term
	Percentage of targeted households with increased resilience to climate variability and change (using household resilience scorecard)[8]	TBD	20% of households with increased resilience	40% of households with increased resilience	Resilience Scorecard			

[7] According to the district staff whom participated in the design on average among the districts 50% of households are food insecure. This figure will be adjusted with more precise data from each participating village during the first project year

[8] See description of output 4.1 on how the project will be monitoring resilience

								stewardship of natural resources; population increases may jeopardize sustainability of management systems.
Component 1: Institutional capacity building for sustainable land management and biodiversity conservation at landscape level								
Outcome 1:Institutional capacity in place at district and local village levels to support SLM practices and conservation of ecosystem services at the landscape level	# of landscape level inter-village NRM committees functioning meeting at least twice per year and solving any emerging conflicts over resources use (%women in leading positions)	0 committees	At least 1 per district, bringing together at least 2 or more villages within a given landscape (> 30% women in leading positions)	At least 1 per district, bringing together at least 2 or more villages within a given landscape (> 30% women in leading positions)	Project M&A system District reports Minutes from committee meetings	Annual	VPO	(A) There is willingness and material support at district and village level for enforcing SLM policies and practices (R)
Output 1.1: Local and district level institutional capacity strengthened on participatory joint land-use mapping, planning and access and regulation in support of SLM, forest conservation and sustainable agro-pastoralism	# of district staff, village staff and community members trained (% women, % youth)	0	At least 10 staff per district, 5 staff per village, and 3,000 community members, (>30% women and >30% youth[9])	At least 10 staff per district, 5 staff per village, and 3,000 community members, (>30% women and >30% youth)	District training reports	Annual	VPO	(A) There are sufficient staff, time and resources to support the local and landscape-based planning processes. There are no open conflicts between members of planning committees or villages. The number of participating villages is sufficient to represent a

[9] Youth is in the context of this project defined as 15-35 years old

								significant change at landscape level. (R) There is a risk that local government authorities do not have the capacity to maintain the developed institutional mechanisms beyond the duration of the project.
Output 1.2: Governance instruments in place to support integrated landscape management and SLM practices	# of joint village land use plans (JVLUP) adopted at landscape level	0	1 JVLUP per district reflected in 8 VLUPs	At least 1 JVLUP per district reflected in at least 16 VLUP and at least 3 district LUPs	Land use plans, District ordinances, bylaws and legal texts	Annual	VPO	
Component 2: Up-scaling of sustainable and climate-smart agriculture, land, water and pastoral management systems								
Outcome 2: Reduced land degradation, improved soil health and increased productivity of and income generation from agro pastoral ecosystems	# of households reporting yield/ha increase disaggregated by sex of household head	0 Households	2,000 HH (at least 20% FHH)	3,000 HH (at least 20% FHH)	Household surveys	Three times during the life of the project		(A) Yield increases are used primarily for self-consumption or local market trading as a means of increasing food security. (R) Cultural factors could hinder the long-term uptake of IAP technologies. A severe climate shock could undermine any gains in
	GHG emission avoided Carbon sequestered in biomass above and below ground	TBD		307,607 tCO2eq emissions avoided 915,247 tons CO2eq sequestered	Exact			

								productivity in the first years of the project.
Output 2.1 Farmer's capacities strengthened in experimental learning and adoption of conservation and climate smart farming and SLM practices	# of FFS operating and # of farmers participating(% women and % youth)	0 FFS	60 FFS with 25 participants each (>30 % women and >30% youth)	100 FFS with 25 participants each (>30% women and >30% youth)	FFS and training reports	Annual	Districts	(A) Improved management of NR at the landscape level is achievable within the limits of the project's participating villages and resources. A critical mass of Hectares under improved management leads to restoration of ecosystem productivity. (R) There is a risk that communities will prioritize a single set of infrastructure interventions in the land use plans, at the expense of multi-focal interventions which could bring added benefits.
Output 2.2 Improved management of dryland agro-pastoral and woodlands	Number of groups operating tree nurseries and practicing woodland management (% women and % youth participating).	0 groups operating tree nurseries	15 groups operating tree nurseries (>30% women and >30% youth)	20 groups operating tree nurseries (>30% women and >30% youth)	Visual observation,	Annual	Districts	

landscapes	# ha of rangeland and crop land under conservation and climate smart farming and sustainable management	0 ha under conservation and climate smart farming and sustainable management	4,500 ha under conservation and climate smart farming and sustainable management	9,000 ha[10] under conservation and climate smart farming and sustainable management	LDSF	Three times during the life of the project		
	# ha woodlands, rangeland, and degraded land reforested or afforested	0 ha woodlands, rangeland, and degraded land reforested[11]	250 ha woodlands, rangeland, and degraded land reforested or afforested	500 ha woodlands, rangeland, and degraded land reforested or afforested	LDSF	Three times during the life of the project		
	# of farmers reporting having enough water for primarily livestock and horticulture needs and in some cases for irrigation of other crops.	0 farmers reporting having enough water	1,500 farmers reporting having enough water	3,000 farmers reporting having enough water	Water availability assessments	Annual		
Outcome 3: Diversified and climate resilient production systems that increase all-season income generation through producer groups and better market linkages	# of households reporting an increase in their income per season from produce supported by the project	0	At least 1,500 households are reporting an increase in income	At least 3,000 households are reporting an increase in income	Household surveys	Three times during the life of the project	Districts	(A) A sufficient number of households demonstrate a significant increase in income to create a multiplier effect in which non-participating households can adopt similar practices. (R) There is a risk that increases in income could create social conflicts and

[10] 3,000 ha of crop and agro-forestry land, 4,000 ha of pastureland and 2,000 ha of woodland.
[11] 45-70% of total land in project areas are degraded whit very high levels of soil erosion

								rivalries within and across villages.
Output 3.1 Households adding value and accessing markets with a diversified basket of produce	# households participating in producer groups adding value and accessing markets disaggregated by sex of household head	0	At least 1,500 households participate in producer groups (among which >30% are female-headed households)	At least 3,000 households participate in producer group (among which >30% are female-headed households)	Household surveys	Annual	District	(A) It is assumed that producer groups design equitable benefit and responsibility sharing mechanisms among members. (R)
	# of youth participating in producer groups and income generating activities		40% of youth participating in producer groups and income generating activities)	40% of youth participating in producer groups and income generating activities)				
Component 3: Monitoring and assessment								
Outcome 4: Improved evidence base for joint village land-use planning and improvement of ecosystem services and upscaling at district, region and national level	# of districts adopting global environmental and resilience benefit assessment tools (Exact, LDSF, Resilience scorecard) and protocols and using the information for policy and programme design	0	5 districts have adopted global environmental and resilience benefit assessment tools	5 districts have adopted global environmental and resilience benefit assessment tools	Surveys	Annual	Districts, VPO	(A) There are sufficient resources to perform monitoring and assessment using GEF IAP tools beyond the duration of the project. (R) The beneficiaries may not have the necessary technical or logistical capacity to use all GEF tools.

Output: 4.1 District and National monitoring capacities to report on global environmental benefits and resilience is strengthened	# people at village and District levels trained in assessment tools (disaggregated by gender and age)	0	At least 10 staff per district and 15 people per village trained (>30% women and 20% youth)	At least 10 staff per district and 20 people per village trained (>30% women and 20% youth)	Training reports Supervision reports Meeting reports	Annual	Districts, VPO	(A) The institutional and material conditions are in place to allow trained staff to apply acquired knowledge, techniques and tools.
Output 4.2 Assessment results and knowledge products available for policy development and decision support for landscape level resources management	# of assessments conducted and results used by inter-village committees	0	At least 3 baseline and 3 midterm assessments done per district results reflected in joint-village land use plans	At least 3 end of project assessments done per districts	Supervision reports, assessment reports	Three times during the life of the project	Districts, VPO	
Output 4.3 Project is linked to regional program	# of regional programme meetings attended by the project coordination unit and district facilitators	0	3 regional meetings attended	At least 5 regional meetings attended	Meeting reports, Regional hub reports	Annual	VPO	

I. Strategic context and rationale

A. Country and rural development context

1. Although still categorized as Least Developed Country (LDC), the Tanzanian economy has performed strongly, recording growth of 7.4% in 2015, up from 7.2% in 2014, driven by information and communications, construction, manufacturing and other services[12]. Comparatively, agriculture remains the main stay of the economy, employing the majority of the workforce (62.1% of the population), but the sector is underperforming, owing to infrastructure gaps and low productivity. The recent National Household Budget Survey shows that the basic needs poverty rate has declined from 34% in 2007 to 28% in 2012[13].

2. Despite the positive trends **food insecurity** remains significant in Tanzania. In 2015, the country registered 28.5 on the Global Hunger Index, with 32% of the population under-nourished. Food insecurity is responsible for more than 130 child deaths every day, making it the greatest contributor to under-five deaths in the country[14]. Furthermore, about 42% of children under five years old in Tanzania are stunted, and this number has only decreased by 2% between 2005 and 2010. This chronic under-nutrition affects more rural children (45%) than urban children (32%) and is more common in less educated and poorer families. Regions with the highest prevalence (50% or higher) of stunting children include Dodoma, Iringa, Mbeya, Njombe, Rukwa and Lindi[15].

3. In terms of **gender equality**, despite progress, women face challenges in working and access to decision-making at all levels. According to the 2010 Tanzania Demographic and Health Survey (TDHS), women are more likely than men to be poor and illiterate, to be subject to gender-based violence and they usually have lower access to medical care, property ownership, credit, training and employment. Distribution of income among men and women is disproportionate, with men owning all major means of production such as land, livestock and financial capital, while women provide labour but do not have access to cash for basic needs. Women-headed households have lower incomes compared to those headed by men.

4. As of 2014, the total **youth population** aged 15-35 years[16] is comprised of almost 15 million persons (around 65% of the working age population defined as 15-64 years old) of whom 12.5 million (85%) are economically active. Out of the economically active youth population, 1.5 million persons (12%) are unemployed, while 1.3 million (10%) are underemployed[17]. The majority of youths reside in rural areas, where they are informally employed in subsistence agriculture (46%) and involved in family-based livelihood activities such as handicraft, fishing, or small shops. Due to agricultural poor performance, many young people are forced to move from rural locations to urban informal sector, which is characterized by low incomes and poor working conditions. Education levels are still low, with only 37% of young men and 28% of young women aged 15-24 having attended secondary school or higher education as of 2010[18].

5. **Agriculture** is the foundation of the Tanzanian economy accounting for 24% of the GDP, 30% of total exports and 65% of raw materials for Tanzanian industries (2016)[19]. It accounts for about half of the national income, three quarters of merchandise exports, provides employment to about 80% of Tanzanians and most of all, it fulfils 95% of the country's food needs. The country has 95.5 million

[12] http://www.theafricareport.com/East-Horn-Africa/tanzanias-2015-economic-growth-to-exceed-last-years-7-per-cent.html
[13] World Bank (2015) http://www.worldbank.org/en/news/press-release/2015/05/07/tanzanias-strong-economic-growth-shows-signs-of-trickling-down
[14] MDG Report 2015: Assessing Progress in Africa Towards the Millennium Development Goals
[15] Tanzania Demographic and Health Survey 2010
[16] African Union's definition of youth applied to this project.
[17] Integrated Labour Force Survey, ILFS, 2014
[18] 2010 Tanzania Demographic and Health Survey, URT, 2010
[19] http://www.tanzaniainvest.com/agriculture (25th February 2016).

hectares (ha) of land, of which 44 million ha are classified as arable, with 42.11% under cultivation[20]. About 80% of production comes from subsistence farmers, cultivating farms of less than three hectares, relying on the hand hoe and rainfed production. To date, agricultural production gains have been based on expansion of the area cultivated rather than yield increases, and this expansion process has been the driver of deforestation, land degradation and biodiversity loss. Smallholder agriculture is labour intensive with little application of modern technologies and inputs and high vulnerability to weather shocks. Agriculture is a sector where significant productivity achievements can be made, while making production climate-resilient[21].

6. After crops, the livestock industry is the second biggest contributor to Tanzanian Agriculture representing 5.5% of the country's household income and 30% of the Tanzania's Agriculture GDP. Tanzania's livestock population is mostly reared by smallholder farmers, with a total of 37.06 million, of which the majority is concentrated in the country's northern region. About a quarter of the land area of the country is used for grazing. About 90% of livestock is of indigenous breeds. In 2012, about 60% of rural households reported earning some income from livestock, which provides an average of about 22% of the household income.

7. Fisheries are also an important sub-sector in Tanzania, providing over 4 million jobs (35% of the 14 million in rural employment) and ensuring complementary sources of protein for many rural communities. Fisheries contribute approximately 1.4% to the country's GDP but the sector has been showing signs of decline since 2009. Challenges include illegal fishing, over-exploitation and the destruction of fish habitats through the use of inappropriate fishing techniques and gears, but also important post-harvesting losses and high export rates of commercially valuable fish species. Inland most of the fish originates from Lake Victoria, which is challenged by diminishing stocks, pollution and invasive species[22]. The decline of the fishery sector is strongly linked to the degradation of nutritional status, leading to vitamin and mineral deficiencies, which have been associated with about USD$ 390 million in annual revenue loss or 2.65% of the GDP.[23]

8. The main obstacles hindering agricultural development include:

(a) Unreliable rainfall in some regions;

(b) Limited use of available water resources for irrigated agriculture or complementary irrigation;

(c) Land degradation, erosion and agro-biodiversity loss;

(d) Poor access to and low use of resilient plant genetic resources, improved seeds and soil fertility improving measures, leading to large crop and livestock yield gaps;

(e) Land tenure insecurity and inequitable access to resources due to lack of governance system to manage competition between farmers and pastoralists over resources;

(f) Weak institutional capacities and institutional fragmentation;

(g) Under-investment in productivity enhancing practices, such as conservation agriculture and climate-smart practices, limited access to financing for uptake of technologies coupled with weak extension services;

(h) Emerging challenges for coastal and in particular island areas are salt water intrusion destroying agricultural land.

9. Tanzania encompasses a variety of ecosystems, which can be categorized as (i) coastal areas, (ii) western plateau, (iii) highlands and (iv) semi-arid areas. The project districts are located in the semi-arid areas (Kondoa, Mkalama, Nzega, Magu) and the coastal areas (Micheweni located on the

[20] http://www.tradingeconomics.com/tanzania/agricultural-land-percent-of-land-area-wb-data.html
[21] MAFSC and VPOs: Tanzania Climate Smart Agriculture Programme (2015-2025)
[22] 2001-2013.National Strategy for Growth and Reduction of Poverty II, URT, 2001
[23] Tanzania Nutrition Overview, UNICEF: http://www.unicef.org/tanzania/nutrition.html

island of Pemba). Climatic conditions are tropical and the annual rainfall is between 450 – 700 mm of rain per year in a single wet season. Table 1 presents an overview of the key climate, land degradation and vegetation cover characteristics of the selected project area in each district.

Table 1: Natural resources and climate characteristics of project districts as provided by the VPO (2016)

Project District	**Kondoa**	**Mkalama**	**Nzega**	**Magu**	**Micheweni**
Region	*Dodoma*	*Singida*	*Tabora*	*Mwanza*	*Zanzibar*
Annual precipitation (mm)	500	450	700	700	400-500
Timing of wet season(s)	Dec-Apr	Nov-Jan Apr-May	Nov-Apr	Oct-May	Mar-Jun
Temperature dry season (°C)	32	30	31	31	34
Temperature wet season (°C)	18	28	29	28	26
Land degraded (%)	71	68	65	67	46
Vegetation cover (%)	20	10	15	17	24

10. The project sites represent two main biomes, each encompassing different types of biological resources and unique diversity, namely the humid Miombo ecosystem and the Rift Valley Highland ecosystem. Land degradation, agricultural expansion, fires and unsustainable land use practices have resulted in significant degradation of flora and fauna, as well as destruction of habitats for wildlife. Encroachment onto forest or wildlife reserves for cropping or grazing also destroys fragile dryland vegetation, and the discontinued use of local landraces in agriculture and livestock to the benefit of foreign improved breeds leads to a gradual degradation of native genetic material. According to the IUCN RedList, Tanzania is home to nearly 600 terrestrial species that are classified as vulnerable, of which 291 are endangered and 91 critically endangered[24]. The main threatened species present in project sites include:

(a) **Kondoa**: black buffalo, monkey, wild pigs and leopard; *Ficus* spp, *Prunus africana*, *Podocarpus latifolius, Bersama abbyssinica* and *Kigelia Africana*.

(b) **Mkalama**: Acacia trees, Shrubs, Grasses, different species of leguminous plants.

(c) **Nzega**: Brown Hyaena, Impala, Wild Cat and African Green Pigeon; Mahogany tree, *combretum* species and *dalbegia melanoxlone*; number of insects and beneficial birds.

(d) **Magu**: monkeys, Thompson gazelle; Moringa Oleifera and natural fruits trees such as *ficus* ssp and *vitex keniensis*; African Fox Tail, Elephant Grass, *Chloris gayana*, *Cenchrus cillians*.

(e) **Micheweni**: Pemba bat (*Ptreropus voeltzkowi*), Pemba Duiker (*Cephalophus monticola pembae*), Pemba monkey (*Cercopithecus aethiops neciotes*.)

11. Accordingly, the lands of the **target districts in semi-arid areas** are highly degraded (65-71% of total land according to visual estimations) and the productive land is becoming increasingly scarce. Invasive species such as sleeper weed (*Lantana camara*) and morning glory (*ipomoea spp.)* are out-competing other more palatable vegetation. Prolonged dry spells are a recurrent phenomenon. Farmers perceive increasing temperatures[25], which is confirmed by data from the meteorological services stating a country-wide average temperature increase of 0.23°C per decade since 1960[26]. Total annual rainfall over the same period has decreased by 3.3% per decade. Farmers are also reporting a delayed onset and increased intensity of the wet season. These changes and the generally perceived unpredictability of rainfall events cause increased risk of crop failure, amongst

[24] http://www.iucnredlist.org/search
[25]Various research papers, such as Mary and Majule (2009):http://r4d.dfid.gov.uk/PDF/Outputs/ClimateChange/Majule-and-Mary.pdf
[26]Climate Change Country Profile for Tanzania, UNDP, 2015

others due to poor seed germination and washing away of seeds or crops. Similarly, livestock pastures are decreasing in size and the risk of diseases and parasites is increasing[27].

12. Climate change forecasts[28] states that temperatures will increase by 1.0 – 2.7°C by the 2060s. Total annual rainfall on the other hand is expected to increase again in the future, however this will be for a large part attributable to increases in intensity of rainfall in the wet season. Together, the increasing temperatures and higher-intensity rain events would lead to increased drought and flood risks for the target areas.

13. The coastal district of Micheweni, located on the island of Pemba, has its particular issues regarding natural resources availability and management, and the impacts of climate change. Coastal erosion, salt water intrusion destroying agricultural land, deforestation caused by the need for poles for seaweed farming (an important income source for the local communities), land degradation from sand and brick mining, depletion of near coast fisheries resources are amongst the key concerns of the rural population. While annual rainfall on the island is relatively high at 900 mm/year, the rainfall in the selected wards for project interventions, Kiuyu Maziwang'ombe and Micheweni, is only around 400 mm/year. Improved water use efficiency and eventual shift to less-water consuming crops will be essential to sustain agriculture on the island without depleting freshwater aquifers. Satellite observations show an annual sea-level rise of 3-5 mm/year, which could increase up to 10 mm / year according to climate models.

14. Because of the fragile ecosystems and the limited productive land available for the various resources users (agro-pastoralists, pastoralists and hunter gathers), the semi-arid areas have particular challenges regarding governance of access and user rights to crop-, pasture- and wood lands and management of the resources on the land. These challenges are often cross village boarders in nature because of rangeland and woodland resources are used by many villages living in the same landscape. At the same time they have to be tackled in an evolving socioeconomic and livelihood context where grazing land is increasingly being occupied with crop production causing conflicts and longer migrations in search for grazing. Customary institutions which used to govern land and water access and use rights are truckling to adjust to these evolving socioeconomic dynamics and are also weakened by the village administrative structure dividing landscapes and focused at settled farmers. The degraded status of land, forest and ecosystem services reflects that these challenges are not being addressed despite Tanzania's Land Policy of 1995 and the Village Land Act No 5 of 1999, which give power to Village Councils to develop participatory village land use plans (VLUP) and, supported by Regulation No. 26-35 of 2002, also grant Village Councils power to enter into joint planning processes and land-use agreements on shared resources with other villages. The Land Use Planning Act No. 6 of 2007 provide for the formation of planning authorities, functions and procedures for the development of VLUPs and the formation of joint village land-use planning authorities. When a participatory joint land-use planning process has been implemented, resources user groups/ associations can be formed and be granted a certificate of customary rights of occupancy and use of the shared land and resources.

15. Despite this decentralized and participatory framework has been in place for decades and most districts have a responsible staff for facilitating VLUP processes, few VLUPs have actually been developed and implemented and much less so in the case of joint VLUPs. This is due to various constraints identified by the National Land-Use Planning Commission including: i) lack of financial, human and transport resources to support the formulation process; ii) lack of required investment for their implementation (i.e. water access for livestock and crop land and improved grass on communal grazing land); (iii) weak monitoring and enforcement capacity of village and district authorities; iv)

[27] Forests, Rangelands and Climate Change Adaptation in Tanzania, Shayo, C,2013http://www.fao.org/forestry/38073-0df56be385eb9095f0408259507d7fee9.pdf

[28] UNDP Climate Change Country Profile for Tanzania, http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/UNDP_reports/Tanzania/Tanzania.lowres.report.pdf

limited capacity to accommodate evolving changes in land uses; and (v) lack of public awareness on the importance of VLUP for conflict prevention and sustainable natural resource management.

B. Rationale

16. Given the above listed challenges, reversing ecosystem degradation trends in central Tanzania appears as a means of supporting food production and security (in terms of quantity, accessibility, and quality). This entails addressing drivers for unsustainable land management and land degradation as well as biodiversity loss and support adaptation strategies to climate variability in the agricultural sector and foster small farmer's and pastoralist's resilience to climate and other shocks.

17. The LDFS will build on each district's ongoing rural development programming as operationalized through their local investment and operational budgets[29]. Local governments receive funding from the national government and ministries through core programmes as well as through more targeted projects (including donor-supported projects). The LDFS will build on core operational funding delivered to Local Government Authorities (LGAs) through the departments of land, urban and rural planning, environment, the forestry and renewable energies. The LDFS will also build on more targeted projects, such as:

(a) The **Sustainable Rangeland Management Programme phase 3** (SRMP-3), which will build on phases 1 and 2 (2010-2012 and 2012-2014), is funded through IFAD and implemented by MALF and ILRI in the period (2016 to 2020), and will provide co-financing for the LDFS project. The phases 1 and 2 supported one of the first experiences in Tanzania in preparing joint VLUPs in rangelands and the SRMP-3 will aim to develop and demonstrate improved approaches based on the lessons learned (see section D). The LDFS will create synergies with the SRMP-3 and create joint efforts to improve the various lessons learned and practical guidance notes developed under the SRMP I and II. The contribution of the LDFS will in particular be on taking the process all the way to the actual creation or strengthening of resources user groups (rangeland and woodland management groups and water user groups) granted occupancy and user rights and support them in the actual management and rehabilitation of the resources. The SRMP 1 and 2, with the limited grant resources available, achieved important success in terms of: piloting and implementing with local authorities and communities a participatory land-use planning process between villages and land and resources users which entailed to solve often difficult conflicts and reach agreements on governance mechanism of access to resources and land uses; retrofitting the framework for joint village land use planning set out in the Tanzania National Land Use Planning Commission's Guideline for Village Land Use Planning, Administration and Management (2013); and contributing to the adoption of the concept in the Ministry of Agriculture Livestock and Fisheries (MALF) including in their new endeavour with IFAD in dryland development (see below), where new development approaches build on a lot more solid understanding and recognition of the importance of conflict resolution and how this can be done through participatory land-use planning at landscape level. The LDSF and the SRMP phase 3 will continue to support joint village land-use planning in the selected project areas but focus will now also be on the actual joint management and improved sustainability of the resources. At the same time the SRMP 3 will support with best practices in how to form inter-village NRM committees and manage landscape level land use planning processes.

(b) The **Dryland Development Project** (DDP) for mainland Tanzania is under design under the lead of the MALF and in collaboration with IFAD and is the main IFAD co-financing source of the LDFS project. The DDP will work with livestock keepers, agro-pastoralists and other land users in districts and villages where Phases 1 and 2 of the SRMP secured 'rangeland reserves' as part of joint VLUPs as well as in new districts which have not yet undergone a joint village

[29] Co-financing for this project will be sourced from districts' budgets and the IFAD supported SRMP 3 and Dryland Development Project.

LUP process. The aim will be to support integrated dryland-based livelihoods including linkages to markets and income generation while providing ecologically sound strategies for resolving conflicts between farmers and pastoralists. The DDP will be designed to build direct geographical synergies with the LDFS project in Kondoa, Mkalama, and possibly Nzega. In these areas LDFS beneficiaries will be provided with support from the DDP for market linkages and income generation from dryland products. Methodological synergies will also be created between the two projects on joint VLUP and integrated management of dryland ecosystems increasing ecosystem services and dryland productivity. One of the important synergies between the two projects is the scaling up opportunity the DDP provides for the LDFS. The LDFS project is foreseen to start implementation slightly ahead of the DDP and will as such be able to provide methodologies, approaches and lessons learned that can be picked up and scaled up by the PPD project in a much bigger area of the Tanzanian drylands.

(c) The **Marketing Infrastructure Value Addition and Rural Finance Support Programme** (MIVARF; IFAD, 2011-2017), which aims to reduce rural poverty and accelerate economic growth on a sustainable basis and is being implemented in all 29 regions of Tanzania (24 regions in mainland and 5 regions in Zanzibar), in a total of 72 districts. The LDFS will build on MIVARF results when selecting climate-resilient commodities for farmers to increase their all-season incomes.

(d) The **National Tree Planting and Management Strategy** (VPO, 2017-2030) aims to plant and conserve trees all over the country by engaging communities and other stakeholders to improve forest cover. Its specific objectives are to: plant appropriate trees over 185,000 hectares per year over five years (56,000,000 trees per year, or 302 trees per hectare per year); mobilize participation of all stakeholders in tree planting and conservation; mobilize financial resources for planting and management of trees; and strengthen information management system and reporting. The total budget for the Strategy is about US$ 131.5 million per year and US$ 2.4 billion up to year 2030, with each district receiving a portion. The LDFS project will complement the national tree planting strategy by promoting a more integrated approach to biomass management, including conservation of indigenous tree species, sustainable land management and a landscape approach that considers trade-offs and co-benefits from forests, crop land and rangeland.

(e) The **third Tanzania Social Action Fund** (TASAF III, World Bank) aims at enabling poor and vulnerable households, as well as those temporarily affected by short-term shocks to increase incomes and opportunities while improving consumption, thanks to safety net support and the creation of opportunities to take part in livelihood enhancing activities.

18. In addition, the project will also coordinate with the national investments made under the second phases of the Agricultural Sector Development Program (ASDP-II) and Water Sector Development Program (WSDP-II), both of which are funded through various national and international sources. The project will especially build on the lessons learned from their first phases (see Appendix 3), and will also strive to create synergies within each district with projects on agriculture and land regeneration. Using a participatory land use planning process in which district administrations will play a key role will ensure that LDFS investments are truly complementary to planned and ongoing investments in each site.

19. Finally, the project will continue to build active synergies and collaborations with the following on-going or future projects and initiatives:

National initiatives:

(a) The **Tanzania's Livestock Modernisation Initiative** (TLMI) is a government-led initiative aimed at increasing food and nutrition security and food safety, creating employment and contributing to the national economy, social stability and sustainable environment. The focus of the TLMI is on transforming traditional livestock farmers' livelihoods into a modern, responsive, sustainable and environmentally friendly engine

for rural development. LDFS will seek to create synergies between activities planned under Component 2 on supporting pasture management for assisted and natural rangeland rehabilitation to promote resilient indigenous species of grass and shrubs and TLMI's first key strategic area on rangelands conservation and management (1), which include the following priority actions: village rangeland reserves initiative, rangeland rehabilitation and improvement program, feed improvements, strengthen capacity

(b) The **National Engagement Strategy** supported by the International Land Coalition, IFAD and a number of NGOs is a strategy used to strengthen existing multi-stakeholder national land platforms and joint strategies for coordinated action into good land governance, which focuses on policy dialogue and coordination.

Other international donors' initiatives:

(c) **Tanzania Climate-Smart Agriculture Programme** (2015-2025) funded by DFID, and coordinated by VPO and MALF and part of the Agriculture Climate Resilience Plan 2014-2019, has six strategic priorities, namely: i) improved productivity and incomes; ii) building resilience and associated mitigation co-benefits; iii) value chain integration; iv) research for development and innovations; v) improving and sustaining agricultural advisory services, and vi) improved institutional coordination.

(d) The **Global Climate Change Alliance Program**, supported by the EU is for overall objective to increase local capacity to adapt to climate change, by supporting the establishment of a number of eco-villages where adaptation measures are tested in sectors such as agriculture, rangeland management, water management, sanitation and biomass energy. The main activities include climate smart agriculture, water use efficiency, diversification and renewable energies.

(e) **The Feed the Future program in Tanzania**, supported by USAID through the Global Hunger and Food Security Initiative (2011-2017 is aiming at reducing food insecurity through investments aimed at improving agricultural productivity, improve market access through roads, increased trade through value chain efficiency, supplementary feeding programs.

(f) The **USAID Mobile Application to Secure Tenure** project (MAST) is currently at the pilot stage in Iringa and Njombe districts to test a new, participatory approach for capturing land rights information, as well as a lower cost methodology for quickly building a reliable database of land rights claims.

(g) The **Land Tenure Support Programme** (DIFID/DANIDA/SIDA) supports the Government of Tanzania, through the Ministry of Land Housing and Human Settlements Development (MLHHSD), to make information on land records and processes of land allocation publicly available, and clarify and address current constraints to protecting legitimate land claims. Ultimately, these measures are expected to strengthen security of tenure, contributing to growth in agricultural production and more and better-planned investment in urban infrastructure, including housing.

(h) The **Kilimanjaro Initiative**, is a women-led initiative supported by Action Aid-ILC-Oxfam-Care that aims to claim African women's rights to access and control over land and natural resources.

(i) The **Land Rights Research and Resources Institute** (LARRRI/HAKIARDHI) is a Tanzanian NGO that promotes and ensures realisation of the rights to land through policy dialogue and research and awareness raising at community level.

Other GEF funded initiatives

(j) The project **Strengthening Climate Information and Early Warning Systems in Tanzania to Support Climate Resilient Development and Adaptation to Climate**

Change (2013-2017) funded by the LDCF and implemented through UNDP and the Tanzania Meteorological Agency (TMA). This project aims to provide more technologies to reinforce capacity of the national early warning network to better anticipate and respond to extreme climate events.

(k) The upcoming **Ecosystem-based adaptation for Rural Resilience in Tanzania** (2017-2021), funded by the LDCF will be implemented by VPO and UNEP and aims to improve stakeholders capacity to adapt to climate change through ecosystem-based adaptation approaches and undertake resilience building responses and strengthen information base on ecosystem-based adaptation to support an up-scaling strategy

Theory of Change

20. The project's goal and development objective are to improve food and nutrition security in the targeted villages and reverse land degradation trends in semi-arid areas in Tanzania through sustainable land and water management (SLM)[30] and ecosystem-based adaptation[31]. The project is based on the premise that in order to achieve food security and resilient livelihoods, key aspects of natural resources degradation must be addressed. Most livelihoods of rural communities in the semi-arid areas are directly based on natural resources, biological diversity and ecosystem services, particularly in the case of the fragile agro-pastoral communities. Ensuring a sustainable productive base is therefore essential in order to achieve food security. Furthermore, in light of current and anticipated effects of climate change, proactive adaptation and mitigation solutions based on improving the resilience of ecosystem services while reducing carbon emissions are also required. While the project's core strategy is to invest in farmers' capacities to produce more sustainably, lasting impacts will only be achieved if the underlying prevailing institutional barriers (including in particular the inadequacy of land-use planning, resources governance and supporting assessment and knowledge management systems) are lifted. This entails an integrated approach including: strengthening institutional capacity by training local and district level officials and villages to jointly manage resources through joint land use planning at landscape level; increasing the productivity and efficiency of existing natural resource uses by improving soil health through soil and water conservation practices; reducing the need for firewood driving deforestation by providing access to efficient cook stoves and alternative energy technologies further curtailing carbon emissions; reducing dependency on single commodities or livelihood sources by introducing climate-smart farming and agroforestry practices, and adopting new pathways for income generation by organizing farmers in producer groups and supporting the development of small businesses.

21. The project will apply a landscape approach[32], where participatory land use planning will be conducted within newly established inter-village natural resources committees, reviving and further developing customary institutions for resources governance and management. The participatory community based process will place the management of the landscape and its shared resources into

[30] Sustainable land and water management (SLM) means practices that address water scarcity, soil fertility, organic matter and biodiversity in an integrated manner to increase average productivity, reduce seasonal fluctuations in yields and underpin diversified production and improved income. This includes to integrate peoples' co-existence with nature over the long-term considering the effects of climate change so that ecosystem services (water, biomass, regulation of diseases and pests, nutrient recycling, crop pollination, biodiversity habitats) are ensured (Sustainable Land Management in Practice, a TerrAfrica Partnership Publication, FAO/WOCAT, 2011).

[31] Ecosystem based adaptation refers to the conservation and use of biodiversity and ecosystem services as part of an overall adaptation strategy to help people and communities adapt to the negative effects of climate change (adapted from UNEP http://www.unep.org/climatechange/adaptation/EcosystemBasedAdaptation/tabid/29583/Default.aspx)

[32] "A 'landscape approach' means taking both a geographical and socio-economic approach to managing the land, water and forest resources that form the foundation –the natural capital– for meeting goals of food security and inclusive green growth. It is done by connecting crop, range, pasture, forest, wood, and protected area lands for provision of ecosystem services and increased productivity" (TerrAfrica, 2014). See also the ten principles of the landscape approach: http://www.wri.org/our-work/project/african-restoration-100/10-principles-landscape-approach

the hands of those who are using it, with due consideration of environmental and economic trade-offs, clarification of rights and responsibilities for conflict prevention and pursuing sustainable win-win opportunities. The project approach recognizes that landscapes and ecosystems span beyond village and ward administrative boundaries and a more collaborative, conflict-sensitive and participatory approaches, including all resources users, are needed to enable more adaptive forms of management.[33] The landscape approach versus a narrower village approach allows for building climate change resilience of ecosystems and their services through adaptation and application of SLM practices, and will contribute to district climate adaptation planning. At the same time, the landscape approach allows for identifying and implementing conservation measures for habitats important for maintaining the biodiversity housed in the landscape.

22. The project is based on three interlinked components, where components 1 and 3 play a supportive role in establishing enabling conditions for investments in sustainable agricultural production, resources management, and climate resilience to reach long lasting impacts, included in Component 2 (see Figure 1 showing links between outcomes and components). Figure 2 presents the Theory of Change for this project. The red boxes at the bottom show the current barriers to reach food security, community and ecosystem resilience, while sustainably managing resources. The red arrows show how benefits are generated, starting from the current situation, then from activities to outputs, and reaching the outcomes and the goal and objective of the project. The interventions and outputs start with joint village resources mapping, diagnostic and land use planning (component 1) and establishing the baseline for assessing ecosystem degradation trends, household and community resilience, and food security (component 3). From this planning process enhanced land and water management and income generating interventions and conservation farming technologies and practices are defined and implemented (component 2). These improved practices will not only lead to increased land and water productivity and income generation but also improved habitats for biodiversity and reduced land degradation and carbon emissions (GEBs). Through component 3 monitoring, assessment and KM and learning systems will continue to support: decision making in future iterations of the joint village planning process; adjustment in resources management, practices and technologies; and further upscaling of good landscape level planning models and resources management practices and conservation technologies. The four outcomes will be reached through multiple benefits generated by outputs, lifting initial barriers. The Theory of Change was validated through a series of community stakeholder consultations and a two-day workshop with district officers from the five selected districts.

[33] Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict

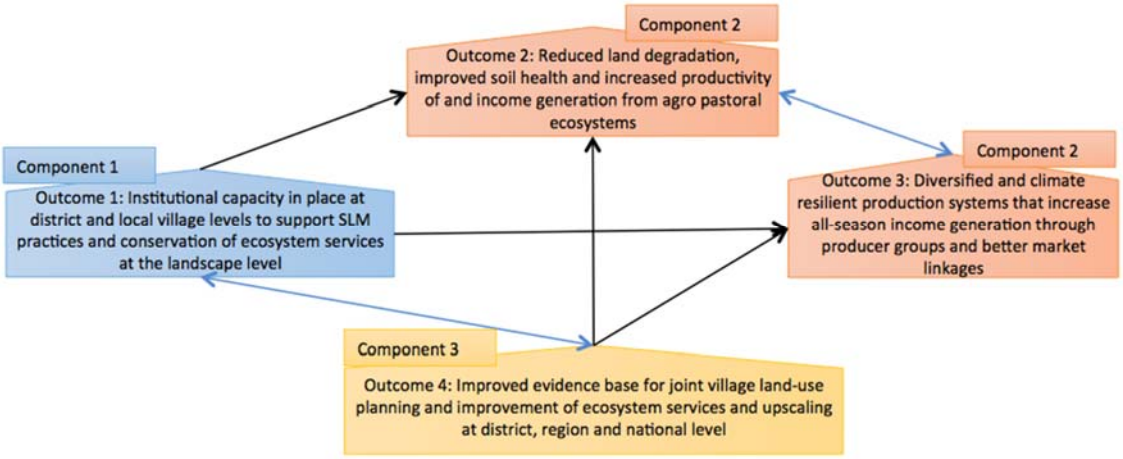
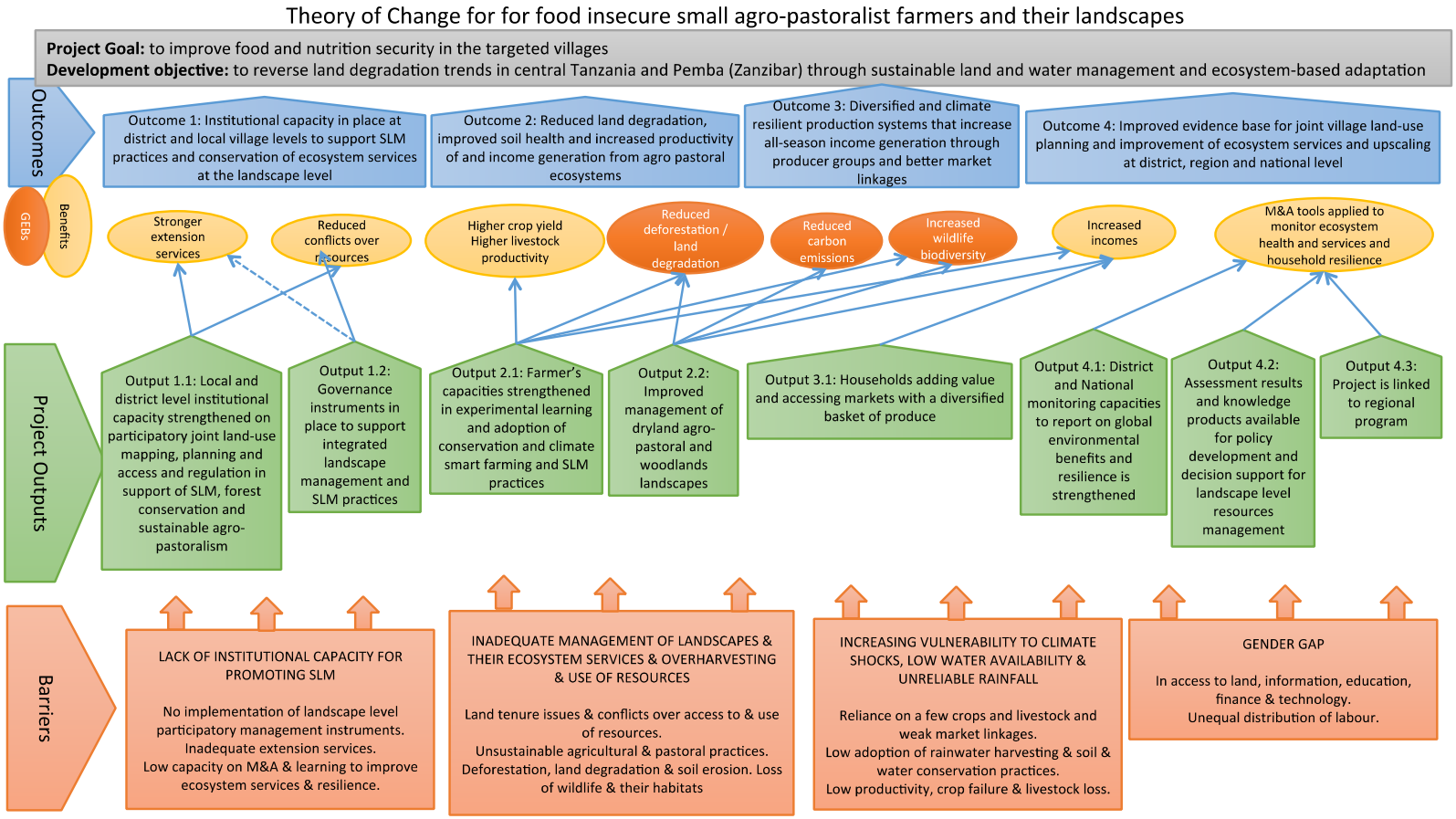


Figure 1: Links between project outcomes and components

Figure 2: Theory of Change of the LDFS



C. Alignment with global conventions and national policies

23. The project will directly contribute to seven of the 17 Sustainable Development Goals (SDGs), namely SDG1: to end poverty in all its forms, SDG2: to end hunger, achieve food security and improved nutrition and promote sustainable agriculture, SDG 5: achieve gender equality and empower all women and girls, SDG 6: ensure availability and sustainable management of water and sanitation for all, SDG 13: take urgent action to combat climate change and its impacts, SDG 15: protect, restore and promote sustainable use of terrestrial ecosystems, sustainably manage forests, combat desertification, halt and reverse land degradation and halt biodiversity loss, and SDG 16: promote peaceful and inclusive societies for sustainable development, provide access to justice for all and build effective, accountable and inclusive institutions at all levels.

24. The geographical focus of the LDFS on semi-arid areas is aligned with the United Nations Convention to Combat Desertification (UNCCD) and its 10-Year Strategy (2008-2018), adopted in 2007 with specific goals "to forge a global partnership to reverse and prevent desertification/land degradation and to mitigate the effects of drought in affected areas in order to support poverty reduction and environmental sustainability". The five districts targeted by the LDFS belong to the seriously degraded areas identified in Tanzania's revised National Action Plan to combat desertification (NAP, 2014). Drivers of land degradation identified by the NAP include overgrazing, deforestation and inadequate land use plans. The LDFS project will contribute to not only focus on the seriously degraded areas identified in the NAP, but will also provide support in establishing an enabling environment through inter-village NRM committees to develop landscape level land use plans to ensure shared responsibility of the prevention of further land degradation and the promotion of land rehabilitation with reforestation, afforestation and rangeland rehabilitation activities.

25. The project is also aligned with Tanzania's National Biodiversity Strategy and Action Plan (NBSAP: 2015-2020), which supports the implementation of the Aichi Biodiversity goals and targets (2011 – 2020) under the Convention on Biological Diversity. LDFS will notably contribute to reducing the rate of degradation and fragmentation of ecosystems and the loss of habitats by 2020 (Target 5 of NBSAP), through the promotion of participatory landscape land use planning to identify degraded areas. LDFS will also support Target 18 of NBSAP, which aims at respecting and safeguarding the conservation and sustainable use of biodiversity by using traditional knowledge, innovation and practices, through the continuous learning and knowledge transfer planned within LDFS Farmer Field School Approach.

26. The LDFS is aligned with Tanzania's Initial National Communication (2003) to the UNFCCC, as it meets the shared objectives of climate change mitigation and adaptation in sectoral policies and in its national economic development. Furthermore, Tanzania's Intended Nationally Determined Contributions (INDCs), which has targeted, for climate change adaptation, to reduce climate-related disasters from 70% to 50% and increase access to safe water from 60% to 75%, and for mitigation, to reduce GHG emissions between 10 to 20% by 2030 relative to business as usual scenario of 138 to 153 million tonnes of CO2-eq. The LDFS will support Tanzania's INDCs adaptation targets through Component 2's investments in improving the resilience to climate shocks of agricultural and pastoral systems, such as climate-smart agricultural practices, rainwater harvesting and micro-catchment management. The LDFS will also contribute to reducing carbon emissions through the introduction of sustainable woodland and rangeland management, as well as the promotion of improved cook stoves, which will avoid carbon emissions of 307,607 tons of CO2-eq and create carbon sinks of 915,247 tons of CO2-eq. Enhancing participatory forest management programmes, strengthening tree planting initiatives, protecting and conserving natural forests to maintain ecological integrity and increasing forest carbon stocks are among the climate change mitigation actions of Tanzania's INDCs for the forestry sector, which will be shared by the LDFS project. The National Adaptation Programme of Action (NAPA, 2007) was prepared with the primary objective of identifying and promoting activities that address urgent and immediate needs for adapting to the adverse impacts of climate change in the country. The LDFS project is in line with NAPA's priority projects, which target the improvement of

food security in the drylands through the promotion of drought-tolerant crops, namely in Singida and Dodoma regions; two of the LDFS targeted regions. The LDFS project is also in line with the process and roadmap for formulating national adaptation plans (NAPs) for Tanzania, launched in July 2015, which aims to "address the country's medium- and long term adaptation needs by mainstreaming climate risks into all sector-specific and national development planning, as well as to reinforce coordination, and promote evidence-based decision-making in order to facilitate adaptation planning"[34]. The Vice President Office is responsible for the NAP process and is developing the Roadmap and the stocktaking assessments.

27. The LDFS will also contribute to the 2015 Paris agreement under the Framework Convention on Climate Change in the areas of greenhouse gas mitigation and adaptation to climate change through the work to reduce pressure on natural resources and restore healthy ecosystems in ledge management systems and links to policy makers for scaling up of successful approaches.

28. The LDFS is aligned with IFAD's Strategic Framework 2016-2025 and will contribute to its development goal, which is to invest in rural people to enable them to overcome poverty and achieve food and nutrition security through remunerative, sustainable and resilient livelihoods, while respecting IFAD's five principles of engagement, namely targeting, empowerment, gender equality, innovation, learning and scaling up and partnerships. The three strategic objectives are to: i) increase poor rural people's productive capacities; ii) increase poor rural people's benefits from market participation; and iii) strengthen the environmental sustainability and climate resilience of poor rural people's economic activities. IFAD's three main outcomes are to: i) develop enabling policy and regulatory frameworks at national and international levels; ii) increase investment in the rural sector; and iii) improve country-level capacity for rural policy and programme development, implementation and evaluation.

29. The project is also aligned with the IFAD Tanzania COSOP 2016-2021of which the overall objective is to "contribute to transforming the United Republic of Tanzania's agricultural sector – including crops, livestock and fisheries – towards higher and more sustainable productivity, profitability, commercialization and increased smallholder farmer incomes for improved livelihoods, food security and nutrition, and overall resilience of communities to shocks and stresses".

30. The LDFS is also well aligned with national policies, such as:

a. The National Environmental Policy of 1997,which provides the framework needed to mainstream environmental considerations into decision-making, guidelines to help determine priority actions, as well as monitoring and reviewing of policies, plans and programmes in the country;

b. The National Agriculture Policy of 2013, which aims to promote agricultural practices that sustain the environment by improving adaptation measures to climate change (Tanzania Agriculture Resilience Plan 2014-2019), public awareness on sustainable agriculture and enforcing relevant environmental laws and regulations;

c. The National Livestock Policy (2006) which seeks to strengthen technical support services on environmental issues, promote proper land use planning for livestock production and strengthen inter-sectoral coordination on environmental issues;

d. The National Water Policy (2002) whose specific objective is to address cross-sectoral interests in water, watershed management and integrated and participatory approaches for water resources planning, development and management;

e. The National Wildlife Policy of 2007, which aims to conserve wildlife and wetland resources, develop sustainable utilization of wildlife and wetlands, strengthen resource monitoring and research, enhance communication, education and public awareness;

[34] http://www.adaptation-undp.org/laying-foundations-nap-process-tanzania

f. The National Forest Policy of 1998 of which the ultimate goal is to ensure sustained functioning forest ecosystems capable of supporting livelihood of the rural poor from various forest products;

g. The National Land Policy of 1995, which advocates for the protection of land resources from degradation by addressing issues related to land use planning, proper management of land resources, land resource sharing, and promote multiple land use techniques in conflicting land uses, as well as involving communities in resource management, land uses and conflict resolution;

h. The National Tree Planting Strategy that aims to plant and conserve trees all over the country by engaging communities and other stakeholders to improve forest cover;

i. the National Energy Policy (2015) in regards to the use of different energy sources to reduce emission of GHGs in Tanzania, as the policy stresses the need to create conditions for provision of secure, reliable, affordable, safe, efficient, cost-effective and environment friendly modern energy services to all;

j. The National Climate Change Communication Strategy, which aims at facilitating effective communication on climate change information at national and local levels linking to regional and international communication strategies in order to enhance management of climate change impacts and explore associated opportunities[35].

II. Project description

A. Project area and target group

31. The project area covering semi-arid agro-ecosystem has been selected in five districts including Kondoa, Mkalama, Nzega, and Magu in Mainland Tanzania and Micheweni in Zanzibar (Pemba Island). In each district the project area covers one or two wards with two or more villages (in total 22 villages) sharing the same resources in a landscape. The estimated population in the five districts is 1.9 million people, or about 247,000 households[36]. The total population of the selected villages is over 69,000 individuals (see Table 2 below.), the project's interventions will reach 30,000 direct beneficiaries, and will turn 9,000 hectares into conservation and climate-smart farming and sustainable management, as well as 500 hectares of degraded land into reforested area.

Table 2: LDFS project area at district and village level (2012 Population and Housing Census)

Region	District	District land area km²	Individuals per district	HHs per district	Ward	Village	Households per village	Individuals per village
Tabora	Nzega	6,961	502,252	85,773	Sigili	1. Lyamalagwa	273	1,633
						2. Sigili	488	2,926
						3. Bulambuka	266	1,595
						4. Iboja	370	2,218
						5. Bulende	231	1,382
							1,628	***9,754***
Dodoma	Kondoa	13,210	269,704	55,990	Haubi	1. Ntomoko	961	4,807
						2. Haubi	1,344	6,720
						3. Mafai	590	2,950
						4. Mwisanga	482	2,408
							3,377	***16,885***
Singida	Mkalama	3,366	188,733	34,276	Mpambala	1. Mpambala	443	2,494
						2. Nyahaa	605	3,501
						3. Lugongo	227	1,401
						4. Mkiko	713	3,983

[35] National Climate Change Communication, 2012-2017
[36] 2012 Population and Housing Census, URT:2016

						4	***1,988***	***11,379***
Mwanza	Magu	4,800	299,759	51,335	Sukuma	1. Lumeji 2. Iseni	145 104	840 606
							249	***1,446***
Pemba North	Micheweni	241	102,766	19,257	Micheweni	1. Micheweni Mjini 2. Micheweni Chamboni 3. Kwale/Majenzi 4. Shumbamjini 5. Mjini Wingwi	508 662 447 900 853	2,690 3,507 2,370 4,772 4,521
					Kiuyu Maziwang'ombe	6. Kiuyu Mbuyuni 7. Maziwa Ng'ombe	1210 1098	6,411 5,820
							5,678	***30,091***
TOTAL	**5**	**28,578 kmq**	**1,363,214**	**246,631**	**6**	**22**	**12,920**	**69,555**

32. The agricultural system is characterized by subsistence rainfed crop farming with sales of surplus (maize, cassava sweet potatoes, sorghum, sunflower, peanuts, legumes) free roaming livestock keeping in rangelands (cattle, goat and sheep; chickens are kept in the villages), and woodlands used for fuel and beekeeping. Table 3 shows the different land coverage in each district and the area that will be targeted by the project with different SLM practices in each selected landscape within the districts.

Table 3: Current land-uses and areas targeted for SLM and biodiversity conservation by the LDSF project.[37]

District	District cropland (ha)	District forest cover (ha)	Cropland targeted for SLM practices in selected wards	Degrated forest targeted for restoration in selected wards	Woodland targetd for SFM and BD conservation practices in selected wards	Pastureland targeted for SLM and BD conservation practices in selected wards
Kondoa	229 000	87 000	800	200	450	1 400
Mkalama	101 000	12 450	500	50	100	900
Nzega	335 000	121 200	600	50	600	500
Magu	441 000	1 895	300	50	50	200
Micheweni	15 000	4 256	800	150	800	1 000
Total	1 321 000	226 351	3 000	500	2 000	4 000

33. The five selected districts are characterized by land degradation, with 45-70% of the total land considered degraded with high levels of soil erosion (according to visual estimations). Among the overall estimated 30,000 hectares of arable, pasture and wood land in the selected wards/landscapes in the five districts, 16,500 ha (55%) are estimated to be highly degraded. LDFS will target 9,000 hectares of these degraded lands to be converted into land under sustainable management practices, including 3,000 ha dedicated to conservation and climate-smart agricultural practices as well as agroforestry, 4,000 ha targeted to develop improved management and biodiversity conservation in pastureland, and 2,000 ha dedicated to biodiversity conservation and sustainable woodland management. As such the woodland and pastureland habitats targeted for improved biodiversity conservation is 6,000 ha. The total forest cover in the selected wards/landscapes in the five districts is estimated at 4,200 ha, of which an estimated 2,500 ha are degraded and annual deforestation rates are estimated at 1-2%. Among the current degraded forest, restoration will be undertaken of 500 ha in addition to the ha dedicated to sustainable woodland management.

[37] Estimations based on data from district staff. At the design data is only available for current land uses at the district level for cropland and woodland/forest. Because of the free roaming system often over vast areas there is no current data on used pastureland coverage. During the first project year the baseline of current land-uses, vegetation coverage and degradation levels in project sites will be established by the Land Degradation Surveillance Framework to be applied under component 3.

34. The project districts were selected from semi-arid regions of mainland Tanzania and Zanzibar by the Government. The selection criteria were: a) level of poverty; b) level of food insecurity; c) malnutrition of children under 5 years old; d) land degradation; and e) the average annual rainfall. Wards and villages were subsequently selected by districts according to the same criteria coupled with context-specific knowledge (see Appendix 2, Attachment 4). According to Government's findings[38] as well as the context-specific knowledge of district officers, these wards and villages are priority areas for upscaling good practices for long-term sustainability and resilience of food production by reducing land degradation and biodiversity loss, recovering natural vegetation and increasing soil carbon in line with the IAP-FS objectives.

35. The five districts share a common predominance of male-headed households, which average about half the size of female-headed households (3.9 and 8.7 persons per household respectively.) Most households reside in rural areas, with an average size of 5.4 persons (URT:2012.) Statistics show that they are mainly engaged in agriculture and livestock keeping (43%), whereas 0.40% in fish farming. 68% of the project area population aged 15 years and above is literate. Male literacy rates are higher than female ones, especially in Magu and Mkalama districts, which have the highest literacy rates among the project districts, followed by Kondoa, Nzega and Micheweni. Within the total project area, only an average of 28% of people have access to piped water for drinking, 12% use electricity (mainly for lighting) and 87% use firewood as main energy source for cooking (URT:2012.) This results in an increased work burden for women, who – according to design mission findings - spend an average of 6 hours a day on cooking and water and/or fuel collection, having little time to participate in paid economic activities and education.

36. Most households are vulnerable to climate shocks (drought and flood) and face declining yields and livestock production due to increased land degradation and changing rainfall patterns[39] (see Appendix 2 for further detail). According to the LDFS pre-design mission assessment report[40], all project districts have been supported with food aid by the Government during the peak months of food shortage since 2000. Even when households are mostly food-secure, they face issues such as limited capacities to adapt to climate change and limited marketing experience, lack of household resources to buy inputs (seeds and seedlings), and inadequate skills among the younger family members to engage in alternative off-farm occupations. Particularly vulnerable are women, who are less likely than men to migrate in order to secure food and income. On the contrary, in the target area women perceive men migration as a major issue because men tend to set up families in new places and do not come back. As men exit, women move into agriculture and the inequities in rights over resources including land, water, trees, livestock, grazing and fisheries raise serious constraints to the sustainability of their families (for a more detailed gender analysis see Appendix 2.)

37. In addition to land degradation, food insecurity and unreliable rainfall patterns, issues common to all five districts include water scarcity[41], deforestation[42] and loss of biodiversity[43]. Moreover,

[38] *Status of land degradation in Tanzania*, URT, 2014

[39] For instance, statistics comparing production with demand show that food demand in Haubi ward was not met consecutively from 2013 to 2015. Main causes of food insecurity in Haubi ward include low rainfall, population increase, land degradation, poor adoption agronomic practice, low availability of arable land and low income levels (Konda District:2016.)

[40] *Reconnaissance Mission Report for Developing Project on Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of Semi-arid areas of Tanzania*, URT, 2015

[41] Other water-related issues experienced by target groups include long distances to fetch water, poor water quality, poor sanitation facilities and self-hygiene (LDFS District Council's reports, 2016)

[42] Main causes of deforestation in the project area include settlement and expansion of agriculture, tree cutting for timber, fuelwood and charcoal production, uncontrolled fire burning, livestock grazing and mining. Differences exist in different project areas on the rates and magnitude of deforestation. The affected forests within the project area include Kome and Irangi scarp forest reserves in **Kondoa**; Matongo, Kipamba and Ndala forest reserves (**Mkalama**); Raskiuyu forest (**Micheweni**), Mwakalundi Forest reserve (**Nzega.**)

[43] The main threatened species that will benefit from the expansion and conservation ecosystem in project villages are Source: LDFS District Council's reports, 2016). **Kondoa**: black buffalo, monkey, wild pigs and leopard ¦F*icus spp, Prunus africana, Podocarpus latifolius, Bersama abbyssinica and Kigelia Africana*. **Mkalama**: Acacia trees, Shrubs, Grasses, different spp. of leguminous plants. **Nzega**: *Brown Hyaena*, Impala, Wild Cat and African Green Pigeon ¦Mahogan tree, *combretum* species and *dalbegia melanoxlone* ¦number of insects and beneficial birds. **Magu**: monkeys, *Thompson* gazelle ¦*Moringa Oleifera* and

Micheweni faces issues of saltwater intrusion, while Nzega, Kondoa and Mkalama share issues related to livestock keepers' migration driven by scarcity of grazing land and/or lack of a livestock market.

38. By adopting a landscape approach, LDFS will look at landscapes from a multifunctional perspective, combining natural resources management and sustainable use, a conflict-sensitive approach[44], with food security and livelihood considerations. Target groups and sub-groups are therefore perceived as an integral part of the system rather than as external agents operating within a landscape.

39. Smallholder farmers vulnerable to climate change impacts will be the primary beneficiaries of LDFS. The three main target subgroups are described below but hunter gatherers (Mkalama) and pastoralists (mainly also in Mkalama) will also be included where these groups are present as resources users in the targeted landscapes:

(a) *Food insecure subsistence smallholder agro-pastoral farmers* – those with not enough access to productive land and water or other resources to produce enough to cover their food needs, who rely regularly on food aid and are very vulnerable to climate shocks. The project's primary objective for these farmers is to increase production for home consumption through improved access to water and conservation and climate smart farming, and some selling of surplus for income generation. According to the poverty and livelihoods analysis of LDFS target areas[45], food insecure smallholder farmers account for approximately 50% of the project area population;

(b) *Mostly food secure subsistence smallholder agro-pastoral farmers* this group includes those who are normally able to fulfil their own needs, but who are not able to produce much excess to sell. They are very vulnerable to climatic or other shocks to their livelihoods which in severe situations lead to periods with food insecurity, and want to improve their agricultural productivity. The project's objective for this group is to stabilise production outputs through conservation and climate smart farming and improve their income generation through access to markets with a diversified choice of products. They account for approximately 40% of the project area population;

(c) *Market oriented agro-pastoral farmers* – this group includes those who are regularly able to sell excess production to market. They have adequate land and some skills that they wish to use to increase their surplus production available for sale. They account for approximately 10% of the project area population and can showcase income generation options and pull other farmers into market oriented activities through demonstration and participation in producer groups.

40. Participating households will be identified during the initial community consultation process, which will focus on ensuring that all community members take part in the process. The three target subgroups may be identified by using list of people/households receiving food aid managed by the village and district governments. Options to participate in and benefit from different resources management groups such as the Natural Resources Management (NRM) committees, Farmer Field Schools (FFS), Water User Groups, tree nurseries and wood land management groups should make participation more attractive and allow households to better understand the benefits of SLM practices at landscape level.

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natural fruits trees such as *ficus ssp* and *vitex keniensis* ¦*African Fox Tail, Elephant Grass, Chloris gayana, Cenchrus cillians*. **Micheweni**: Pemba bat (*Ptreropus voeltzkowi*), Pemba Duiker (*Cephalophus monticola pembae*), Pemba monkey (*Cercopithecus aethiops neciotes*.)

[44] Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict

[45] Social and economic indicators collected from Census 2012 were used to identify and analyse LDFS target groups and subgroups and estimate their presence in the project area.

41. The LDFS landscape approach will be implemented with an explicit gender focus, incorporating women, young and marginalized people's concerns, in order not to overlook their needs and opportunities. The project will engage women and young people fully as participants and beneficiaries by establishing membership and/or leadership quotas in activity groups such as the inter-village NRM committees, FFS, Water User Groups, and Tree Nurseries as well as by adopting training approaches that increase their participation (for more detail see Appendix 2.) Moreover, potentially labor-saving practices, like minimum tillage in conservation agriculture, efficient cook stoves, planting and managing woodlots for household needs, and improving water management[46] will aim to reduce women's unpaid workload. The project will also conduct gender awareness trainings at community and district level to increase general understanding about the importance of including women in rural development opportunities.

42. LDFS will also support the development of potentials for sustainable intensification of production and market participation of the subsistence agro-pastoralists with limited land and labour access, representing about 60% of the project target population. Special attention will be given to the needs and priorities of pastoralists and hunter-gatherers[47], aiming at increasing their visibility, voice and benefits from LDFS. The initial consultations held with pastoralists and hunter-gatherers in Nzega and Mkalama districts during LDFS first design mission will be continued during the start-up phase of the project. In particular, an initial mapping will identify all resources' users of the landscape (agro-pastoralists, pastoralists, hunter-gatherers) and meaningful consultation processes will follow to reach informed consent on joint VLUP. Furthermore, proven best practices used by pastoralists and hunter-gatherers for sustainable land and water management, adaptation to climate change, and biodiversity conservation will be collected and promoted through the project's capacity building activities as relevant.

B. Development objective and impact indicators

43. The project's goal is to improve food and nutrition security in the targeted villages and the development objective is to reverse land degradation trends in central Tanzania and Pemba (Zanzibar) through sustainable land and water management and ecosystem-based adaptation.

Goal and objective indicators and end targets:

- 10% percentage points reduction in food insecurity level (index)
- 20% percentage point reduction in land degradation prevalence
- 40% of targeted households with increased resilience to climate variability and change (using household resilience scorecard)[48]

Outcome indicators and end targets:

- **Outcome 1 indicator:** number of landscape level inter-village NRM committees functioning meeting at least once per year and solving any emerging conflicts over resources use (% women in leading positions)**.** Target: At least 1 per district, bringing together 2 or more villages within a given landscape (> 30% women in leading positions.)
- **Outcome 2 indicators**:
  - Number of households reporting yield/ha increase disaggregated by gender of household head. Target: 3,000 households (at least 20% female headed-households)
  - Reduction in GHG emission and increase in sequestration. Target: 307,607 tCO2eq emissions avoided, 915,247 tons CO2eq sequestered.

[46] Tree planting, efficient cook stoves and improved water access and management can reduce the substantial amount of time that women spend gathering fuelwood and carrying water.
[47] Organized into bands or camps, typically of 20–30 people, hunter-gatherers move frequently and seasonally between dry-season and wet-season areas, in search of game, tubers, berries and honey. Gender relations and relations within the bands are fairly egalitarian, and leadership is only a quality for specific purposes at specific times (IFAD:2012)
[48] See description of output 4.1 on how the project will be monitoring resilience

- **Outcome 3 indicator**: number of households reporting an increase in their income per season from produce supported by the project. Target: At least 3,000 households are reporting an increase in income.
- **Outcome 4 indicator**: number of districts adopting global environmental and resilience benefit assessment tools (Exact, LDSF, Resilience scorecard) and protocols and using the information for policy and programme design. Target: 5 districts have adopted global environmental and resilience benefit assessment tools.

C. Outcomes/Components

44. To achieve its objective, the project is structured into three inter-related components: *Component 1* will set the enabling conditions for sustainable land and water management at landscape level sustaining ecosystem services and enhancing food security. It will strengthen institutional capacity at inter-village and district levels and establish inter-village committees with the goal of developing landscape level inter-village participatory resources and livelihood diagnostics and land use planning processes to foster an integrated and holistic management of natural resources. *Component 2* will support the implementation of sustainable land and water management priorities, conservation farming practices, rehabilitation and sustainable management of rangeland and wood land resources, and income generating activities agreed within said plans. *Component 3* will focus on monitoring and assessing the progress in sustaining ecosystem services, household resilience and food security. Based on assessment results *Component 3* will also support incorporating lessons learned in local and district level natural resources governance systems and contributing to the continuous improvement of the landscape level approach to natural resources management, supporting integration of best practices in policy making at the district, regional and national levels.

Table 3: Identified best practices to be scaled up per district

Region	District	Identified best practices to be scaled up in each district
Tabora	Nzega	Conservation agriculture, climate smart agriculture, rainwater harvesting, micro catchment management sustainable rangeland management, sustainable woodland management
Dodoma	Kondoa	Conservation agriculture, climate smart agriculture, rainwater harvesting, micro catchment management sustainable rangeland management, sustainable woodland management
Singida	Mkalama	Conservation agriculture, climate smart agriculture, rainwater harvesting, micro catchment management sustainable rangeland management, sustainable woodland management
Mwanza	Magu	Conservation agriculture, climate smart agriculture, rainwater harvesting, micro catchment management sustainable rangeland management, sustainable woodland management
Pemba North	Micheweni	Conservation agriculture, climate smart agriculture, rainwater harvesting, micro catchment management, aquaculture

Component 1: Institutional capacity building for sustainable land management and biodiversity conservation at landscape level.

45. With the support from the National Land Use Planning Commission and relevant line ministries Component 1 will build capacity of customary, village and district institutions in natural resources management and joint village land-use planning at the landscape level. This will support the development of climate change adaptation capacities and mainstreaming of sustainable land and water management and biodiversity conservation practices among selected village communities sharing the same resources.

Table 4: Component 1: outcomes and outputs

Outcome	Outputs
Outcome 1: Institutional capacity in place at district and local village levels to support SLM practices and conservation of	**Output 1.1:** Local and district level institutional capacity strengthened in participatory joint land-use mapping, planning and access and use regulation in support of SLM, forest

ecosystem services at the landscape level	conservation and sustainable agro-pastoralism
	Output 1.2: Governance instruments in place to support integrated landscape management and SLM practices

Output 1.1: Local and district level institutional capacity strengthened in participatory joint land-use mapping, planning and access, and use regulation in support of SLM, forest conservation and sustainable agro-pastoralism.

46. This output will support the establishment of inter-village natural resources management committees building on and reviving customary institutions, where possible. The committees will be facilitated by district staff and integrate elected representatives from villages and groups using shared resources within a landscape (water, crop and pasture land and forest resources). This output is based on geographical targeting. Through an initial mapping, all resources users of the landscape will be identified including settled as well as migratory users. Based on this mapping it will be assured that village and group representatives integrated in the inter-village NRM committees are representing and giving voice to all resources user groups (agro-pastoralists, pastoralists, hunter-gatherers). Meaningful consultation processes will be followed to reach informed consent on joint VLUP and priority actions to be implemented under component 2. In addition, to support conflict risk management and inclusion of all voices and needs, a conflict-sensitive approach within the landscape approach will be adopted[49] and a grievance mechanism will be promoted to receive and facilitate resolution of concerns of the various resource users will also be agreed and established under the committee. All three project target subgroups should also be represented in the inter-village NRM committees with at least 80% coming from households in the food insecure and the mostly food secure subsistence agro-pastoral farmers subgroups. At least 30% should be women and 30% should be young (<35 years old).The quota of women in leading positions within the inter-village NRM committees should be at least 30%.

47. A review will be conducted of existing village plans, customary institutions and community organizations, village level committees and their training needs and priorities. This identification of already existing resources user and management groups that the joint VLUP process can build on is important to avoid creating yet another layer of village organizational structures. Committee members, district and village staff, and communities involved will be trained to address gaps and needs identified and building on the lessons learned and proven models developed under the SRMP 2 project and other joint village resources governance and landscape management experiences in Tanzania. The training will cover: (i) awareness raising on the benefits of joint VLUPs; (ii) climate change effects and related vulnerabilities and adaptation strategies building resilience; (iii) participatory diagnostic and mapping of natural resources and their use in different livelihood activities and the linkages to landscape level dynamics and sustainable ecosystem services; (iv) inclusive consultation processes leading to consent through joint village participatory land-use planning and use regulation building on customary institutions and agreements and supporting sustainable land and water management and biodiversity conservation; and (v) options for biodiversity conservation and sustainable land and water management and conservation farming practices and technologies. The training will as much as possible use the learning-by doing approach and be delivered by relevant sector ministries and service providers including NGOs and research institutions. Through quotas the different groups of trainees (community members, village and district staff) should include at least 80% coming from households in the food insecure and mostly food secure subsistence agro-pastoral farmers subgroups, at least 30% should be women and 30% should be young (<35 years). When present as resources users in the landscape hunter gatherers and pastoralists should also be included. Training approaches increasing women's and youth participation will be implemented (for further detail see Appendix 2).

Output 1.2: Governance instruments in place to support integrated landscape management and SLM practices.

[49] Consultations and participatory conflict analysis will be undertaken on conflict-generating issues in the districts in the past and potentially in the future. Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict

48. Based on the participatory landscape diagnostic and mapping of resources and their use for livelihood activities conducted as part of the capacity building under output 1.1, the output 1.2 will support the participatory development of joint VLUPs, the implementation of which will be supported by component 2. The development of the plans will be supported by the Tanzania National Land Use Planning Commission's Guideline for Village Land Use Planning, Administration and Management (2013) also taking into account the complements developed under the SRMP 2 project for joint village land-use planning to reach landscape level management capturing shared resources governance issues. The joint VLUPs will include land-use zoning, resources access and use regulations by different user groups building on existing bylaws and governance systems, adjusted and complemented as needed, and granted certificates to established user groups of customary rights of occupancy and use. The joint VLUP will also identify and prioritize areas for land and vegetation cover rehabilitation and biodiversity conservation and identify technologies and sites for rainwater harvesting, infiltration for aquifer recharge, and soil conservation. Finally, the joint VLUP will give recommendations for conservation and climate smart farming practices suitable for the farming systems in the landscape. The plans should have a simple monitoring system managed by the local stakeholders with indicators allowing for following the progress and outcomes of the implementation of the plan for future iterations of the planning process. Indicators used should monitor the progress in increased ecosystem services food security and income disaggregated by different resources user groups (the three project sub-target groups, pastoralists and hunter-gatherers where applicable). This monitoring will be supported by Component 3.

Component 2: Up-scaling of sustainable and climate-smart agriculture, land, water and pastoral management systems.

49. This component will support the implementation of the actions prioritised in the landscape level inter-village land-use plans developed and agreed by the inter-village NRM committees in Component 1. The component will support the sustainability of ecosystem services and food and nutrition security in five focus areas: i) conservation agriculture and other climate smart agricultural practices; ii) rain water harvesting and micro-catchment management; iii) sustainable rangeland management; iv) tree nurseries and sustainable woodland management; and v) income generation activities and linkages to markets for sustainably produced and climate-resilient commodities. Conservation of habitats sustaining drylands biodiversity will be an integrated activity in rangeland, woodland and micro-catchment conservation and management. The component will apply the FFS experimental learning approach for delivering capacity building and strengthening of NRM groups as well as gender and youth sensitive strategies to insure that at least 30% participation of women and 30% participation of youth in the different thematic FFS groups. This will be ensured through the community-led methodology of Gender Action Learning System (GALS) to be applied to FFS and with emphasis on generating benefits particularly relevant for women and youth.

Table 5: Component 2: outcomes and outputs

Outcome	Outputs
Outcome 2: Reduced land degradation, improved soil health and increased productivity of and income generation from agro-pastoral ecosystems	Output 2.1: Farmer's capacities strengthened in experimental learning and adoption of conservation and climate smart farming and SLM practices
	Output 2.2: Improved management of dryland agro-pastoral and woodlands landscapes
Outcome 3: Diversified and climate resilient production systems that increase all-season income generation through producer groups and better market linkages	Output 3.1: Households adding value and accessing markets with a diversified basket of produce

Output 2.1: Farmer's capacities strengthened in experimental learning and adoption of conservation and climate smart farming and sustainable land and water management (SLM) practices.

50. The Farmer Field School (FFS) approach, tested and proven in Tanzania, will be used as a delivering mechanism for the adoption by farmers of conservation and climate smart farming practices, permaculture and landscape level SLM. The field schools groups will not only be for crop

farmers but also be established for water and catchment area, rangeland and woodland management building as much as possible on existing village and joint village NRM groups and customary institutions. The FFS approach builds experimental learning skills among farmers and a farmer-to-farmer learning and exchange environment. It will be supported by: i) on-farm or in the landscape experiments, validation studies and demonstrations of conservation farming and SLM practices; ii) on-farm or in the landscape adaptive field trials; iii) field days, farmer exchange and exposure visits; and iv) classroom-based training session.

51. **Building FFS organisational structure.** The effective deployment of the FFS approach requires an organisational structure with adequate human resources as well as a step-wise procedure. In the context of LDFS the proposed structure consists of: (i) Project Coordinator and selected District Officer playing the role of Focal Persons for the FFS at national and district level respectively; (ii) FFS Master Trainers; (iii) FFS Facilitators; and (iv) Lead Farmers. An international FFS master trainer will be contracted to train national master trainers from the relevant ministries and focal points from the five districts, who will again train FFS facilitators working with lead farmers, selected by the different FFS groups, in facilitating and leading the FFS groups and sessions.

52. **Development of Curricula.** Building on previous experiences, the WOCAT SLM database and the Compendium of Best Practices for Sustainable Land Management in Tanzania (VPO, 2014), four general curricula will be adapted from existing curricula for FFS covering four of the five main areas of support of the component: i) conservation agriculture and other climate smart agricultural practices; ii) rain water harvesting and micro-catchment management; iii) sustainable rangeland management; iv) tree nurseries and sustainable woodland management. Further, the FFS groups can be the starting point for the creation of small producer groups and cooperatives for income generation and linking to market supported under output 3.1. The FFS curriculum will in each target area be adapted from the four general curricula through a consultative process in which both farmers and facilitators have a say. Whereas the former will largely articulate problems and bottlenecks experienced in current farming, land and water management practices, the latter should promote innovative and sustainable farming (i.e. climate smart agriculture, conservation agriculture and permaculture), land and water management practices as well as other relevant topics that are beyond the farmers' current knowledge, such as integrated pest management, but fit with the overall transformation of the farming system. All FFS curricula will include basic nutrition education and build on the SHMDP investments.

53. **Gender and youth**. The FFS methodology will include the GALS approach, which helps to address and overcome unequal gender and social relations. It is a versatile methodology that uses a set of pictorial tools that can reach both literate and illiterate people, it can be integrated with a variety of interventions (such as rural finance, natural resource management, value chain development), and can be used for households and groups. At least 30% of the participants should be women and 30% should be youth.

Output 2.2: Improved management of dryland agro-pastoral and woodlands landscapes

54. Thematic natural resources user and management groups will be strengthened or formed in the four main areas of support of this component mentioned above and supported though FFS. Some of these groups will be inter village according to the needs identified and actions prioritized in the join VLUPs and the granted certificates of customary rights of occupancy and use. Recognising that the main objective of the conservation and climate smart agriculture and water management FFS is to increase the production and food security, at least 80% of the beneficiaries participating in the FFS groups should come from households in the food insecure and mostly food secure subsistence agro-pastoral farmers subgroups. Considering that the beneficiaries participating in the rangeland and woodland thematic groups will mainly be defined based on resources users, the project will not put a quota for the participation of the three target subgroups for these groups. However, the targeting of the joint village planning process in component 1 will insure that vulnerable groups, hunter-gatherers and pastoralists are participating when applicable and their access to resources is taken into account. The subgroups of food insecure and mostly food secure subsistence agro-pastoral farmers would have a high participation since they represent more than 80% of the population using the landscapes.

55. **FFS on conservation agriculture and other climate smart agricultural practices**. Farmers will do experimental learning and sharing and select most locally suitable practices in: contour bounds and other land erosion physical prevention measures; conservation agriculture (minimum tillage, soil

coverage and/or rotational farming); integrated soil fertility management (mulching, green manure and manure from livestock, crop rotation and intercropping and agroforestry with multiple benefit species for soil fertility, livestock feed, and fruits and wood harvesting); integrated pest management; climate smart practices (diversifying and incorporating better adapted drought tolerant and short cycled crop varieties and adjustment of cropping calendars to climate variability spreading risks); and where appropriate, permaculture. The selection of varieties will include consideration of agro-biodiversity and the in situ conservation of productive landraces.

56. **FFS on rainwater harvesting and micro-catchment management.** Water user FFS groups will also receive technical assistance and input (material and equipment) support for rainwater harvesting and management using charco and small earth dams for livestock and vegetable production and in some cases micro supplementary irrigation schemes implemented with the support from the Ministry of Water. The water management will include: access and use regulation to avoid livestock causing degradation of the dam and surrounding grazing areas; agreed plans for operation and yearly maintenance removing silt; and conservation of the catchment establishing water source and biodiversity conservation areas and planting or facilitating regeneration of vegetation cover. Where possible, opportunities for fish farming in the pounds will be pursued using the successful experience from the now finalized Climate Change Adaptation Regional Project co-financed by the LDCF.

57. **FFS on tree nurseries and sustainable woodland management**. With the support from the National Tree Planting Strategy, the Ministry of Natural Resources and Tourism and the district extension staff, woodland management groups will receive technical assistance and inputs for the establishment and operation of community tree nurseries to improve local seedling supplies. They will also be trained in woodland management including sustainable harvesting, forest habitat and biodiversity conservation and tree planting for establishment of woodlots or rehabilitation of woodland combined with natural regeneration using a mixture of multi beneficial native tree species such as Acacia gum providing pols for construction, firewood, fruits nuts and animal feed through sustainable harvesting. The areas for wood lots and wood land rehabilitation will be the ones identified and agreed upon in the landscape level land use plans because of their importance for reversing land degradation and increase soil and biomass productivity, hydrological regulatory functions, and biodiversity conservation.

58. To reduce the pressure on woodland resources, biodiversity habitats and CO2 emissions, the villages will also be trained in the use of energy-efficient cook stoves reducing women unpaid labour. These will not only use less charcoal or firewood compared to traditional stoves, but they will also reduce the burden on women for collecting firewood and improve indoor air quality, hence reducing impacts on health. Young promoters will be trained in the construction and maintenance of the efficient stoves.

59. **FFS on sustainable rangeland management**. With the support from the MALF and district extension staff rangeland management groups will also be strengthened or established and receive technical assistance in different rangeland management practices including stocking balancing, assisted and natural rangeland rehabilitation and conservation of rangeland biodiversity, and the enforcement of no grazing zones in the rainy season for building fodder buffers for prolonged dry periods. In this regard the Ngitiri indigenous practice already used in semiarid areas in Tanzania regulated by bylaws will be supported eventually complemented by pasture improvement measures. “The system involves setting aside land ranging from about 0.5 ha of degraded cropland and rangeland in the case of individual *ngitiris* to 500 ha for communal *ngitiris*. These areas are restricted of any livestock and crop production during the rainy season thus allowing vegetation regeneration. Once vegetation has regenerated after the rainy season, Ngitiris are then used for grazing as standing hay, during the periods of acute fodder shortage in the months of August to October.”[50]

Output 3.1: Households adding value and accessing markets with a diversified basket of produce.

[50] Compendium of Best Practices for Sustainable Land Management in Tanzania (VPO, 2014)

60. This output will be implemented after the second project year to support the beneficiaries in the processing and access to markets for crop and livestock products, as well as for non-timber forest products (NTFP) from sustainable managed landscapes, with the aim of increasing all-season income generation. As a result of the targeting strategy applied for the implementation of outputs 2.1 and 2.2 to progress farmers towards market participation maturity, output 3.1 will primarily target mostly food secure subsistence agro-pastoral farmers and market-oriented agro-pastoral farming households. When the Food insecure households will start to see production yields improvements, these will also be offered the support of this output to facilitate their access to markets through producer groups which can be mixed with participants from all three subgroups. Targeting strategies will be applied to include women (>30%) and youth (>40%) in the producer groups and ensuring their access to generated benefits.

61. Business Coaches will provide trainings on post-harvesting and market linkages on crop, livestock and non-timber forest commodities identified through a viability and feasibility assessment, including financial and commercial aspects. The viability and feasibility assessment will be conducted by the PCU, the DFTs together with the relevant community members.

Producer groups established as a results of FFS under output 2.2 will receive training to build their capacities in e.g. organisational strengthening, reduction of post-harvest losses, processing and packaging, accountant, marketing and small business planning and management. Each producer group will be supported in the development of their business plans and receive small inputs for its initial implementation. The small production activities could include beekeeping, processing traditional medicine from plants and trees, NTFPs such as wild fruits mwani (aquatic medicinal plants) farming, mat and basket making. For the drylands agro-pastoralists and pastoralists there is a particular opportunity for income generation by improving livestock marketing. Support options in this respect will therefore be explored in close collaboration with the IFAD funded MIVARF project including following the models such as the Market Access Company (MAC) in Kenya which offers market access and Transaction Security Services (TSS) to pastoralists[51].

Component 3: Monitoring and assessment

62. This component will build the capacities of and support district staff and Inter-village NRM Committees in adopting monitoring and assessment (M&A) tools for evaluating and documenting progress in improving ecosystem services and household resilience to climate variability and change and the benefits to food security of the targeted villages. The tools will serve as decision support for the landscape level NRM through the inter-village committees and future iterations of joint village land-use plans. They will strengthen the evidence base for upscaling of successful landscape level SLM models and practices to other districts and regions. They will also allow for reporting on the achieved global environmental benefits (GEBs) of the project and as such contribute to the IAP-FS monitoring and evaluation of programme level achievements and comparing results with other IAP-FS child projects.

Table 6: Component 3: outcomes and outputs

Outcome	Outputs
Outcome 4: Improved evidence-base for joint village land-use planning and improvement of ecosystem services and up-scaling at district, region and national level	**Output 4.1** Strengthening District and National M&A capacities to document progress in ecosystem services and household resilience and report on GEBs are strengthened
	Output 4.2 M&A results and knowledge products available for policy development and decision support for landscape level resources management
	Output 4.3 Project is linked to regional program

[51] http://www.cop-ppld.net/fileadmin/user_upload/cop-ppld/items/Fact_sheet_on_Keekonyokie_Market_system.pdf

Output 4.1: Strengthening District and National M&A capacities to document progress in ecosystem services and household resilience and report on GEBs are strengthened.

63. Monitoring of ecosystem services in Tanzania is not systematic at district level and it is largely based on visual perceptions. Data collection, analysis, storage and retrieval can be challenging because of: i) inadequate funding, ii) lack of training and instruments to measure key parameters and establish functional databases (for example in the use of remote sensing and GIS analysis, training on data capture and management), and iii) shortage of frontline staff. The District level structures for monitoring and reporting are present but require support to work effectively.

64. Building on existing capacities at national and district levels, the IAP-FS includes adding an assessment dimension to the conventional M&E with focus on documenting progress in improving ecosystem services and resilience and the linkages to increased food security for the target population. To this end, the assessment tools offered under the IAP-FS and supported by programme partners include the GEF tracking tool for the IAP-FS programme, the Land Degradation Surveillance Framework (LDSF) supported by ICRAF, and the Ex-Ante Carbon Balance tool (EX-ACT) for calculating project carbon benefits developed by FAO and widely used by IFAD and partners.

65. In addition, the household resilience to climate variability and change will be monitored through a resilience scorecard tailored to the project's outputs[52]. A household is more resilient if more answers to the following questions are positive: 1) have one or more household members participated in the formulation of joint village land-use plan?; 2) is at least one family member participating in a FFS or a producer group, that has increased household production and/or incomes?; 3) has the household adopted a climate-smart production system including measures for the sustainable management of soils and water in at least 1/4 of its cultivated land?; 4) has the household access to a secure water source (rainwater harvesting and micro supplementary irrigation) for at least 1/5 of its cultivated land?; 5) in the last years has the family used weather forecast information to take decision on crops and varieties to cultivate and time of planting?; 6) does the family have access to a renewable energy source for household and production needs?. The questionnaire will be applied at project start up, midterm and end. The scorecard questions may further be supported by the application of the IFAD Multidimensional Poverty Assessment Tool (MPAT), which is also household based and includes questions designed to capture climate adaptation capacities and covers food security.

66. Under this output relevant line ministries, district staff and members of inter-village NRM committees and the different NRM groups will be trained in the application of these M&A tools to assess and monitor the project performance and sustain the use of the tools for decision support after the end of the project.

Output 4.2: M&A results and knowledge products available for policy development and decision support for landscape level resources management.

67. Districts and the members of the different village and inter village NRM groups will be supported in implementing the M&A tools establishing the baseline at project start up and assessing progress at midterm and the end of the project.

68. The Land Degradation Surveillance Framework (LDSF) is built around a hierarchical field survey and sampling protocol using 5 sampling areas of 10 km by 10 km one for each of the 5 project sites. The data collection at plot-level is based on a modification of the FAO Land Cover Classification System (LCCS), and includes information on slope and landform, vegetation cover types and strata, land use, land ownership and primary current use. Other information collected includes presence/absence of soil and water conservation structures.

69. In each sub-plot, signs of visible erosion/degradation are recorded, together with rock/stone/gravel cover on the soil surface. Both woody and herbaceous cover ratings are made using

[52] The scorecard methodology and the resilience framework behind has been developed by DFID (DFID KPI4 Methodology: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/328254/BRACED-KPI4-methodology-June2014.pdf

counts, distribution and density, texture and depth recordings, and a vegetation rating scale is used from 0 (bare) to 5 (> 65% cover). High resolution satellite imagery will be acquired for sampling sites and used to develop predictive models using the data collected for the generation of high resolution maps of soil condition, vegetation cover and land degradation risk factors for these sites to assist with the national baseline assessments of land degradation/erosion, vegetative cover and soil carbon.

70. The Ex-Ante Carbon Tool (EX-ACT), developed by FAO will be used for monitoring carbon benefits of the project which may be supported by Sokoine University of Agriculture (SUA), located in Morogoro, hosting the National Carbon Monitoring Centre. The EX-ACT is a land-based accounting system to estimate the impact of agriculture and forestry development projects on the carbon-balance. It estimates carbon stock changes. The tool helps project designers to estimate and prioritize project activities with high benefits in economic and climate change mitigation terms. It is mostly used at project level, but can be used for policy analysis and to advocate for more environmentally friendly approaches to food security. EX-ACT uses default values for mitigation options in the agriculture sector based on land-use, such as forest cover, vegetation type, current agricultural management systems, and degree of land degradation. The EX-ACT tool can be informed by the data generated by the LDSF monitoring exercise.

71. Based on the data generated and analysed knowledge products will be developed for decision support and up scaling of landscape level planning and NRM in policies and investments. The project results will generate broader lessons on how the landscape level land use planning and governance and conservation practices regenerate improved ecosystem services and food security through specific strategies for improving farmer's adoption rates and gender equality and involvement of youth. As such the project results will also contribute to the implementation of the SRMP-3, the Dryland Development Project and the National Tree Planting Strategy and other supportive policies, and identify where harmonisations may be needed and where the remaining gaps may be. Tanzania is in an on-going process of reforming its land policy which gives the LDFS an opportunity to offer practical experiences and identify bottlenecks in the current framework and efficient entrance points for sustainable land use planning and natural resources management at a joint village landscape level. To maximize the project results, emphasis will be placed on developing case studies and individual stories as well as reporting on quantitative results. The underlying premise is that with better awareness of the agro-ecological connections, the importance of joint participatory planning, governance and management processes, and practices leading to increased productivity and access to food, this should provide a motivation to upscale investments in ecosystem approaches.

Output 4.3 Project is linked to regional program

72. Under this component, the PCU and project beneficiaries at the district, region and national level will link this project activities and results to the regional GEF IAP-FS programme in order to exchange knowledge and lessons learnt on best practices with the other 12-country participating in the programme, by participating in IAP-FS programme meetings.

73. Each country project has committed to participating in the peer-peer applied management opportunities which are an integral part and distinct feature of this program, and which will be cost shared with the cross-cutting coordination and applied knowledge management and capacity building ‘’hub’’ project. Countries will not only participate in, but also host site visits in village and communities on specific themes of interest to exchange knowledge and lessons learned among the 12 countries.

D. Lessons learned and adherence to IFAD policies

74. There are several successful innovations in the IFAD and other projects[53] that could be scaled up through appropriate mechanisms and processes. The most relevant include:

- **Participatory joint village land-use planning**. Lessons from SRMP phase I and II show that participatory joint village land use planning used to develop joint village land use management plans and registration of village land can lead to resolution of conflicts between pastoralists and sedentary communities over access to grazing land and water resources. However, it can be a challenging process which requires up front buy-in from local political leaders and

[53] Status of land degradation in Tanzania, URT, 2014

authorities to avoid later obstruction and a clear initial analysis of all layers and actors in local conflicts over resources and current resources governance systems or lack of the same. The adopted participatory methodologies were successfully built on existing customary practices, which were an important factor in reaching consensus on joint village plans.

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- **FFS-based innovations**. In Zanzibar, key impacts have been achieved through the FFS approach of ASDP-L promoting the integration of enhanced crop and livestock technologies and improving support services provided by community animal health workers (CAHWs). These interventions demonstrate cost-effectiveness and good sustainability prospects, with demonstrated spill-over effects to nearby farmers and their communities.
- **Commodity value chain approaches for smallholders**. The MUVI-MIVARF experience demonstrates that value chain development requires proper diagnostic assessment of key actors and their capacities to foster partnerships from the outset. Private-sector entrepreneurs such as wholesalers, processors and exporters, and other partners such as cooperative apex organizations, need to be involved during project design to better understand their interest and potential, and how they might internalize project incentives for their involvement and cooperation.
- **Use of low cost, farmer and environment-friendly techniques**. Lessons from different projects (e.g. KAEMP, ASDP-L) show the high sustainability of low cost farming techniques such as the use of natural, botanical extracts as pesticides; composting and admixture of farmyard manures as fertilisers; hot water treatment to de-infest planting material; farmer grown and selected seeds; and introduction of appropriate alternative crops, such as vanilla and pineapple. In extension, the strong reliance on group activities, farmer to farmer dissemination of information and ideas, encouragement of farm record keeping and farm business management and the instigation of the Farmer Cadre system are thought likely to be enduring facets of any viable advisory system.
- **Participatory Forest Management**. To date, PFM has enabled villagers to have traditionally “reserved” forests for a range of productive, social, traditional or sacred reasons. Good examples are the “ngitili” forests of Shinyanga and Mwanza regions, developed by the Sukuma pastoralists for dry season grazing, and the “mpungi” or “mshitu” clan forests of North Pare Mountains used for sacred reasons. Yet the challenge remains to geographically expand the adoption of village plans and/or promote the continuous update of the same.
- **Participatory Land Use Management**. The implementation of the Participatory Land Use Management (PLUM) guidelines, developed and tested by the National Land Use Planning Commission (NLUPC) in Dodoma, Manyara, Tabora, and Arusha, proved the effectiveness of land use planning on land management and reduced conflicts on land resource use among land users.
- **Sustainable Pasture Management**. Experience has shown that pastoralists are able to manage the resources in an equitable manner alongside other land uses. A good example of sustainable pasture management is provided by Ngitiri experience in Shinyanga and Mwanza regions. Through this traditional initiative pastoralists were able to provide forage for livestock - especially oxen - at the end of the dry season when villagers prepare their land for agriculture. Vegetation and trees are nurtured on fallow lands during the wet season so that fodder supplies are available for livestock during dry seasons. Also the Maasai communities practice sustainable pasture management through traditional division of their collective pastures into different types of areas governed by traditional rules.
- **Integrated Crop-Livestock Farming Systems**. Experiences in Manyara and Dodoma regions showed that an integrated approach of livestock and crop farming system (groundnuts, pigeon pea, maize/pigeon pea intercropping and starter doses of phosphate) increased the productivity of maize-legume-livestock production systems, the system resilience and agro-ecosystem services, including provisioning of food and feed; and improved water and soil conservation, soil nutrient supply and cycling, soil health and soil structure; carbon sequestration and biodiversity; as well as adaptation to climate variability and change.

75. Finally, lessons from development partners suggest that participatory, inclusive approaches aimed at building adaptive capacity, such as farmer-to-farmer extension or farmer-led innovation, are scalable, but individual innovations - including some that are particularly attractive to women - are

difficult to scale out, because they are suited to highly specific environments and contexts. Another lesson from climate change adaptation projects is that it is valuable to recognize that women make an active and important contribution to climate adaptation based on their local knowledge and capacity, and that it is limiting and simplistic to view them as passive victims of climate change. Successful adaptation projects increase women's opportunities to add value to their agricultural activities - for example, through agricultural processing and marketing - and diversify their income-earning opportunities. In other words, they promote transformational change in agriculture and acknowledge women's role in that process[54].

76. SECAP. The project was reviewed under IFAD's Social, Environmental and Climate Assessment Procedures (SECAP). The project's potential negative environmental and social impacts, described in annex 12, are limited, site-specific and can be readily mitigated through measures already identified in the project design document. Therefore, the project is classified as Environmental and Social Category B. Specific activities, especially those related to water resources development (such as charco dams, small dams less than 5 meters high and with low storage volumes) will need to follow the impact assessment guidelines of the Government of Tanzania as prescribed in the 2004 Environmental Management Act, EIA and Audit Regulations[55]. The climate change risks faced by the Project in achieving its objectives are assessed as Moderate. The main risks relate to increasing incidence of floods and droughts, and increasing salt-water intrusion as a result of sea-level rise for Pemba. While the project is designed to enable farmers to adapt to these climatic trends, farmers may still experience increased levels of vulnerability.

77. IFAD has furthermore developed a Complaints Procedure for "Alleged Non-Compliance with its Social and Environmental Policies and Mandatory Aspects of Its Social Environmental and Climate Assessment Procedures". Parties adversely or potentially adversely affected by IFAD-funded projects and programmes may bring issues to the Fund's attention using SECAPcomplaints@ifad.org. The IFAD website provides a clear summary of the steps involved and guidance on how to report issues.

III. Project implementation

A. Approach

78. The LDFS is designed to provide a bottom up approach to planning and agreeing on specific interventions, within the broader framework of the intended objective and Theory of Change. For example, setting up of inter-village committees will help in creating long-lasting frameworks for improved decision making at village and district levels. These committees will also act as a forum for agenda setting and for determining land use priorities in a collegial manner.

79. The organizational framework is designed around the implementation capacity available in the project districts, while establishing strong operational linkages with relevant line ministries. Farmers will have a crucial role in selecting, planning and implementing activities through their Village Plans, thereby ensuring the success and sustainability of the project expected impacts. The project will seek to maximize inter-district exchanges between both implementers as well as farmers, which will reinforce the common learning and problem-solving capacity.

80. Furthermore, using the FFS approach will allow the project to design its interventions in a way that is more responsive to the real needs of farmers and farmer groups. The FFS approach will allow a low-risk, learning-by-doing approach, which will also enable individual farmers to become facilitators and leaders within their communities. All physical interventions supported by the project, such as improvements in water infrastructure, increase in production of selected commodities, or reforestation, will be implemented through a FFS-type of arrangement. This will help maximize learning and ownership of the results.

[54] *Gender in climate-smart agriculture*, WB, FAO and IFAD, 2015
[55] Accessible at http://www.tic.co.tz/media/Environmental%20Audit%20Regulations%202005.pdf

B. Organizational framework

81. The project implementation period will be of 5 years. IFAD will act as the **GEF Implementing agency** for the GEF funding of this project. The project will be coordinated by the Vice President's Office (VPO) Division of Environment as the **lead Executing agency** for the project. The VPO has the overall responsibility on environment management in Tanzania and has an extensive experience in coordinating the execution of GEF[56] and LDCF[57] funded projects in the Country.

82. A **Project Steering Committee (PSC)** chaired by the Permanent Secretary of the VPO, with representation of the relevant sector ministries[58]and IFAD baseline projects, will be responsible for overseeing project implementation. The Project Coordinator will act as the secretariat of the PSC. The PSC will meet twice a year to provide strategic direction to project implementation, monitor progress and approve Annual Work Plans and Budget (AWPBs.)

83. Day-to-day project management and implementation will be the responsibility of the **Project Coordination Unit (PCU)** housed under the VPO office at a location to be agreed between all project partners at inception. The PCU will consist of a National Project Coordinator (seconded from the VPO staff[59]), a Senior Accountant (seconded from the VPO), a full time Monitoring and Evaluation Officer (seconded by the VPO/recruited externally) and technical staffs (i.e. NRM specialist and a LUP Specialist hired on a contract basis.) Short-term specialist expertise will be contracted according to need and financial resources. Project procurement will be undertaken by the VPOs dedicated procurement team in line with IFAD and Government procurement guidelines.

84. The PCU will be responsible for the overall planning and management of project activities; guiding, supporting and supervising project implementation; procuring goods and services; financial management of the project resources; and monitoring and reporting on implementation and financial progress. It will work in collaboration with line ministries and government services including the Regional Secretariat and District Facilitation Teams to define performance-based MoUs based on district AWPB and determine backstopping arrangements according to the needs and priorities of the target districts.

85. A **Technical Advisory Committee (TAC)** will be established to advise the PCU and the PSC on the quality of progress reports, AWPBs, and on any technical issues. The TAC will assist the PCU in establishing potential linkages with relevant ministries for technical support. It will be chaired by the VPO Director of Environment and consist of: the VPO Director of Environment, the District Executive Directors of respective project districts, and of the relevant Directors of the following line ministries: the Ministry of Agriculture, Livestock and Fisheries (MALF); the Ministry of Water and Irrigation (MOWI); the Ministry of Natural Resources and Tourism (MNRT); the Prime Minister's Office Regional Administration and Local Government (PORALG); the Ministry of Finance and Planning (MFP); the Minister of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF)- Zanzibar; the Ministry of Lands, Water, Energy and Environment (MILWEE) – Zanzibar.

86. Project implementation at district level will follow the guidelines for decentralization by devolution (D by D). **District Facilitation Teams (DFT)** will be set up in the selected districts, and their offices equipped. The DFT 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 PCU and to their Regional Secretariat. The District Council Management Team will be

[56] GEF 5691 To improve natural resources management and livelihoods of communities in Lake Nyasa catchment through sustainable land management systems
[57] LDCF 5695 Ecosystem Based Adaptation for Rural Resilience
[58] Permanent Secretaries of: Ministry of Agriculture, Livestock and Fisheries (MALF); Ministry of Water and Irrigation (MoWI); Ministry of Natural Resources and Tourism (MNRT); Ministry responsible for Local Government Authorities (PORALG); Ministry of Finance and Planning (MFP); Minister of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF)- Zanzibar; Ministry of Lands, Water, Energy and Environment (MILWEE) – Zanzibar.
[59] "Secondment" is in the context of this project defined as "to take an unpaid leave of absence from GoT to work in the PCU and receive a salary from the project."

responsible for approving the district-level Annual Work Plan and Budget (AWPB) and monitoring the progress of implementation. The quarterly reports of all five districts will then be reviewed and consolidated by the PCU and submitted to the TAC for approval and then to PSC and IFAD for clearance.

87. The DFT will consist of the technical staff responsible for environment, agriculture, land use planning, livestock, fisheries and water resources, namely: the District Natural Resources Management Officer and Extension Officer; the District Environmental Officer; the District Agricultural Officer and Extension Officer; the Livestock Officer and the Livestock Extension Officer; the District Treasurer and Community Development Officer/Gender focal desk, and the District Planning Officer – under the overall guidance provided by the District Executive Director.

88. Prior to the Project start-up workshop, the VPO and the target Districts will jointly develop the **Project Implementation Manual (PIM)**, which will guide implementation the project, and a draft AWPB. The PIM and the AWPB will be submitted to the PSC and IFAD for non-objection. When an activity or item has not been captured in the AWPB, authority to incur expenditure should be sought from the Project Steering Committee and IFAD, explaining which activities will be dropped or reduced to provide the funding for the unplanned activity/item.

89. A start-up package will include a series of launch workshops to be conducted to ensure buy in of all stakeholders. At the national level, participants will include key government policy- and decision-makers, representatives of research institutes and other technical experts, key NGOs, relevant private-sector bodies, financial institutions, donor bodies and representatives of civil society. The district-level launch workshops will bring together the District Council and technical departments, NGOs, development partner-funded projects and representatives of farmer, livestock keepers and water user groups /organizations. At village level sensitization workshops will also be conducted. Gender balance will be sought among participants at all levels.

90. Project management is financed by GoT and GEF. An IFAD-GEF funded start-up grant enables GoT to recruit key staff and initiate priority actions immediately upon signing the LDFS grant agreement with IFAD. This means that project implementation will commence in mid-2017.

91. In preparation to implementation readiness, attention must be given to:

- Timely inclusion of adequate counterpart funds into the financial year budgets of MoA;
- Selection and recruitment of the Project Manager and Project Financial Controller; who will then be responsible for further mobilisation of PCU staff;
- Revision of draft Project Implementation Manual (PIM), Financial Management Manual (FMM) and Procurement Manual (PM) and formal adoption and submission to IFAD;
- Revision of draft AWPB and 18 month Procurement Plan (available in the Project Life File) and formal submission of the same.
- Establishment of the PSC

C. Planning, M&E, learning and knowledge management

Planning

92. A project inception workshop will be held within two months of project becoming effective with the full project team, district officers, relevant government counterparts and IFAD. An inception workshop report will be prepared and shared with participants. Planning of project activities will be an on-going and participatory process coordinated by District Facilitation Teams (DFTs) and the PCU with support from the Technical Advisory Committee (TAC) with Annual Work Plan and Budget (AWPBs) forming the backbone of the planning.

93. The AWPB, together with the Logical Framework's results-based indicators, will be the basis for monitoring project progress. Village and inter-village land use plans will function as a means to set priorities for investments and capacity development, including those supported by this project, and as

such, will feed into the development of each AWPB. The AWPB will be the key instrument for implementation and operational control.

94. The AWPB for the first year will be based on the LDFS Project Design Report and its Attachments and prepared by a small team of experienced staff. Subsequent plans shall include a brief description of the implementation of the project in the previous period and the possible challenges and opportunities for the upcoming year.

95. The PCU's Project Coordinator will oversee the AWPB process and ensure that all stakeholders are fully involved. The DFTs and the M&E Specialist supported by the TAC will be responsible for coordinating the preparation of AWPB, its consolidation, and presentation to the PSC, finalisation and submission to IFAD. The Senior Accountant will provide costs, incorporation of the financing plan and disbursement arrangement –procurement's.

96. Functional monitoring will provide the data needed to prepare progress reports. Results will be submitted in summary form in quarterly, half-yearly and annual reports to the PSC and IFAD. The AWPB is the starting point to monitor physical progress (actual implementation compared to planned activities) and financial progress (actual expenditure compared to budget).

Monitoring and Evaluation

97. The backbone of the Monitoring system will be the IFAD Results and Impacts Monitoring System (RIMS) household survey tools. This will provide the data to support monitoring and assessment of project results, including those set by the IAP, which requires adding an assessment dimension to the conventional M&E. This will focus on documenting progress in improving ecosystem services and resilience and the linkages to increased food security for the target population. For this end the assessment tools offered under the GEF-IAP Programme for Food Security and supported by programme partners include the Land Degradation Surveillance Framework (LDSF) supported by ICRAF, the Ex-Ante Carbon Balance tool (EX-ACT) for calculating project carbon benefits developed by FAO.

98. The short version of the Logical Framework is presented in the executive summary of the project design report and included in full version as an Attachment to Appendix 6. It is used as a core framework for results based management of the project. At the goal and development objective level the framework includes indicators that track increase in household resilience to climate variability in terms of decrease in month with food shortage and child malnutrition. These indicators are monitored through the RIMS survey and a household resilience scorecard covering LDFS target population. The objective of the project will also be measured by tracking reduction in the land degradation prevalence, which will be monitored through the LDFS. Resilience is further tracked at the outcome and output levels in terms of increase in yield per hectare, number of farmers adopting conservation farming and SLM practices at the landscape level, hectares reforested or with recovered vegetation cover (all monitored and assessed through the LDSF) as well as hectares covered with improved pasture and management practices integrating biodiversity, and water availability for primary livestock and horticulture needs. Finally, carbon sequestered and greenhouse gas emissions avoided, as a global environmental benefit, is monitored and assessed through the Ex-Act.

99. The M&E Specialist will be responsible for planning, monitoring, reporting, evaluation and assessment, learning, knowledge management and communication, as well as ensuring appropriateness and efficiency of implementation related to targeting (food insecure, gender, youth, geographical). The M&E Officer will also be responsible to conduct special studies and knowledge products, communications and knowledge management facilitating the implementation of the up-scaling strategy, cross-component learning and organisation of policy seminars and workshops, stakeholder relations and other events. The inter-village NRM committees at landscape level, the FFS groups and networks, will play a key role in the participatory monitoring of ecosystem services, agro-ecological and climate change resilience measures.

100. The project will prepare regular progress reports presenting a full picture of programme resources, annual and cumulative physical and financial achievements as compared to targets set in

the AWPB, analysis of successful approaches and outputs, failures and constraints, and whether progress is being made towards achieving objectives. In addition to IFAD progress report, the PCU will submit to IFAD a Project Implementation Review (PIR) on an annual basis.

101. The project will undertake baseline, mid-term and completion surveys at start, middle and end of the programme implementation period to identify, verify and track outcomes and emerging impacts. A baseline survey will be undertaken to benchmark the existing situation in the landscapes as part of the final design of LDFS. The GEF-IAP Food Security Programme Tracking Tool (TT) will likewise be completed at baseline, mid-term and completion allowing for the aggregation of indicators from the individual project level to the programme portfolio level and track overall portfolio performance in the GEF focal areas contributing with finance to the IAP Programme. A MTR will be conducted halfway through implementation (towards end of year 3) to assess the performance and impact and its progress against the established objectives, the efficiency and effectiveness of LDFS management, and the validity of the LDFS design. Recommendations for revisions to the activities and approach, the Logical framework targets, may be made if required. At the end of the implementation period, a Project Completion Report will be compiled to provide an overview of the accomplishments of LDFS. The PCR should inform the rationale for and orientation of a follow-on investment programme.

102. An independent Terminal Evaluation (TE) will also take place and look at the impact and sustainability of results. It will be conducted by external consultants who will operate under the supervision of IFAD's Evaluation Office and IFAD staff. Technical staff working at the PCU, including the M&E Specialist, and stakeholders will all be collaborating with the appointed consultants for effective evaluation. The report will be submitted to IFAD and the GEF Evaluation Office no more than 12 months after project completion.

Learning and Knowledge Management

103. The M&E Specialist supported by the TAC and DFTs will ensure that stories are collected on a regular basis, providing factual information on changes and benefits achieved at village and landscape levels as well as documenting global environmental benefits and up-scaling to other landscapes. The M&E Specialist will develop simple and user-friendly tools for data collection, data entry, data processing and analysis.

104. Knowledge Management (KM) will be a process by which value is generated from project intellectual and knowledge-based assets. It will include a detailed plan on how information will be obtained and disseminated project reports and reviews, development of knowledge products, policy workshops and the use of communication channels. To share lessons learnt and promote upscaling, the PCU is expected to use a range of different media and approaches, such as farmer field visits, website, radio, video, press releases and articles for local and international newspapers and the IFAD website.

105. The project will benefit from and contribute to the GEF-IAP Food Security Programme knowledge network. The regional knowledge network, IFAD Africa, will provide opportunities to participate in regional thematic workshops, visit sites of similar projects, and guidance for the start-up of KM activities. Tools, such as case studies and stakeholder interviews, will complement the M&A tools described above to deepen the understanding of factors contributing to adoption of SLM practices and success or failure to show impacts on ecosystems services and food security. One of the main purposes of knowledge creation and sharing will be to support policy making by building a comprehensive body of evidence, lessons learned, and good practices. The M&A tools will provide a cost-effective way of building strong cases, and inform policy makers for further up-scaling.

D. Financial management, procurement and governance

Financial Management

106. LDFS will be governed in accordance to the procedures for financial management and procurement has been agreed with the VPOs office during the design following an external assessment of their Fiduciary Standards (see Appendices 7 and 8). Procedures defined for the

Project have taken into account procedures of the Government as well as requirements defined by IFAD and GEF. The draft Project Implementation Manual, Financial Management Manual and Procurement Manual will reflect this.

107. Financial management arrangements will be mainstreamed within the Government of The United Republic of Tanzania (GoT) systems. To facilitate proper financial management and reporting an off the shelf accounting software will be procured, installed and implemented. A Senior Accountant (SA), who has been assigned to the project, from the VPO, will be responsible for financial management including management of withdrawals and financial reporting. The VPO will ensure that the position is filled by a staff with requisite qualifications and experience throughout the project implementation period. The SA will be assisted by assigned Accountants at VPO, the participating local authorities and other implementing agencies.

108. The GEF IAP financing will be administered through a separate designated account that will be opened and managed by the VPO solely to receive project funds from IFAD denominated in USD which will be disbursed on replenishment basis through withdrawal applications. A corresponding operating account in Tanzania Shillings (Tsh) managed by VPO/PCU will be opened in a commercial bank acceptable to the Fund from where local authorities and implementing partners will receive activity based advances. Subsequent funding of the implementing agencies will be based on justified advances.

109. In compliance with IFAD's General Conditions, LDFS financial statements shall be audited on an annual basis in accordance with IFAD audit guidelines. The audit reports together with the related management letters shall be submitted to IFAD no later than six months after the end of each respective fiscal year. Financial management arrangements are detailed in Appendix 7.

Procurement

110. The GoT's legislative and regulatory framework will be used in the implementation of procurement activities under LDFS in as far as they are consistent with IFAD's procurement guidelines. This is consistent with article 4(1) (b) of the Public Procurement Act which provides that "To the extent that this Act conflicts with an obligation of the United Republic under or arising out of - any grant agreement entered into by the Government with an inter-governmental or international financing institution in which the Government is the beneficiary, the requirement of such treaty or agreement shall prevail, but in all other respects, the procurement shall be governed by this Act".

111. Procurement for LDFS will be managed by the department of procurement at VPO. A Procurement Officer assigned to the project technically will be responsible to the Director with a dual reporting line to the Project Coordinator. He/She will be the focal point to handle all procurement aspects of LDFS.

112. The procurement plan for each year will be consistent with the project's AWPB and its target date of implementation including list of procurement of works, goods, and services to be procured under the project yearly with estimated cost and method of procurement shall be detailed in appropriate formats for each budget year. Items procured outside the procurement plan and the related AWPB will be declared mis-procurement and the related expenditure will be ineligible for financing from the grant proceeds.

113. The consolidated Procurement Plan will be submitted together with the AWPB to the Project Steering Committee for approval, and the department of procurement and Property as appropriate for information/inclusion in the VPO annual Procurement Plan and later to IFAD for a no objection as part of the LDFS project AWPB. Details of procurement arrangements are included in Appendix 8.

E. Supervision

114. Project supervision will be carried out directly by IFAD jointly with the Lead Agency, the VPO. One supervision mission and one follow-up mission will be conducted every year to monitor and review the achievement of outputs, outcomes and impact, the effectiveness of the programme

approach, planning, gender and targeting, procurement, financial management, M&E, and partnerships.

F. Risk identification and mitigation

115. The proposed project has the following expected positive social and environmental impacts: (i) Reduction in food insecurity and malnutrition; (ii) Increased household resilience to climate variability and change; (iii) Reduced land degradation prevalence.

116. The main social and environmental risks to the project and their mitigation measures are as follows:

#	Risk	Description	Impact	Likelihood	Mitigation measures
1	Increased conflict over water resources	The project's interventions to increase water availability may cause conflict amongst potential water users and downstream users	Medium	Medium	The landscape approach to land use planning with joint village LUPs will support communities upstream and downstream to prevent conflicts over shared resources. In parallel to the PLUPs and as part of the landscape approach, a conflict sensitive approach will be promoted to ensure benefits the project's interventions on water resources management.
2	Disturbance due to construction	Small-scale construction activities for charco dams may cause noise and air pollution, construction waste may be left behind	Low	Medium	The firm hired to carry on construction activities will be required to demonstrate environmental and social responsibility.
3	Unsafe water supply	Water in charco dams, used for domestic purposes, may be contaminated by livestock	Medium	Low	Training through FFS will provide knowledge on access and use regulations to avoid livestock causing degradation of the dam and surrounding grazing areas.
4	Climate shocks and regional economic shocks could impact food supply	Climate shocks may interrupt project's activities. Regional economic shocks may impact food prices, leading to more food insecurity.	Medium	Medium	The project will propose technologies for rapid uptake that will enable smallholder farmers to increase their food production quickly for visible impact and as reserves in case of climate shocks.
5	Lack of incentives for farmers to adopt sustainable practices introduced by the project	The current system of incentives may be insufficient to ensure continued long-term stewardship of natural resources; population increases may jeopardize sustainability of management systems.	Low	Low	The project expects to put in place improved incentive systems, such as creation of small enterprises and producer groups, FFS, collaborative management of agro-pastoral spaces, farmer-based extension, as well as landscape based land use planning.
6	Lack of institutional capacity to upscale and replicate successful interventions from the project	There is a risk that local government authorities do not have the capacity to maintain the developed institutional mechanisms beyond the duration of the project	Medium	Medium	The project will strengthen district and village/ward level capacities at institutional and individual levels. Repeated trainings will ensure that knowledge remains within the institutions even if staff departs. Consideration will also be given to assisting land use planning committees in identifying lasting sources of financing for priorities identified during the planning process.
7	Social tensions and conflicts due to income increases	There is a risk that increases in income could create social conflicts and rivalries within and across villages	Low	Low	The project's three-tiered targeting strategy will ensure that all social groups are representing and benefit from the project, allowing for upward mobility and for the creation

of wealth across the community.

117. The project design includes adequate measures to mitigate the potential negative social and environmental impacts. The project's participatory planning approach will reduce the risk of conflict over water resources as a result of development activities, through a conflict-sensitive approach, as part of the landscape approach, which will include consultations and participatory conflict analysis on potential conflict-generating issues in each district.[60] The planning approach will be complemented by stakeholder consultations as part of the preparation of environmental screening reports and, where required, environmental impact assessments. The development of water resources (e.g. chaco dams) will need to follow appropriate technical guidelines such as the FAO manual on small earth dams[61], the WOCAT guidelines on water harvesting[62] and the DANIDA handbook on small dams[63]. Details on the procedures to be followed will be part of the Project Implementation Manual (PIM) to be completed before the start of the project.

118. The local impacts of climate change will be considered as part of the inter-village NRM committee training, where adaptation measures will be identified. These measures will effectively reduce the exposure of farmers to the impacts of climate change and increase the buffer capacity of the environment in terms of storing water and reducing run-off and erosion.

IV. Project costs, financing, benefits and sustainability

A. Project costs and co-financing

119. The total combined LDFS investment and incremental recurrent costs, including physical and price contingencies, are estimated at US$ 7,155,693 million (TZS 20 billion).

120. The investment in Component 1, *Institutional capacity building on sustainable land management, forest conservation and sustainable pastoralism,* in base costs totals US$ 1million (14% of total base costs) while Component 2, Sustainable and climate smart land, water and pastoral management, accounts for US$ 4.99 million (70% of total costs). Component 3: Monitoring and assessment accounts for US $ 0.843 million (12% of total costs) and Project management costs are 4 % of total base costs translating into US$ 0.318 million in monetary terms.

121. **Beneficiary contribution.** Beneficiary contributions, to be provided in kind, have been estimated for all physical works in component 2 and would comprise labor for fencing-off areas from grazing (erosion protection areas, irrigation commands and dams); labor for construction of rooftop rainwater harvesting and ferro-cement tanks; as well as a contribution to the material therefore, differentiated according to target group category. This contribution is intended to create ownership by the beneficiaries and will be determined from time to time during implementation.

122.

123. **Start-up facility.** The IFAD- GEF funded start-up grant is accessible when the grant agreement is formalised; and before conditions for implementation readiness (recruitment/secondment of the Project Coordinator and Senior Accountant, financial management, bank accounts, signatories, Annual Work Plan and Budget, Project Implementation Manual, first withdrawal application, etc.) are met. This grant is provided to facilitate the early start of the Project and can be used to cover specific start-up expenditures such as: purchased of financial software, start up workshops, preparation of the PIM and finalization of the first AWPB.

[60] Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict
[61] http://www.fao.org/docrep/012/i1531e/i1531e.pdf
[62] https://www.wocat.net/fileadmin/user_upload/documents/Books/WaterHarvesting_lowresolution.pdf
[63] http://www.samsamwater.com/library/Book4_Water_from_Small_Dams.pdf

B. Summary benefits and economic analysis

124. The **Economic and Financial Analysis** (EFA) of the LDFS will be done as an integrated part of the EFA of the DDP.

C. Sustainability

125. Sustainability of this project rests on the key elements provided under Component 1, namely the improvements brought to the natural resources governance systems in place. This includes the landscape based approach, as well as mechanisms put in place to promote multi-village land use planning. It is expected that the distinct benefits of that approach will become visible to beneficiaries rapidly, and will be extended gradually to broader landscapes and other regions.

126. Furthermore, the use of FFS-type farmer based extension systems also promote home-grown, local innovation and support systems that tend to last longer and fulfil different needs than government supported extension systems. Farmers trained as facilitators will benefit from knowledge, which will enable them to become leaders in their community, facilitating the broad dissemination of tested successful practices.

127. Component 3 will also support the project's sustainability strategy, in that it will generate and distribute policy-relevant knowledge and scientific evidence to support changes in natural resources management that can be enacted at the local level. The demonstration of both local and global benefits will help leverage further investment funds from national and international sources.

Appendix 1: Country and rural context background

1. **Country context**. The United Republic of Tanzania was formed in 1964 by the unification of the mainland Tanganyika and the isles of Zanzibar. The United Republic of Tanzania (i.e. Tanzania Mainland and Zanzibar) is located in Eastern Africa between Latitude 1° and 12° South and Longitude 29° and 41° east[64]. It is bordered by Kenya and Uganda to the North; Rwanda, Burundi and Democratic Republic of Congo to the West; Zambia and Malawi to the South West; Mozambique to the South; and Indian Ocean to the East (see Map of the project area). The United Republic of Tanzania covers a total area of 945,087 km^2 out of which 881,289 km^2 cover mainland and 2,460 km^2 Zanzibar Islands, plus 59,050 km^2 inland water bodies (i.e. Lake Victoria, Lake Tanganyika and the south-west Lake Nyasa). Tanzania mainland encompasses major island of Mafia (518 km^2) and Zanzibar consists of Unguja (1,666 km^2) and Pemba (795 km^2). With its long coastline and borders with eight countries, of which five are landlocked, Tanzania provides great opportunities for cross border commerce. Its land is rich in biodiversity and natural resources, including sizable deposits of natural gas. Tanzania is currently ranked 152nd out of 182 countries on the HDI index, its business environment is ranked 134th out of 185 countries, and its government effectiveness 135th out of 212 countries.

2. **Economic context**. Although still part of the Least Developed Countries (LDCs), the Tanzanian economy has performed strongly, recording growth of 7.3% in 2013, up from 6.9% in 2012, driven by information and communications, construction, manufacturing and other services[65]. Comparatively, agriculture remains the mainstay of the economy, employing the majority of the workforce (62.1% of the population), but the sector is underperforming, owing to infrastructure gaps and low productivity. Tanzania has experienced high economic growth, averaging 7% per year over the past decade, based on sound macroeconomic policy and economic liberalisation. Over the past decade, Tanzania's economy has become significantly more open, and the trade-to-GDP ratio has increased from 13.5% in 2000 to more than 30% in 2011, the highest rate among the East African Community countries. The country imports foodstuffs and livestock products, because of low agricultural productivity, the lack of primary processing and weak markets. The inflation rate continued to decline in 2013, reaching a rate of 6.3% by October 2013, down from 20% in at the end of 2011. The banking system continues to hold excess liquidity because of the high returns on Government bonds and the perceived high risks of investments. The most significant transformative factor for the economy is the discovery of large natural gas reserves that are expected to begin production in 5 to 7 years. In the medium term, annual GDP growth is expected to rise to 7.5% or higher due to an expanding mining sector and expanding exports. The most significant constraint on growth, reported by 80% of businesses operating in Tanzania, is the unreliability of the provision of electrical energy and the length of time required in order to comply with the country's business regulations.

3. **Poverty and food insecurity**. The recent National Household Budget Survey shows that the percentage of people living in poverty has declined from 34% in 2007 to 28% in 2012. Tanzania has met targets for three of the seven Millennium Development Goals (MDGs): reducing infant and under-five mortality, combating HIV/AIDs and malaria, and addressing gender inequality. Fertility rates remain high, making it difficult to achieve sufficient per child investments in health and education, and lowering the savings rate of the country. Life expectancy at birth is 60 years; the male literacy rate is 75% and female is 60%. Around 1.6 million people are living with HIV in Tanzania, representing 6% of the population. Poverty and food insecurity are the main drivers of chronic under-nutrition in Tanzania. While about 59% of children and 40% of women suffer from some level of anaemia[66], under-nutrition affects 35% of the population and is responsible for more than 130 child deaths every day, making it

[64] United Republic of Tanzania (2014). State of the Environment Report, Division of Environment, Vice President's Office, Tanzania, 2nd report.
[65] http://www.afdb.org/en/countries/east-africa/tanzania/tanzania-economic-outlook/
[66] USAID Tanzania Nutrition Profile; Available from: http://www.usaid.gov/what-we-do/global-health/nutrition/countries/tanzania-nutrition-profile. 2015.

the greatest contributor to under-five deaths in the country[67]. Furthermore, about 42% of children under five years old in Tanzania are stunted, and this number has only decreased by 2% between 2005 and 2010. This chronic under-nutrition affects more rural children (45%) than urban children (32%) and is more common in less educated and poorer families. Regions with the highest prevalence (50% or higher) of stunting children include Dodoma, Iringa, Mbeya, Njombe, Rukwa and Lindi.[68]

4. **Women and youth**. Women of reproductive age (15-49 years old) represent 24.5% of the population, and face challenges in economic empowerment and access to decision-making at all levels. The 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. Key national policy frameworks such as the Strategy for Growth and Reduction of Poverty (MKUKUTA II and MKUZA II in Tanzania Mainland and Zanzibar respectively) have identified gender equality and women's empowerment (GEWE) as among the major development issues which require multi-sectoral approaches. But despite much progress, women and girls in rural areas still face significant challenges, which makes them inherently more vulnerable. Many customary practices discriminate against women.

5. The total **youth** population aged 15-35 years is comprised of 14.8 million persons (or 33% of the total population) of whom 12.5 million (or 84.5%) are economically active and 2.3 million (or 15.5 %) are economically inactive. Out of the economically active youth population, 11 million (88.3%) persons are employed and 1.5 million (11.7 %) are unemployed. The proportion of the employed females (85.5 percent) is less than that of males (91.1%)[69]. Adding the percentage of 12% of underemployed youth, the creation of job opportunities in rural areas becomes a priority.

6. **Education.** The education system in Tanzania is divided into pre-primary education (for infants and young children aged 0-6 years), primary education, secondary education, teachers education and training, tertiary education and training, vocational and technical education and training as well as non-formal education and training[70]. In the past several years, Tanzania has been working on reaching universal primary education, entailing all children entering school to complete the training cycle. Today, access is almost universal and the primary completion rate is close to 90 per cent. The fee-free primary education policy advocated and implemented by the Tanzanian government is increasingly creating a positive impact in boosting access to schools in both urban and rural areas. The remaining challenge, however, is how to adequately improve the transition to and retention in secondary schools and other education levels. The higher education cost-sharing policy has been affecting children from the poor families in Tanzania from joining higher learning institutions after completing primary and secondary levels. It is envisaged that the Government of Tanzania will continue to support pro-poor schooling by allocating more funding to the higher education loan board. Other challenges facing the education sector in Tanzania include poverty, which has remained a considerable socio-economic issue and a persistent problem in the country[71].

7. **Agriculture**. Agriculture is the foundation of the Tanzanian economy accounting for 24% of the GDP, 30% of total exports and 65% of raw materials for Tanzanian industries (2016)[72]. It accounts for about half of the national income, three quarters of merchandise exports, provides employment to about 80% of Tanzanians and most of all, it fulfils 95% of the country's food needs. The country has 95.5 million hectares (ha) of land, of which 44 million ha are classified as arable, with only 23% under cultivation. About 80% of production comes from subsistence farmers, cultivating farms of less than three hectares, relying on the hand hoe and rainfed production. To date, agricultural production gains have been based on expansion of the area cultivated rather than yield increases, and this expansion

[67] MDG Report 2015: Assessing Progress in Africa Towards the Millennium Development Goals
[68] Tanzania Demographic and Health Survey 2010
[69] Integrated Labour Force Survey, ILFS, 2014
[70] Tanzania Education Sector Analysis-2011
[71] http://www.worldbank.org/content/dam/Worldbank/document/Africa/Tanzania/Report/tanzania-poverty-assessment-05.2015.pdf
[72] http://www.tanzaniainvest.com/agriculture (25th February 2016).

process has been the driver of deforestation and land degradation. Smallholder agriculture is labour intensive with little application of modern technologies and inputs and high vulnerability to weather shocks. Agriculture is a sector where significant productivity achievements can be made, while making production climate resilient. The country imports significant volumes of cereals and pulses, which could be produced nationally. Found in all regions of the country, maize is the main subsistence crop and is grown by more than 50% of Tanzanian farmers. Most of Tanzania is classified broadly as a 'Maize-Mixed' farming system with areas of root crop-based farming in the southern and north-western areas. Rice is the second most important staple in Tanzania. Rain-fed paddy rice production by smallholders is centered in Mbeya, Morogoro, Mwanza, Shinyanga, and Tabora. Other major food crops include sorghum, millet, wheat, pulses, cassava, potatoes, bananas, plantains, sugar, groundnuts, sesame, coconuts, and soybeans. Much of Tanzania's sorghum and millet are produced in arid and semi-arid agro ecological zones. Finger millet is popular in the country's southwestern regions. The main exported cash crops include coffee, tea, cotton, cashews, raw tobacco, sisal and spices. Raw tobacco represents Tanzania's most important exported cash crop growing from USD 55.7 million worth of exports in 2001 to USD 356 million in 2013, followed by cashews which grew from USD 52.5 million to USD 197 million and coffee from USD 68.9 million to USD 186 million in the same period.

8. The main obstacles hindering agricultural development include:

- Poor access and low use of improved seeds and fertilizers, leading to large crop and livestock yield gaps,
- Land tenure insecurity and inequitable access to resources due to competition between farmers and pastoralists over resources,
- Weak institutional capacities and institutional fragmentation,
- Under-investment in productivity enhancing practices, such as climate-smart practices, limited access to financing for uptake of technologies coupled with weak extension services,
- Unreliable rainfall in some regions,
- Limited use of available water resources for irrigated agriculture.

9. Tanzanian agriculture can be classified into 10 farming systems, which have been developed in response to the country's agro-ecological zones (Appendix 2 provides more details on the project sites agro-ecological zones)[73]:

Table 7: Tanzania's farming systems

Farming systems	Crops	Regions covered
1. Banana/Coffee/Horticulture system	Tree crops, intensive land use, volcanic soils with high fertility	Kagera, Kilimanjaro, Arusha, Kigoma and Mbeya
2. Maize/Legume system	Shifting cultivation, maize and legumes, beans and groundnuts intercropped, coffee	Rukwa, Ruvuma, Arusha, Kagera, Shinyanga, Iringa, Mbeya, Kigoma, Tabora, Tanga, Morogoro, Kahama, Biharamulo
3. Cashew/Coconut/Cassava system	Cashew, coconut, cassava	Coast region, eastern Lindi and Mtwara
4. Rice/Sugarcane system	Rice and sugarcane	Alluvial river valleys
5. Sorghum/Bulrush and Millet/Livestock system	Sorghum, millet, maize and cotton, oilseeds, rice	Sukumaland, Shinyanga and rural Mwanza
6. Tea/Maize/Pyrethrum system	Tea, maize, Irish potatoes, beans, wheat, pyrethrum, wattle trees, sunflower	Njombe and Mufindi districts in Iringa region
7. Cotton/Maize system	Cotton, maize	Mwanza, Shinyanga, Kagera, Mara, Singida, Tabora and Kigoma, Morogoro, Coast, Mbeya, Tanga, Kilimanjaro, and Arusha

[73] Tanzania Environmental Threats and Opportunities Assessment, 2012, USAID TANZANIA

8. Horticulture-based system	Vegetables (cabbages, tomatoes, sweet pepper, cauliflower lettuce and indigenous vegetables), fruits, (pears, apples, plums, passion fruit avocado), maize, coffee, Irish potatoes, tea, beans	Lushoto district, Tanga region, Morogoro region, and Iringa rural in Iringa region
9. Wet Rice irrigated system	Wet rice	River valleys and alluvial plains, Kilombero, Wami Valleys, Kilosa, Lower Kilimanjaro, Ulanga, Kyela, Usangu and Rufiji
10. Pastoral and Agro-pastoral system	Deep attachment to livestock and simple cropping systems	Semi-arid areas, Dodoma, Singida, parts of Mara and Arusha, Chunya districts, Mbeya and Igunga district in Tabora

10. **Livestock**. After crops, the livestock industry is the second biggest contributor to Tanzanian Agriculture representing 5.5% of the country's household income and 30% of the Tanzania's Agriculture GDP. Out of the contribution to GDP, 40% comes from beef production, 30% from milk and another 30% from small stock production, which differ from region to region. Tanzania's livestock population is mostly reared by smallholder farmers, with a total of 37.06 million, of which, the majority is concentrated in the country's northern region. Tanzania livestock includes cattle (21.3 million), sheep (6.9 million), goats (15 million) and pigs (1.6 million)74. The sector has attracted international capital mostly from the European Union to develop partnerships with smallholder farmers to develop commercial scale farming, allowing animal products exports to increase from US$ 215 million in 2009 and 2010 to US$ 223 million in 2013. Growth in cattle population has reached approximately 5% per annum75.

11. About a quarter of the land area of the country is used for grazing. About 90% of livestock is of indigenous breeds. In 2012, about 60% of rural households reported earning some income from livestock, which provides an average of about 22% of the household income. Livestock accounts for about one quarter of agricultural sales. Extensive pastoralism is recognized, and village governments often welcome pastoralists because of their wealth but conflicts results when farmers whose crops are damaged cannot protect themselves and suffer the consequences1. As with food stuffs, red meat and dairy imports are substantial.

12. **Fisheries** are also an important sub-sector in Tanzania, providing about over 4 million jobs (35% of the 14 million in rural employment) and ensuring complementary sources of protein for many rural communities. Fisheries contribute approximately 1.4% to the country's GDP but the sector has been showing signs of decline since 2009. Challenges include illegal fishing, over-exploitation and the destruction of fish habitats through the use of inappropriate fishing techniques and gears, but also important post-harvesting losses and high export rates of commercially valuable fish species. Coastal communities in mainland Tanzania and Zanzibar are highly vulnerable to the impacts of climate change on fisheries. Inland most of the fish originates from Lake Victoria, which is challenged by diminishing stocks, pollution and invasive species76. The decline of the fishery sector is strongly linked to the degradation of nutritional status, leading to vitamin and mineral deficiencies, which have been associated with about USD$ 390 million in annual revenue loss or 2.65% of the GDP.77

13. **Land tenure**. In Tanzania land is classified as: (1) reserved land; (2) village land; and (3) general land78. Reserved land includes statutorily protected or designated land such as national parks, land for public utilities, wildlife reserves and land classified as —hazardous, which designates land whose development would pose a hazard to the environment (e.g., river banks, mangrove swamps). Village land includes registered village land, land demarcated and agreed to as village land by relevant village councils, and land (other than reserved land) that villages have been occupying and

[74] East African Community, 2011 statistics
[75]SAGCOT, Tanzania Investment Opportunity, 2013
[76] United Republic of Tanzania Ministry of Finance and Economic Affairs, National Strategy for Growth and Reduction of Poverty II, and National Bureau of Statistics and Ministry of Finance, National Counts of Tanzania Mainland 2001-2013.
[77]UNICEF, Tanzania Nutrition Overview. Available from: http://www.unicef.org/tanzania/nutrition.html
[78] The Land Act No. 4 of 1999, United Republic of Tanzania

using as village land for 12 or more years (including pastoral uses) under customary law. All other land is classified as general land.

14. **Deforestation** and **loss of biodiversity** in Tanzania occurs mostly in non-reserved forested land[79], though there is some increasing encroachment onto forest reserves due to expanding agriculture and grazing. Forest resources in the unreserved or general lands and the biodiversity therein (57% of the Tanzanian land) are open access resources due to unclear ownership and absence of security of tenure and formal user rights (poorly defined property rights). As a result, forest resources in the general lands are under constant pressure for conversion to other competing land uses such as agriculture (mainly shifting cultivation characterized by slash-and-burn), free-range livestock grazing, settlements and repeated forest fires. Biodiversity loss is also accelerating, with a large number of dryland species currently under threat. In project sites alone, the main threatened species are numerous, for example:

i. **Kondoa**: black buffalo, monkey, wild pigs and leopard, *Ficus spp, Prunus africana, Podocarpus latifolius, Bersama abbyssinica and Kigelia Africana*.
ii. **Mkalama**: Acacia trees, Shrubs, Grasses, different spp. of leguminous plants.
iii. **Nzega**: *Brown Hyaena*, Impala, Wild Cat and African Green Pigeon ¦Mahogan tree, *combretum* species and *dalbegia melanoxlone* ¦number of insects and beneficial birds.
iv. **Magu**: monkeys, *Thompson* gazelle ¦*Moringa Oleifera* and natural fruits trees such as *ficus ssp* and *vitex keniensis* ¦*African Fox Tail, Elephant Grass, Chloris gayana, Cenchrus cillians*.
v. **Micheweni**: Pemba bat (*Ptreropus voeltzkowi*), Pemba Duiker (*Cephalophus monticola pembae*), Pemba monkey (*Cercopithecus aethiops neciotes*.)

15. **Climate and environment**. Over the last 40 years, there has been an increase in weather variability, with extreme weather events, notably floods and droughts occurring more frequently both within and between seasons. Temperatures seem to be increasing and are accompanied by a trend of decreasing annual rainfall, with changes in both the start and end of the cropping seasons. The frequency in the occurrence of climate extreme events is already a threat to economic growth, long-term prosperity and survival of several communities in Tanzania. Given the low adaptive capacity of Tanzania, extreme events are destroying livelihoods, assets, and sometimes leading to deaths. Frequent droughts over the years have resulted in massive crop failure and livestock loss in many parts of the country, especially in the semi-arid areas. The value of loss of agriculture GDP from the impacts of climate change over the coming 50 years is estimated at US$ 27 billion (Tanzanian Shillings 43,200 trillion) which is equivalent to an annual average of about US$ 540 million (Tanzania Shillings 864,000 billion)[80]. Due to extreme and persistent droughts, all major hydropower dams which are the main source of electrical power in the country (e.g. Kidatu and Mtera) have continuously dropped below their lowest water level during the dry season, resulting in long hours of power black-outs. Apart from droughts, rainfall is increasingly becoming sporadic, leading to flooding and often causing severe soil erosion.

16. **Key development challenges**. To sustain high growth and to make growth more inclusive to reduce poverty, Tanzania needs to address infrastructure constraints, improve the business environment, increase agricultural productivity, value addition and marketing, and improve service delivery to build a healthy and skilled workforce. To sustainably commercialize agriculture and scale-up irrigation, and preserve the country's natural resources, Tanzania needs to implement climate-smart productivity enhancing technologies to counterbalance the risks of climate change.

17. **Policy and institutional context**. The guiding normative framework for articulating policies and strategies is the **Tanzania Development Vision 2025** (called Vision 2025). It aims to promote the socio-economic transformation required to move the country to medium income status by 2025, with a high level of human development. The Vision has three major objectives: achieving a quality and good life for all; good governance and the rule of law; and building a strong and resilient economy that can effectively withstand global competition. Agriculture is expected to become a key driver of the

[79]United Republic of Tanzania – URT (2014). State of the Environment Report, Vice President' s Office, URT
[80] United Republic of Tanzania – URT (2014). State of the Environment Report, Vice President' s Office, URT

transformation process, moving from a low productivity system that is mainly dependent on rainfall and rudimentary technology, to a semi-industrialized one in which irrigation and modern technology generate production to support manufacturing activities.

18. The new Government elected in late 2015 plans to follow the **Vision 2025** towards inclusive agricultural transformation. However, the lack of institutional capacities, performance, coordination and weak governance along with divergences in priorities at central and local levels remain as the main challenges in delivering efficient agricultural support to target groups. By merging the two line ministries involved in the agricultural transformation in late 2015, namely agriculture and livestock, into one integrated Ministry of Agriculture, Livestock and Fisheries, the Mainland government hopes to address these institutional constraints.

19. **MKUKUTA II (National Strategy for Growth and Reduction of Poverty Phase II, known by its Kiswahili acronym)** focuses on promoting the response of the country to the opportunities created by regional integration and trade, particularly the establishment of the East Africa Common Market. It also focuses on scaling up the role and participation of the private sector in priority areas of growth and poverty reduction, such as agriculture.

20. **Big Results Now! (BRN).** The Government has committed to deliver concrete development results in six sectors, of which one is agriculture and another energy. Under the BRN, a Presidential Delivery Bureau is the coordination mechanism for working across ministries to deliver results for the objectives already set under the Government's development policy agenda. Thus, ministries have prioritized their individual activities and programmes within the context of the BRN, and have committed to the delivery of specific outputs and outcomes. One of the three ”big ideas” under the BRN for agriculture is delivery of 25 commercial and outgrower investments, 16 for sugar and 9 for rice.

21. **Southern Agricultural Growth Corridor of Tanzania (SAGCOT).** SAGCOT is an inclusive multi-stakeholder partnership to rapidly develop the region’s agricultural potential. It was initiated at the World Economic Forum (WEF) Africa summit 2010. The objective is to foster inclusive, commercially successful agribusinesses to benefit the region’s small-scale farmers, and in doing so, to improve food security, reduce rural poverty and ensure environmental sustainability through a Green Growth Approach.

22. **Tanzania Agriculture Climate Resilience Plan (TACRP),** 2014–2019. In line with the National Climate Change Strategy, the recently prepared TACRP has been developed by the Ministry of Agriculture, Food Security and Cooperatives (MAFC) with “the strategic direction of modernizing the agriculture sector through promoting large-scale commercial farms, irrigation expansion, and strengthening value chains, and improving linkages with smallholders”. The priority areas for adapting to the effects of climate change are: (a) agricultural water and land management, focusing on catchment management and adoption of sustainable agriculture and water management practices; (b) accelerating uptake of climate-smart agriculture, including building supporting evidence for climate-smart agricultural practices and incentives at the district level, and generating awareness and capacity for these practices; (c) reducing impacts of climate-related shocks and instituting measures to diversify livelihoods and to respond to weather related-shocks; (d) strengthening knowledge and systems to target climate action; and (e) mainstreaming gender into climate change initiatives for agriculture. In promoting climate resiliency, the approach will be to reduce the environmental impacts of agricultural activities that can drive climate vulnerability.

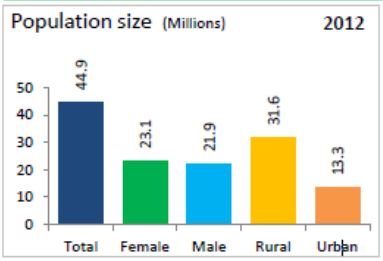
23. **Decentralization by Devolution (DbyD).** Since 1998, under the policy of decentralization by devolution, local government authorities (LGAs) are responsible for delivering all services at the local and village level. This policy has meant that central government ministries, departments and agencies (called MDAs) have remained with four major functions: policy formulation and guidelines, capacity development of LGAs, coordination and feedback (technical backstopping), and policy monitoring and evaluation (M&E). District local governments are thus responsible for the execution of development activities in their districts, but have very limited resources and operational capacities. The budgeting process for providing funds to districts through the Prime Minister's Office -Regional Administration

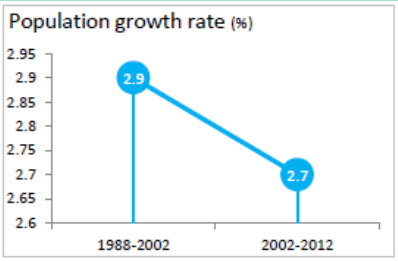
and Local Government (PMOALG) is lengthy, and the budget is approved by Parliament. This means that there is limited scope to respond to local emergencies, such as floods or drought. Local elections are held every five years and were completed in December 2014.

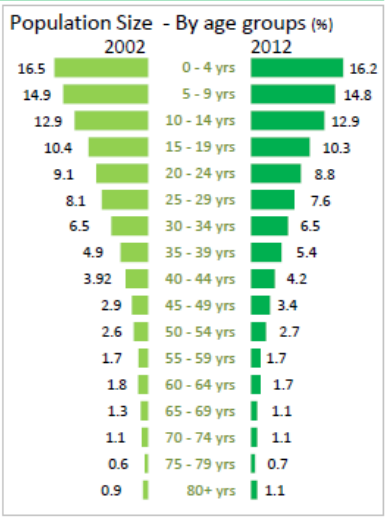
24. **Village governance**. Villages are the basic unit for government to interact with its citizens, and they are expected to take on increasing levels of responsibility for their development. Villages are currently responsible for issuing land titles to their residents and will soon be responsible for issuing birth certificates, but do not have the financial resources to carry out these activities.

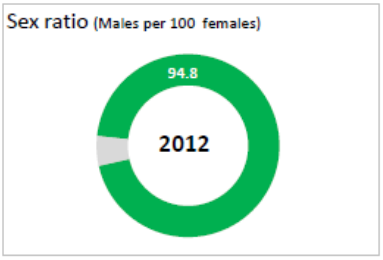
Attachment 1 – Tanzania Country Profile (Census 2012)

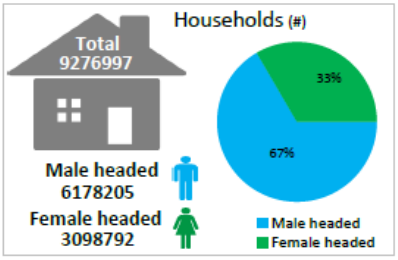
Demography

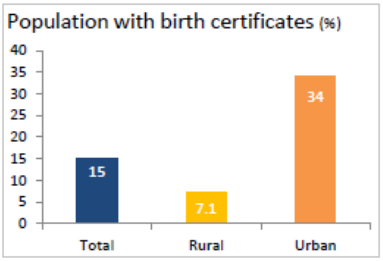


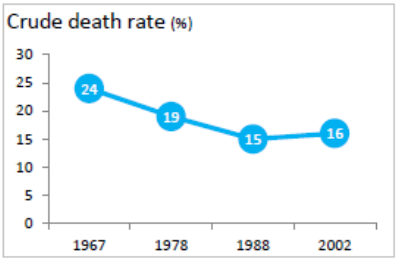


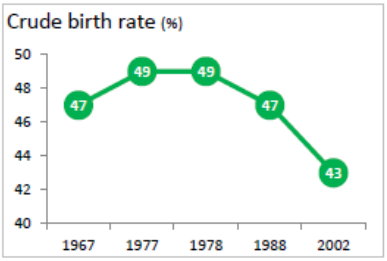




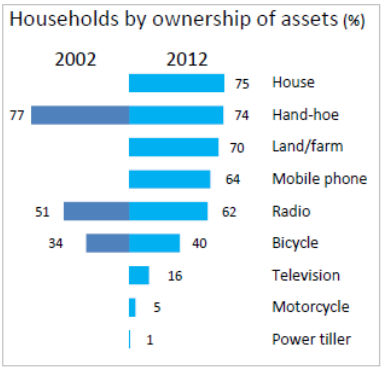


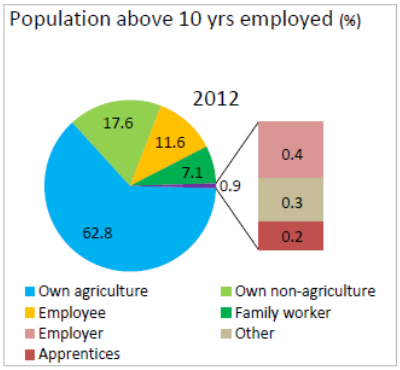


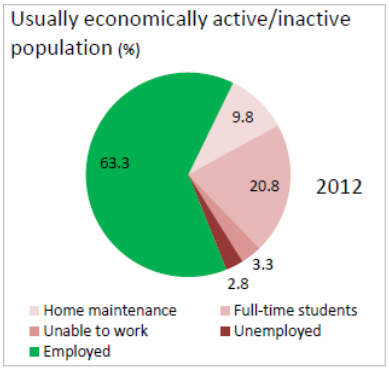




Economy





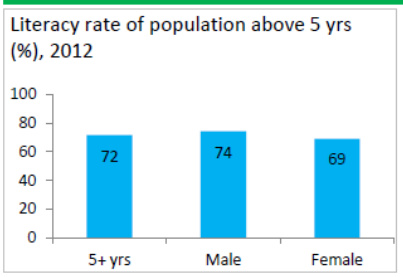


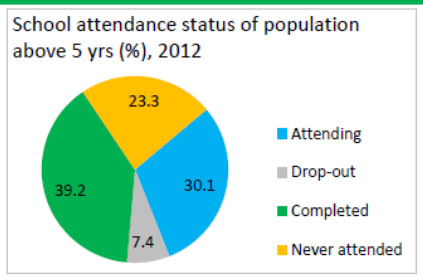
Households by building materials used for floors (%)	2002	2012
Earth/sand	NA	60
Cement	26.37	37.2
Ceramic tiles	NA	1.3
Animal dung	NA	0.6
Palm/bamboo	NA	0.3
Terrazzo	NA	0.2
Wood planks	NA	0.2
Vinyl or asphalt Strips	NA	0
Parquet or polished wood	NA	0

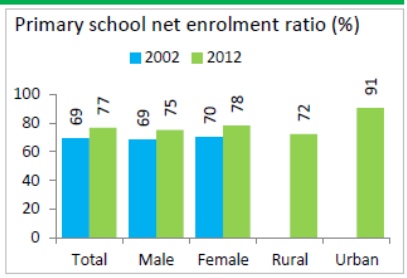
Households by building materials used for roofing (%)	2002	2012
Iron sheet	46.28	65.4
Grass/leaves	NA	25.4
Mud and leaves	NA	7.9
Other	NA	1.3

Households by building materials used for walls (%)	2002	2012
Baked bricks	13.97	26.3
Sun dried bricks	33.03	26.3
Pole and mud	34.43	23.5
Cement bricks	15.47	20.3
Grass	1.09	1.6
Stone	0.94	1
Timber	0.51	0.6
Timber and iron sheets	NA	0.3
Tent	NA	0.1

Education





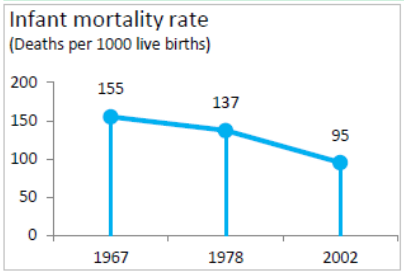


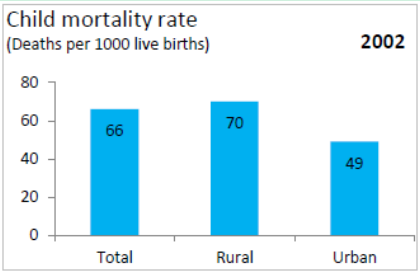
Highest level of educational attainment (%)	2012
Primary	81.7
Training after primary school	0.7
Secondary	14.4
Training after secondary school	0.8
University and others	2.3

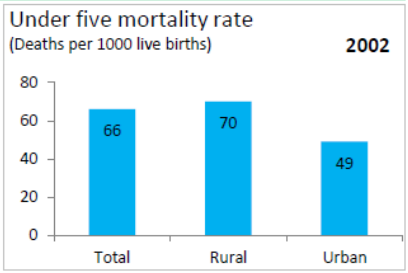
Population above 5 yrs by literacy status (#)	2012
Literates	26466078
Kiswahili and English	4934827
English only	304902
Kiswahili only	21162356
Other language(s)	63993

School drop-out status of population above 5 yrs (#)	2012
Total	2738493
Rural	2056730
Urban	681763
Male	1420821
Female	1317672

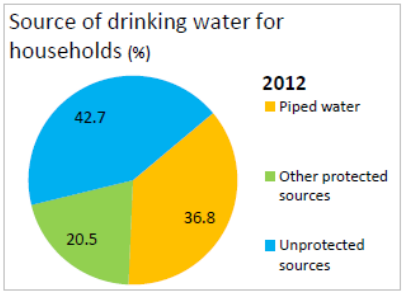
Health

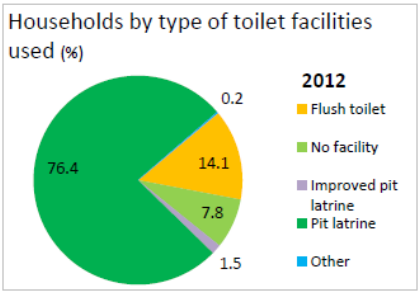


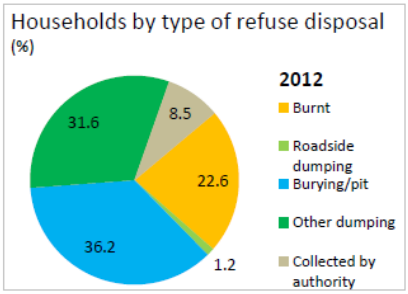


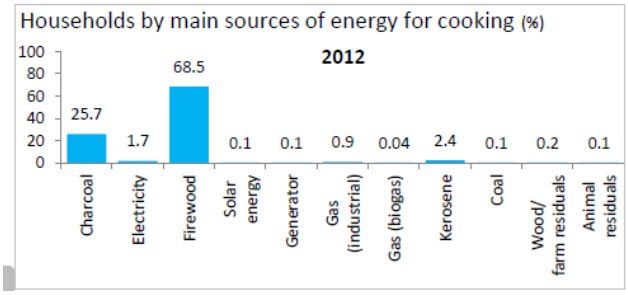


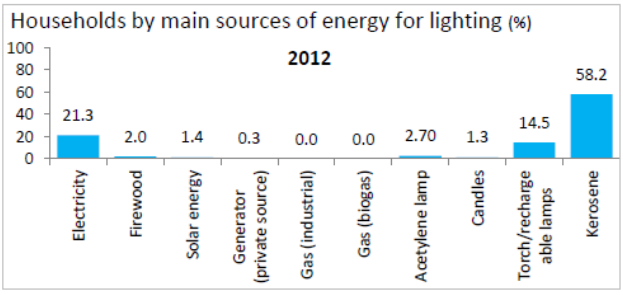
Environment











Appendix 2: Poverty, targeting and gender

I. Poverty

1. Between 2007 and 2012, Tanzania saw the first significant decline in poverty levels in the last 20 years, with basic needs' poverty rate declining from 34.4% in 2007 to 28.2% in 2012, extreme poverty from 11.7% to 9.7%[81]. This reduction in poverty was coupled with improvements in living conditions, education[82], health[83], and nutrition.[84]However, the pace of poverty reduction was not as fast as might have been expected, due to the underperformance of the agricultural sector compared to the rest of the economy. In addition, the number of people living below the poverty line remained high (around 12 million people) due to population growth. In Zanzibar, basic needs poverty rate declined from 49% in 2005 (55% in rural areas) to 44% in 2010 (51% in rural areas), while food poverty declined only marginally from 13.2% in 2004/2005 to 13% in 2010[85].

2. Poverty is predominant in rural areas, where over 80% of those classified as poor and extremely poor live. The incidence of rural poverty varies across the country but it is highest among rural families who live in arid and semi-arid regions and depend exclusively on food crop and livestock production. As shown by the 2011/12 Household Budget Survey[86], the incidence of poverty is also associated to larger families, lower education, and low access to infrastructure. The gap in the living standards between residents of urban areas compared to those in rural areas is demonstrated by a number of social and economic indicators[87]. For instance, people in urban areas generally eat better than those in rural areas with 79% of urban households reporting that they usually have three meals per day, compared to only half of rural households. Only 4% of rural households have access to or utilize electricity[88], compared to 46% of households in urban areas and 35% of households in Zanzibar. In Mainland Tanzania, 48% of the rural population have access to an improved drinking water source, compared to 80% in urban areas, while only 13% of households use improved private toilet facilities.

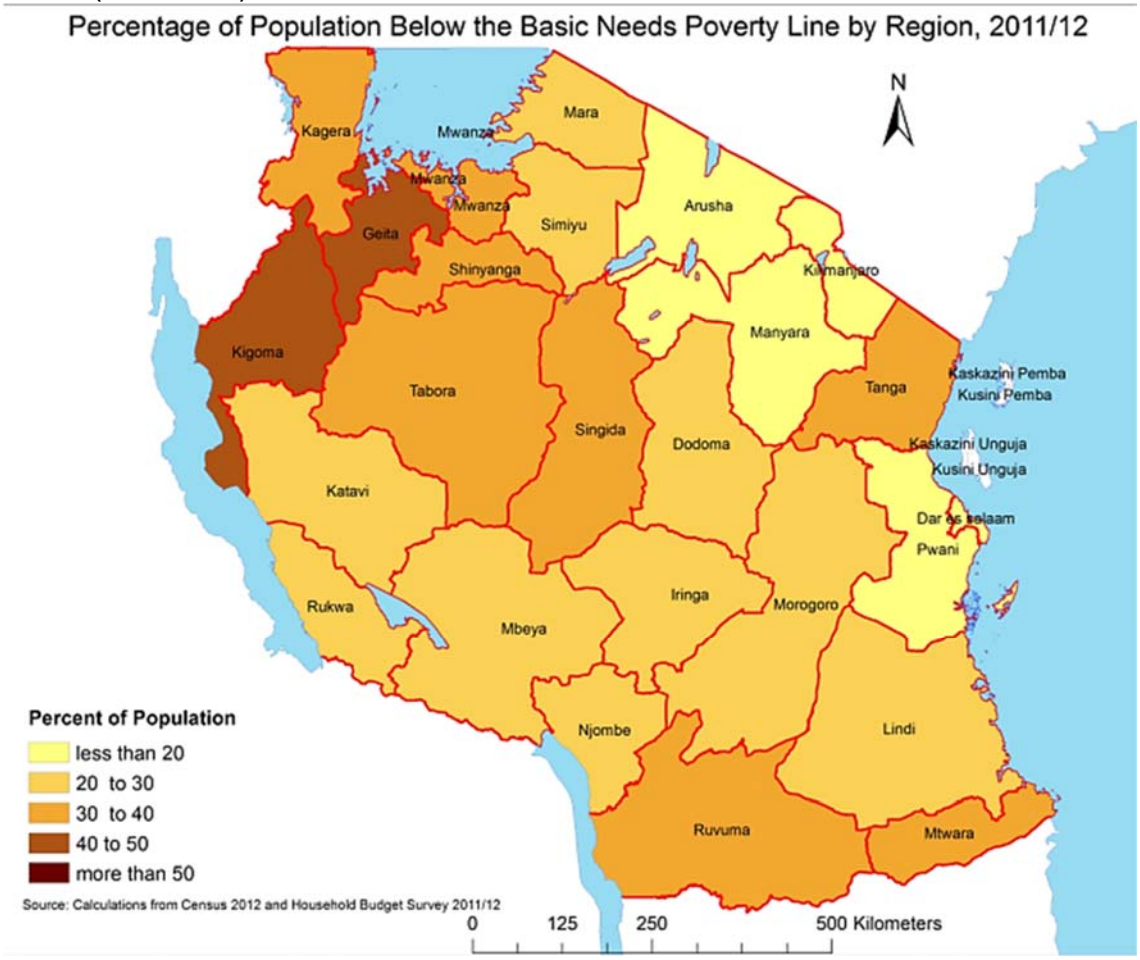
3. With regards to the human rights situation, according to the last Legal and Human Rights Centre's report[89]published in 2015:

a) The delivery of justice still suffers from the shortage of judges and magistrates;
b) Despite the announcement made by the Ministry of Lands, Housing and Human Development on the reduction of fees for filling land matters in land tribunals and courts in 2015, court fees are higher than that most ordinary Tanzanians can afford;
c) Land related conflicts in urban areas mainly concern ownership and demarcations in unplanned areas. However, in rural areas the conflicts go beyond individual ownership as culminated with other polarities such as tribalism or ethnic groups, economic activities (farming and agriculture), and investment and conservation factors;

[81] *Tanzania Mainland Poverty Assessment*, World Bank, 2015 -- The figures come from the HBS's consumption-based headcount index: 28.2% of Tanzanians could not meet their basic consumption needs, while 9.7% of the population that is extremely poor cannot afford to buy basic foodstuffs to meet their minimum nutritional requirements of 2,200 Kcal per adult per day.
[82] **Education**. As per 2012 Census, adult literacy in Tanzania stands at 78% showing an increase of 9% from 2002. In both Tanzania Mainland and Tanzania Zanzibar males are more literate (83%) than females (73%).
[83] **Health.** The 2011/12 HBS indicates that infant mortality dropped from 68 in 2004/05 to 51 in 2010. Under-five mortality, declined from 112 in 2004/05 to 81 in 2010. Maternal mortality declined from 578 deaths per 100,000 live births in 2004/05 to 454 deaths in 2010. With an estimated 10 million malaria cases in 2010, Tanzania continues to be one of the most affected countries by the disease in the World. HIV/AIDS prevalence in 2012 was estimated at 5.1% of the population ages 15–49 years, slightly above the SSA average (4.7%).
[84] **Nutrition**. Despite some improvement since 2004/05, malnutrition continues to be widespread in Tanzania. The number of those underweight fell slightly from 16 to 13%. Stunted growth was consistently high between the 2004/05 and 2010 DHS (at 42–44%). Improved water source, sanitation and hand washing have potential for the declines in stunting burden. In Tanzania, 43% households do not have access to improved water sources and only 11.7% household members used soap for hand washing at critical times such as after defecating.
[85] *United Republic of Tanzania - Country Strategic Opportunities Programme*, IFAD, 2016
[86] 2011/12 *Household Budget Survey Main Report,* Bureau of Statistic and Ministry of Finance, 2014
[87] *2010 Demographic and Health Survey*, Bureau of Statistic and Ministry of Finance, 2013
[88] About 89% of households in rural areas use firewood as the main source of energy for cooking (HBS:2014)
[89] *The Tanzania Human Rights Report for the year 2015*, LHRC, 2016

d) Freedom of assembly and freedom of association continues to be restricted;
e) Both primary and secondary education enrolment rates increase, but quality of education continues to be affected by factors such as shortage of development expenditures, shortage of qualified teachers, lack of motivation for teachers and difficult learning and teaching environment;
f) Health services are still lacking quality for most people due to a shortage of essential medicines and medical supplies, a lack of health workers, and budgetary constraints;
g) Attacks and killings related to witchcraft and allegations and those against people with albinism are still a current concern in the country;
h) Population having access to water services has increased from 15.2 million in 2013 to 20.9 million in 2015.

Figure 3: Percentage of population below the basic needs of poverty line by region, 2011-2012 (Census 2012)



II. Gender and Youth

4. **Gender**. The 2012 Population and Housing Census in Tanzania reveals that 51% of the population is made up by women. According to the National Election Committee, 53% of the registered voters during the 2015 General Elections were women[90]. However, despite being the majority, women still face under-representation in formal politics[91], which negatively affects the

[90] *Tanzania Human Rights Report 2015*, Legal and Human Rights Centre (LHRC), 2016
[91] Out of 113 parliamentary seats reserved for women, 2015 election results show that only 25 women have been elected to positions of Member of Parliament, which represents a 0.25% increase compared to 2010 elections. Moreover, it is worth noting that in 2015 Mrs Suluhu became the first ever female Vice President of the United Republic of Tanzania, the highest position yet to be occupied by a woman in the country.

representation in the country's decision-making bodies. According to the 2010 Tanzania Demographic and Health Survey (TDHS), women are more likely than men to be poor and illiterate, to be subject to gender-based violence and they usually have lower access to medical care, property ownership, credit, training and employment. Distribution of income among men and women is disproportionate, with men owning all major means of production such as land, livestock and financial capital, while women provide labour but do not have access to cash for basic needs. Women-headed households have lower incomes compared to those headed by men. In particular, findings of the 2010 TDHS show that:

a) 19% of women have received no formal education, almost twice the proportion of men (10%). Likewise, women were almost twice as likely as men not to be paid for their work – either in cash or in kind.
b) Women's average age at first marriage is 19, over five years earlier than that of men[93]. Age at first marriage is significantly higher among more educated women though.
c) 40% of married women do not participate in decision-making regarding their own healthcare. Overall, they have less control over their own lives than married men do
d) 39%of women have experienced physical violence since the age of 15; 20% of women have experienced sexual violence; 44% of married women have experienced physical or sexual violence committed by their husband or partner; 75% of women with husbands having controlling behaviours have experienced spousal physical or sexual violence; 54% of women believed that wife-beating is justified for any of the specified reasons[92], compared to 38% of men.
e) Men are less likely than women to get tested for HIV.

5. **Youth.** According to the United Nations, young people are defined as individuals aged between 15 and 24. However, LDFS will define youth as per the African Union's broader definition, which encompasses individuals aged between 15 and 35. By this definition, youths make up over 33% of Tanzania's population, of which almost 85% are economically active[94]. Statistics show that the majority of youths reside in rural areas, where they are informally employed in subsistence agriculture (46%) and involved in family-based livelihood activities such as handicraft, fishing, or small shops. Due to agricultural poor performance, many young people are forced to move from rural locations to urban informal sector, which is characterized by low incomes and poor working conditions. Youths seeking to start their own enterprises are faced with challenges in obtaining access to credit, and education levels are still low, with only 37% of young men and 28% of young women aged 15-24 having attended secondary school or higher education as of 2010[95].

III. Targeting

A. Project area and geographic targeting process

6. LDFS is an integral part of a 12-country regional program, the Integrated Approach Pilot on Sustainable and Resilient Food Security. Each country's project will contribute to the collective impact of this program, which is intended to provide an informed approach to food security in the drylands of Sub Saharan Africa and ensuring a balance between food production and maintaining ecosystem health in the face of anticipated climate shocks. Countries will both participate in and host site visits in communities of practice on specific themes of interest and value to multiple IAP.

7. In Tanzania, the project area is characterized by semi-arid agro-ecosystem in five districts including Kondoa, Mkalama, Nzega, and Magu in Mainland Tanzania and Micheweni in Zanzibar. In each district the project area covers one or two wards with two or more villages sharing the same

[92] Wife burns the food (18%); Wife argues with husband (39%); wife goes out without telling it to the husband (37%); wife neglects children (40%); wife refuses to have sex with him (30%); any of these (54%) – (TDHS:2010)
[93] Statistics show that women who start having children young often do not complete secondary school, limiting their future employment possibilities and other life choices. Additionally, early childbearing often results in larger families and reduced economic circumstances (TDHS:2010).
[94] Integrated Labour Force Survey, ILFS, 2014
[95] 2010 Tanzania Demographic and Health Survey, URT, 2010

resources in a landscape. The estimated population in the total project area is 1.9 million people, or about 247,000 households[96].

8. Table 10 shows the agro-ecological zones of the project sites as well as crop suitability for rainfed agriculture. The four targeted project sites in Mainland belong to the plateaux, while Pemba North belongs to the coastal plains.

9. Table ~~8~~10: Agro-ecological zones of the five target project sites[97]

Project Region	Project District	Soil pH (H_2O)	Tmax Tmin (^{0}c)	Soils and Topography	Altitude (m)	Rainfall mm/Year	Rainfall pattern	Suitable Crops
Tabora	Nzega	5-7	27-30 15-18	Gently undulating plains at medium altitude, developed on granites and gneisses. Major soils are deep, well-drained, red or yellowish red sands and loams with very low natural fertility.	1100-1300	600-1000	One DGP per year with duration of 4-5 months, reliable onset dates.	Cotton, sesame, groundnuts, sunflower, sisal, sorghum, sweet potatoes, beans, maize.
Dodoma	Kondoa	5-7	27-30 15-18	Gently undulating to rolling plains and plateaux, including also poorly drained flat wide topographical depressions and strongly dissected sloppy areas. Major soils are deep, well-drained, dark reddish brown loams on clays with low natural fertility.	500-1200	<500 in some areas 800-1000	One DGP per year with duration of 2-2½ months and unreliable onset dates.	Sisal, sesame, lablab, hyacinth bean (*Lablab purpurens*), sorghum, cowpeas.
Singida	Mkalama	5-7	27-30 15-18	Gently undulating plains, developed on granites and gneisses. Major soils are deep, well-drained, red or yellowish red sands and loams with very low natural fertility.	1100-1300	550-600	One DGP per year with duration of 3-3½ months, reliable onset dates.	Sesame, sunflower, groundnuts, maize, sorghum, millet, cowpeas, pigeon peas.
Mwanza	Magu	6½-7	27-30 15-18	Flat to gently undulating plains developed partly on granites, partly on old colluvium; medium altitude. Major soils are shallow, imperfectly drained, dark grey or brown sands to sandy clays with hardpan within 50 cm from the surface, often calcareous and sodic, with moderate natural fertility.	1000-1200	600-1200	One DGP per year with duration of 3-3½ months, unreliable onset dates.	Sunflower, sesame, sorghum, groundnuts, maize.
Pemba North	Micheweni	5-7	29-31 19-23	Nearly level to undulating and rolling plains. Major soils are deep, well drained, yellowish red sands with very low natural fertility and imperfectly drained brown mottled sands on more clayey or stratified subsoils with very low	<100	1600-2000	Long growing periods of 5-10 months.	Cloves, seaweed, coconut, rice, cassava.

[96] 2012 Population and Housing Census, URT:2016
[97] Tanzania Environmental Threats and Opportunities Assessment, 2012, USAID TANZANIA

natural fertility.

10. The five districts share a common predominance of male-headed households, which are generally composed of 3.9 persons, compared to 8.7 persons per female-headed households. Most households are located in rural areas, with an average size of 5.4 persons (Census 2012). Statistics show that they are mainly engaged in agriculture and livestock keeping (43%), whereas 0.4% in fish farming (Table 8).

11. As shown in Table 8 below, there are wide differences between the five districts in terms of population and land area. Kondoa district has the largest land area (13,210 km²), while Micheweni the smallest (about 400 km²). The most densely populated district is Nzega with over 500,000 people, accounting for 37% of total population of the project area, whereas Micheweni has the lowest population with almost 103,000 inhabitants and 8% of the population of the project area.

Table 98: LDFS project area at district level (2012 Population and Housing Census)

			Population and Housing Census 2012										
			Total population				Average household size						
			Households										
Region	District	District land area km²	Male headed	Female headed	Total	Individuals	Male headed	Female headed	Both sexes	Population Growth Rate per annum	HH keeping livestock	HH engaged in agriculture	HH involved in fish farming
Tabora	**Nzega**	6,961	58,312	27,461	85,773	502,252	4.1	9.2	5.7	1.9	46,948	75,087	342
Dodoma	**Kondoa**	13,210	38,457	17,533	55,990	269,704	3.5	7.5	4.7	1	33,577	50,197	181
Singida	**Mkalama**	3,366	23,358	10,918	34,276	188,733	3.9	8.6	5.4	-3.0	24,789	31,713	159
Mwanza	**Magu**	4,800	33,826	17,509	51,335	299,759	4.3	8.7	5.8	2.0	24,102	39,965	105
Pemba North	**Micheweni**	241	13,540	5,717	19,257	102,766	3.7	9.2	5.3	2.2	10,018	14,181	216
	TOTAL	**28,578**	**167,493**	**79,138**	**246,631**	**1,363,214**	3.9	8.7	**5.4**	**0.82 average**	**139,434**	**211,143**	**1,003**

12. There are also differences between project districts in the number of targeted villages. The number of villages per district ranges from two in Magu to seven in Micheweni. As a consequence, data on project area population at village level differ significantly from district level. At village level, Micheweni has the highest project area population with over 30,000 rural inhabitants, while Magu has the lowest with almost 1,500 rural people preceded by Nzega with 9,800 rural people (Table 9.)

Table 109: LDFS project area at village level (2012 Population and Housing Census)

				Population and Housing Census 2012			
				Households per village	Average population per village		
District	Ward		Village		Male	Female	Total
Nzega	Sigili	1.	Lyamalagwa	273	800	833	1,633
		2.	Sigili	488	1,433	1,493	2,926
		3.	Bulambuka	266	781	814	1,595
		4.	Iboja	370	1,086	1,132	2,218
		5.	Bulende	231	677	705	1,382
Sub-total	*1*		*5*	***1,628***	*4,777*	*4,977*	***9,754***
Kondoa	Haubi	1.	Ntomoko	961	2,305	2,502	4,807
		2.	Haubi	1,344	3,372	3,348	6,720
		3.	Mafai	590	1,521	1,429	2,950
		4.	Mwisanga	482	1,151	1,257	2,408
Sub-total	*1*		*4*	***3,377***	*8,349*	*8,536*	***16,885***
Mkalama	Mpambala	1.	Mpambala	443	1,227	1,267	2,494
		2.	Nyahaa	605	1,724	1,777	3,501
		3.	Lugongo	227	680	721	1,401
		4.	Mkiko	713	1,932	2051	3,983
Sub-total	*1*		*4*	***1,988***	*5,563*	*5,816*	***11,379***
Magu	Sukuma	1.	Lumeji	145	358	482	840
		2.	Iseni	104	274	332	606
Sub-total	*1*		*2*	***249***	*632*	*814*	***1,446***
Micheweni	Micheweni	1.	Micheweni Mjini	508	1,283	1,407	2,690
		2.	Micheweni Chamboni	662	1,682	1,825	3,507
		3.	Kwale/Majenzi	447	1,166	1,204	2,370
		4.	Shumbamjini	900	2,421	2,351	4,772

		5. Mjini Wingwi	853	2,305	2,216	4,521
	Kiuyu Maziwang'ombe	6. Kiuyu Mbuyuni	1210	3,084	3,327	6,411
		7. Maziwa Ng'ombe	1098	2,859	2,961	5,820
Sub-total	*2*	*7*	**5,678**	*14,800*	*15,291*	***30,091***
TOTAL		**22**	**12,920**	*34,121*	*35,434*	**69,555**

13. The project districts were selected among all regions of mainland Tanzania and Zanzibar by the Government. The selection criteria were: a) level of poverty; b) level of food insecurity; c) malnutrition of children under 5 years old; d) land degradation; and e) the average annual rainfall. Districts subsequently selected wards and villages according to the same criteria coupled with context-specific knowledge (see *Attachment 4 - Poverty, food insecurity, malnutrition and land degradation indicators for LDFS district and ward selection~~Attachment 4 - Poverty, food insecurity, malnutrition and land degradation indicators for LDFS district and ward selection~~).* According to Government's findings[98] as well as to the context-specific knowledge of district officers, these sites are among those facing the greatest threats in terms of environmental degradation in Tanzania. Therefore, they are well placed to harness good practices for long-term sustainability and resilience of food production by reducing land degradation and biodiversity loss, recovering natural vegetation and increasing soil carbon in line with the GEF-IAP project.

B. Target Groups and Subgroups

14. **Identification of target groups and subgroups.** By adopting a landscape approach, LDFS will look at landscapes from a multifunctional perspective, combining natural resources management with environmental and livelihood considerations. Target groups and sub-groups are therefore perceived as an integral part of the system rather than as external agents operating within a landscape.

15. Smallholder farmers vulnerable to climate change impacts will be the primary beneficiaries of LDFS. The three main target subgroups are described below:

a) *Food insecure subsistence agro-pastoral smallholder farmers* – those with not enough access to productive land and water or other resources to produce enough to cover their food needs, who rely regularly on food aid and are very vulnerable to climate shocks. The project's primary objective for these farmers is to increase production for home consumption through improved access to water and conservation and climate smart farming, and some selling of surplus for income generation. According to the poverty and livelihoods analysis of LDFS target areas[99], food insecure smallholder farmers account for approximately 50% of the project area population;

b) *Mostly food secure subsistence agro-pastoral smallholder farmers* – this group includes those who are normally able to fulfil their own needs, but who are not able to produce much excess to sell. They are very vulnerable to climatic or other shocks to their livelihoods which in severe situations leaves to periods with food insecurity, and want to improve their agricultural productivity. The project's objective for this group is to stabilise production outputs through conservation and climate smart farming and improve their income generation through access to markets with a diversified choice of products. They account for approximately 40% of the project area population;

c) *Market oriented agro-pastoral farmers* – this group includes those who are regularly able to sell excess production to market. They have adequate land and some skills that they wish to use to increase their surplus production available for sale. They account for approximately 10% of the project area population and can showcase

[98] *Status of land degradation in Tanzania*, URT, 2014

[99] Social and economic indicators collected from Census 2012 were used to identify and analyse LDFS target groups and subgroups and estimate their presence in the project area.

income generation options and pull other farmers into market oriented activities through demonstration and participation in producer groups.

16. These households will participate in the project as members of existing or new community groups, which will be selected on the basis of their cohesion, inclusiveness and demonstrated commitment to sustainable land management and biodiversity conservation at landscape level. They will be identified during the initial community consultation process, which will focus on ensuring that all community members take part in the process. The three target subgroups may be identified by using list of people/households receiving food aid managed by the village and district governments. Options to participate in and benefit from different resources management groups such as the Natural Resources Management (NRM) committees, Farmer Field Schools (FFS), Water User Associations, tree nurseries and wood land management groups should make participation more attractive and allow households to better understand the benefits of SLM practices at landscape level.

17. For most outputs at least 80% of the beneficiaries participating should come from households in the food insecure subsistence agro-pastoral farmers subgroup and the mostly food secure subsistence farmers subgroup. In the specific case of output 3.1, instead, the main focus at the start of the project will be on the market oriented farmers and the mostly food secure subsistence farmers. The output will then gradually integrate support for the food insecure groups as they improve their production outputs supported by output 2.1 and 2.2 (ref. to Appendix 4.)

18. **Characteristics of target groups.** Within the project area, the typical household is engaged in agriculture and livestock keeping. Fishery is the third contributor to district economy mainly in Magu and Micheweni (Figure 3). The main cultivated crops in the entire project area are cassava, sweet potatoes, maize, sorghum and paddy, while the main types of livestock kept are cattle and poultry, followed by goats and sheep (Figure 4.)

19. Census data collected in 2012 show that 68% of the project area population aged 15 years and above is literate. Male literacy rates are higher than female ones, especially in Magu and Mkalama districts, which have the highest literacy rates among the project districts, followed by Kondoa, Nzega and Micheweni. As of 2012, over half the project area population could speak only Kiswahili (statistics show that English was spoken only by 9% of male and 7% of female project area inhabitants.) Within the total project area, only an average of 28% of people use piped water as main source of drinking water, and only 12% use electricity as main source of energy for lighting. The main energy source for cooking is firewood (87%) and houses are mainly built with sun dried bricks (45%), with sandy flooring (77%) and rooftops made by either iron sheets (54%) or grass and leaves (31%). As of 2012 most target groups could not afford improved toilet facilities (82%) or means of transport other than the bicycle (47%). Only 9% of the target group owned a social security scheme, while a high percentage of rural residents owned a radio and/or a mobile telephone (59% and 58% respectively).

Figure 53: LDFS project area main socio-economic activities by district[100]

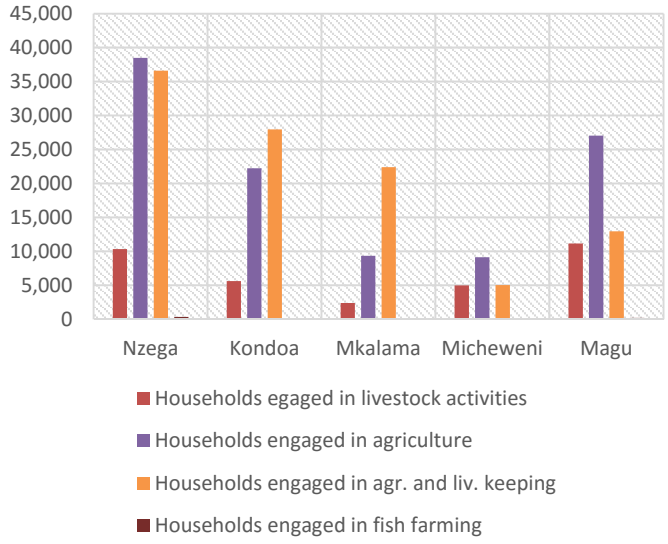


Figure 45: Main crops and livestock items by project districts[101]

	Kondoa	Nzega	Mkalama	Magu	Micheweni
Agriculture					
Cassava					
Sweet potatoes					
Maize					
Sorghum					
Paddy					
Groundnuts					
Cotton					
Finger millet					
Beans					
Sunflower					
Onion					
Seaweed					
Livestock					
Poultry					
Cattle					
Goats					
Sheep					
Donkeys					
Pigs					

20. Most households located in the project area barely produce enough food for subsistence. They are vulnerable to climate shocks (drought and flood) and face declining yields and livestock production due to increased land degradation and changing rainfall patterns[102]. According to the LDFS pre-design mission assessment report[103], all project districts have been supported with food aid by the Government during peak months of food shortage starting from 2000 to present. LDFS target groups focus on food security, and when they can become food-secure, they face issues such as limited production and marketing experience, limited links to the local farming community, lack of household resources to buy seeds and seedlings, and inadequate skills among the younger family members to engage in alternative off-farm occupations.

21. In addition to land degradation, food insecurity and unreliable rainfall patterns, issues common to all five districts also include water scarcity[104], deforestation[105] and loss of biodiversity[106]. Moreover,

[100] 2012 Population and Housing Census, URT: 2016
[101] Data was provided by selected districts' authorities (2015-2016)
[102] For instance, statistics show that food demand in Haubi ward was not met consecutively from 2013 to 2015 (2013 – crop production of 2,465 tons against food demand of 3,119 tons; 2014 – crop production of 2,127 tons against food demand of 3,375 tons; 2015: crop production of 2,638 against food demand of 3,646 tons.) Main causes of food insecurity in Haubi ward include low rainfall, population increase, land degradation, poor adoption agronomic practice, low availability of arable land and low income levels (Konda District:2016.)
[103] *Reconnaissance Mission Report for Developing Project on Reversing Land Degradation trends and increasing Food Security in degraded ecosystems of Semi-arid areas of Tanzania*, URT, 2015
[104] Other water-related issues experienced by target groups include long distances to fetch water, poor water quality, poor sanitation facilities and self-hygiene (LDFS District Council's reports, 2016)
[105] Main causes of deforestation in the project area include settlement and expansion of agriculture, tree cutting for timber, fuelwood and charcoal production, uncontrolled fire burning, livestock grazing and mining. Although these generalisations, differences exist in different project areas on the rates and magnitude of deforestation. The affected forests within the project area include Kome and Irangi scarp forest reserves in **Kondoa**; Matongo, Kipamba and Ndala forest reserves (**Mkalama**); Raskiuyu forest (**Micheweni**), Mwakalundi Forest reserve (**Nzega.**)
[106] The main threatened species that will benefit from the expansion and conservation ecosystem in project villages are listed below (Source: LDFS District Council's reports, 2016). **Kondoa**: black buffalo, monkey, wild pigs and leopard ¦F*icus spp, Prunus africana, Podocarpus latifolius, Bersama abbyssinica and Kigelia Africana*. **Mkalama**: Acacia trees, Shrubs, Grasses, different spp. of leguminous plants. **Nzega**: *Brown Hyaena*, Impala, Wild Cat and African Green Pigeon ¦Mahogan tree, *combretum* species and *dalbegia melanoxlone* ¦number of insects and beneficial birds. **Magu**: monkeys, *Thompson* gazelle

Micheweni faces issues of saltwater intrusion, while Nzega, Kondoa and Mkalama share issues related to livestock keepers' migration driven by absent or scarce grazing land and/or absence of a livestock market. This generally leads to conflicts between pastoralists and farmers, as well as gender-related issues. Seasonal and permanent migration in dryland areas is mainly practised among men, whereby women are essentially the land users, although ownership and decision-making rights often remain with men[107]. This presents a challenge for women in making decisions and investments in land and natural resource-related activities[108]. Effective governance will be key to addressing these issues.

22. **Vulnerable groups.** According to the 2016-2021 COSOP, IFAD targets resource-poor smallholder households with a special focus on women, youth and rural vulnerable groups. Women-headed households account for approximately 30% of the target group. While involving market-oriented producers for further intensification, LDFS will also concentrate its support on developing the potential for intensification and market contribution of the subsistence farmers with limited land and labour access, representing about 60% of the project target population. This category will be supported through asset and capacity building for integration into other rural economic activities.

23. Special attention will be given to the needs and priorities of pastoralists and hunter-gatherers[109], aiming at increasing their visibility, voice and benefits from LDFS. The initial consultations held with pastoralists and hunter-gatherers in Nzega and Mkalama districts during LDFS first design mission will be continued during the start-up phase of the project. In particular, an initial mapping will identify all resources users of the landscape (agro-pastoralists, pastoralists, hunter-gatherers) and meaningful consultation processes will follow to reach informed consent on joint VLUP. Furthermore, proven best practices used by pastoralists and hunter-gatherers for sustainable land and water management, adaptation to climate change, and biodiversity conservation will be collected and promoted through the project's capacity building activities as relevant.

C. Targeting Methods

24. The project follows the overall national and IFAD targeting approaches and guidelines. In doing so, LDFS relies on the following targeting complementary approaches.

25. **Geographic targeting**. Based on national priorities, LDFS focuses on geographic areas and communities with high concentration of environmental degradation, food insecurity and poverty as well as areas where there might be conflicts among communities related to access to and use of crop, grass and forest land and water resources. The selection of the five districts and twenty-two villages has been country-driven and is consistent with national priorities. The geographic targeting is the main target strategy of LDFS, according to which at least 80% of the project's beneficiaries should come from households in the *food insecure subsistence agro-pastoral farmers subgroup* and the *mostly food secure subsistence farmers subgroup*.

26. The five selected districts are characterized by land degradation, with 45-70% of the total land considered degraded with high levels of soil erosion (according to visual estimations). Among the overall estimated 30,000 hectares of arable, pasture and wood lands in the selected wards/landscapes in the five districts, 16,500 ha (55%) are estimated to be highly degraded. LDFS will target 9,000 hectares of these degraded lands to be converted into land under sustainable management practices, including 3,000 ha dedicated to conservation and climate-smart agricultural practices as well as agroforestry, 4,000 ha targeted to develop improved management and biodiversity conservation in pastureland and 2,000 ha dedicated to biodiversity conservation and sustainable woodland management. As such the woodland and pastureland habitat targeted for

¦*Moringa Oleifera* and natural fruits trees such as *ficus ssp* and *vitex keniensis* ¦*African Fox Tail, Elephant Grass, Chloris gayana, Cenchrus cillians*. **Micheweni**: Pemba bat (*Ptreropus voeltzkowi*), Pemba Duiker (*Cephalophus monticola pembae*), Pemba monkey (*Cercopithecus aethiops neciotes*.)

[107] FAO, 2003

[108] During LDFS pre-design mission (IFAD, 2015), the women interviewed in the project villages – mostly in Mkalama - perceived male migration as the major constraint. They stated that most of the time men do not come back, leaving them as head of the household, with increased unpaid work burden.

[109] Organized into bands or camps, typically of 20–30 people, hunter-gatherers move frequently and seasonally between dry-season and wet-season areas, in search of game, tubers, berries and honey. Gender relations and relations within the bands are fairly egalitarian, and leadership is only a quality for specific purposes at specific times (IFAD:2012)

improved biodiversity conservation is 6,000 ha. The total forest cover in the selected wards/landscapes in the five districts is estimated at 4,200 ha, of which an estimated 2,500 ha are degraded and annual deforestation rates are estimated at 1-2%. Among the current degraded forest, restoration will be undertaken over 500 ha in addition the ha dedicated to sustainable woodland management. The estimated figures will be adjusted in the first project year by the implementation of the Land Degradation Surveillance Framework in the 5 project sites under component 3.

27. **Self-targeting**. LDFS practices and innovations related to reforestation, conservation farming, agroforestry, pasture management, water mobilization and conservation will be implemented making optimum use of local resources, considering the different accessibility, relevance, and impacts of these technologies for women and men. Research on farmer-led innovation in Africa, Asia, and Latin America indicates that experiments with introduced technologies tend to bring more benefits to medium-scale and better-off farmers. For poorer households, especially those headed by women, experiments based on endogenous innovation using local resources were found to be more relevant (Wettasinha 2014)[110].

28. **Direct targeting** of youths, as well as women, will also be implemented through established quotas ensuring that both youths and women are represented among the membership and/or leadership of activity groups as per below:

Component 1

a) At least 30% women in leading positions within inter-village NRM committees;
b) At least 30% of women and 30% youth trained on participatory joint land-use mapping, planning and access and use regulation leading to SLM, forest conservation and sustainable agro-pastoralism among district and village staff;

(a) and (b) – Through quotas the different groups of trainees (community members, village and district staff) should include at least 80% coming from households in the food insecure subsistence agro-pastoral farmers subgroup and the mostly food secure subsistence farmers subgroup.

Component 2

c) At least 30% women and 30% youth trained on participatory joint land-use mapping, planning and access and use regulation leading to SLM, forest conservation and sustainable agro-pastoralism among community members;
d) At least 30% women and 30% youth trained through FFS;
e) At least 30% women and 30% youth among groups operating tree nurseries and practising community forest management;
f) 40% youth participating in producer groups and income-generating activities.

29. **Empowerment and capacity building measures.** Complementing the self- and the direct targeting strategies, these measurements ensure target group capacity to access the proposed activities. They are of relevance for all three targeted subgroups, defined above, as well as for women and youth. Some of the proposed measures mainstreamed at all levels of the project are as follows:

Household level

- Reduce women's unpaid workload (e.g. in collecting water and fuelwood and weeding, domestic work) through the adoption of labour-saving practices, like minimum tillage in

[110] Farmer-led innovation has been shown to generate "locally appropriate innovations and adaptations" that introduce benefits in the form of improved yields, food and nutrition security, incomes, and environmental outcomes. For scaling up, the focus should be on understanding and replicating the innovation processes in which producers (female and male) test and adjust current and new technologies and management strategies to meet their needs, preferences, and opportunities (Waters-Bayer et al. 2015). Through a learning process, IFAD has also realized the importance of building on locally adapted and accepted rules for the use of natural resources by revitalizing indigenous knowledge and blending it with modern technology. Starting with the Andhra Pradesh Tribal Development Project in India, IFAD-supported initiatives have aimed at revitalizing traditional soil and water conservation methods in its areas of intervention. Several efficient and low-cost indigenous technologies, such as percolation ponds and pitcher irrigation, have been revived, leading to assured water sources and considerably improving the livelihoods of indigenous women and their communities (IFAD, 2004d.)

conservation agriculture[111], efficient cook stoves, planting and managing woodlots for household needs, and improving water management[112];
- Encourage skills transfer among household members.

Community
- Raise gender awareness at community (and district) level to increase general understanding about the importance of including women in rural development opportunities;
- Mobilize gender and youths to actively participate in project activities as "agents of change";
- Initiate community-led planning (e.g. identify/finalize eligibility criteria, targets, activities);
- Increase community-based consultation on public investment in infrastructure and research related to climate change and land degradation mitigation;
- Establish and/or strengthen producer groups, associations and networks, providing financial literacy and leadership training for each viable/feasible selected produce and support the development of the small businesses (e.g. beekeeping, processing traditional medicine from plants and trees, NTFPs such as wild fruits, mat and basket making);
- Form and/or strengthen inclusive inter-village committees, village institutions such as NRM committees, tree nursery groups;
- Work with women leaders and innovators in communities.

Service delivery
- Disseminate information on joint village landscape management and on the benefits of the landscape and integrated approaches and SLM practices for the conservation of ecosystem services;
- Discuss gender, youth and targeting issues at start-up workshops and community sensitisation meetings;
- Adjust curriculum of existing Farmer Field Schools for smallholders, women and youth to reflect SLM practices for the conservation of ecosystem services. Adopt GALS approach in FFS;
- Promote field visits as well as demonstration of joint participatory resource management to understand the benefits of the landscape and integrated approaches and SLM practices for the conservation of ecosystem services
- Conduct training (for district and village staff and community members) on landscape level integrated natural resources governance and management, climate change adaptation and biodiversity conservation.

30. **Enabling measures** will be implemented through sensitising and training government staff (i.e. national, district and front-line) on i) landscape level integrated natural resources governance and management, ii) gender sensitive approaches, iii) climate change adaptation, iv) biodiversity conservation, v) monitoring and evaluation of project achievements against expected results[113]. Gender-sensitive training delivery will be ensured, by for example selecting suitable location, timing and duration of the trainings; training couples rather than just one spouse; and ensuring language and

[111] Different conservation farming practices can either reduce or increase women's workloads according to the gender relations within the specific social context, gender roles in decision making over technology adoption, form of farming currently practiced (plow or hoe based), access to and control over productive assets, and women's roles in the production system. For instance, in hoe-based systems in southern Africa, where women are responsible for land preparation, conservation agriculture disturbs the soil on a smaller area because women dig planting basins rather than follow the traditional practice of inverting soil across the entire field. Digging planting basins increases women's labor in the first years of adopting conservation agriculture, but over time their labor in land preparation decreases compared to traditional hoe tillage. In areas farmed with plows, where men are typically responsible for preparing land, minimum tillage reduces the time men spend on land preparation but can actually increase women's labor requirements for weeding, because more weeds grow with minimum tillage compared to plowing. Weeds can also increase in hoe-based minimum tillage systems, so in both cases it is important to address concerns related to saving women's labor, including issues with obtaining herbicides and concerns with herbicides' negative impact on health and the environment (Baudron et al. 2012b; Nyanga et al. 2012).

[112] Tree planting, efficient cook stoves and improved water access and management can reduce the substantial amount of time that women spend gathering fuelwood and carrying water.

[113] The targeting performance will be monitored using participatory M&E and assessed at mid-term review. All data will be disaggregated by sex and age as appropriate, with due qualitative analysis. Gender-sensitive indicators will be part of the Results and Impact Management System (RIMS) data collection and reporting.

literacy levels reflect the abilities of the participants. (For a fuller picture of the proposed enabling measures see *Attachment 1 - Targeting checklist*)

31. **Procedural measures** will generally aim to simplify and streamline application procedures and record-keeping (e.g. avoid unnecessary reporting and duplication of information, enhance e-libraries and IT literacy levels of project staff if needed, etc.). Application forms and project documents meant to reach the target groups shall be available in both Kiswahili and English, as appropriate. (For a fuller description of the proposed procedural measures see *Attachment 1 - Targeting checklist*)

32. **Gender Action Learning System (GALS).** The proposed adoption of the Gender Action Learning System (GALS) aims to facilitate addressing unequal gender and social relations and enhancing ownership of project activities by the target groups. GALS is a versatile methodology that uses a set of pictorial tools that can reach both literate and illiterate people, it can be integrated with a variety of interventions (such as rural finance, natural resource management, value chain development), and can be used for households and groups. In LDFS it will be applied in the context of FFS (ref. output 2.1), where at least 80% of the beneficiaries participating in the FFS should come from households in the food insecure subsistence agro-pastoral farmers subgroup and the mostly food secure subsistence farmers subgroup.

D. Gender analysis and strategy

33. The Gender Development Index values for LDFS regions are among the lowest in Tanzania, ranking 15thfor Mwanza (0.812), 18th for Dodoma (0.778), 19th for Tabora (0.713), and 20th for Singida (0.691). Data for Kaskazini Pemba, and Zanzibar in general was not available. In line with the HDI scores, Human Development Index female values are lower than male ones, indicating overall better standard of living for men than women, including higher level of education and income. On the other hand, women are likely to live longer (female average life expectancy at birth is 66, male one is 61. See Table 10 below.

Table 11: Gender Development Index in LDFS regions (2014)

HDI Rank	Region	Gender development Index (GDI)[114]		Human development Index (HDI)[115]		Life expectancy at birth		Expected years of schooling		Estimate Gross Domestic Product per Capita (TZS)	
		Ratio of Female and Male HDI	Rank	Female	Male	Female	Male	Female	Male	Female	Male
13	Mwanza	0.812	**15**	0.545	0.671	64.7	60.4	8.48	8.77	745,209	1,082,738
17	Tabora	0.713	**19**	0.416	0.583	63.5	58.2	6.90	7.06	592,874	953,925
19	Dodoma	0.778	**18**	0.413	0.531	68.0	60.8	7.57	6.86	560.707	775,175
20	Singida	0.691	**20**	0.373	0.539	68.4	65.8	7.64	7.21	524,781	729,354
n/a	Kaskazini Pemba	n/a									

(Source: Tanzania Human Development Report 2014, UNDP)

34. **Gender analysis of target group**. According to a preliminary gender profile of the project target areas[116] (see *Attachment 3 – LDFS Gender analysis tools,* Table 12), men and women each

[114]**Gender Development Index (GDI):** A composite measure capturing discrepancies in human development achievements between women and men in health, education and living standards. The technical notes provide details on how the GDI is computed (UNDP:2015)

[115]**Human Development Index (HDI)**: A composite index measuring average achievements in three basic dimensions of human development – a decent standard of living, a long and healthy life and knowledge. HDI ranges human development scores from zero (low) to one (high) (UNDP:2015)

[116] This preliminary profile was developed based on both primary (interviews with target groups and relevant stakeholders) and secondary data (documentary review, data collection)

have multiple roles at community level. Commercial agricultural production (mostly cereal crops) is mainly a male responsibility, while women are in charge of food crop cultivation, e.g. leguminous and sweet potatoes. Men typically prepare land and irrigate crops. They own and trade large animals such as cattle, and are responsible for cutting, hauling and selling timber from forests and practising mining (coral brick production in Micheweni) and carpentry. In fishing communities, predominant in Micheweni and Magu districts, capturing fish in coastal and deep-sea waters is mainly a male domain. Women have primary responsibility for maintaining the household (*reproductive role*, usually unpaid). They raise children, grow and prepare food, manage family poultry, and collect fuel wood and water. Women play also a productive role, providing labour for planting, weeding, harvesting, farming seaweed (Micheweni), and threshing crops and processing produce for sale. This work is often either underpaid or unpaid. Women usually manage to earn a small income for themselves by selling vegetables from home gardens and forest products (firewood, charcoal, wild fruits), processing traditional medicine from plants, or by doing art and crafts like mat and basket making[117]. The income is spent mainly on meeting family food needs and child education. According to districts' feedback, overall decision-making is shared at household level based on the information and knowledge owned by men and women each[118].

35. Despite progress made by the Government and other stakeholders towards reducing gender gaps and enhancing gender equality and equity within the target area[119], access to and control over resources is still uneven[120] with differences among project areas[121]:

Gender gaps

a) **Land resources**: Officially, women have equal land rights to men, but in practice customary laws are followed and if men's rights to land are through inheritance, women's ones are through marriage and restricted to land used for food crop only.

b) **Labour market**: 1) Farms run by female-headed households tend to have less labour available for farm work because of the limited power that women have to hire men (cultural bias); 2) women have heavy and unpaid household duties that take them away from more productive activities.

c) **Financial services**: Female smallholders have less access to loans than male smallholders as they generally have less control over the types of fixed assets necessary as collateral for loans.

d) **Education:** If education has seen improvements in gender parity over the period from 2002 to 2012[122], especially in Micheweni and Nzega districts, girls and women still lag behind boys and men (average literacy rate in the target area is 74 for men and 62 for women)

e) **Technology and information:** Women are less likely to have access to information and to make use of pest control systems as well as of mechanical tools and equipment. However, according to LDFS districts, seeds and manure are equally accessible and used by both women and men. Literacy and access to credit, together with social and cultural facto are the main obstacles.

36. **Gender issues related to food security.** In terms of *food availability*, the asymmetries in ownership, access, and control of livelihood assets negatively affect women's food production and increase their food insecurity. In terms of *stability*, both men and women are seasonally or transitively food insecure, however women and girls are likely to be more vulnerable since during times of crisis they usually reduce their intake in favour of other household members (children and elders)[123]. In

[117] Other off-farm activities include soap making, sewing, and pottery.

[118] Because of time constraints, women and men were interviewed together during LDFS field visits (Nov 2015; Jul 2016). Experience teaches that women are more likely to express themselves if interviewed separately from men. This will be taken into account for social assessment preceding project implementation.

[119] According to Kondoa District Council inputs (2016), in the past women within the district area could not even attend agricultural trainings while today their participation is on average 30%.

[120] According to FAO, "the number of hungry people in the world could be reduced by more than 100 million people if women in rural areas were given equal access to the same resources as men" (FAO, 2011a).

[121] According to Mkalama District Council inputs (2016), for instance, "women have been empowered in such a way that they have access and own land and other resources." Yet, the region of Singida has the lowest GDI of the Country (UNDP:2014)

[122] Census 2012

[123] Women interviewed in the villages comprised within Mkalama district reported that they can breastfeed their newborns only for one month. After that, children start to eat porridge only once a day.

general, women's role in *food utilization* for food security is critical as they are typically responsible for food preparation and therefore are crucial to the dietary diversity of their household[124].

37. **Gender differences in climate change impacts.** Although climate change impacts on land resources and food availability have consequences on smallholder livelihoods, men and women perceive them differently. LDFS pre-design mission findings show that men tend to focus more on fodder for animals and water for farming and production; whereas women are more likely to focus on food and drinking water for their families as well as on their increased work burden[125]. In addition, women tend to be more vulnerable than men in conflict situations and will thus be affected more than men when access to food is threatened. Finally, men are more likely to migrate in order to secure income. Many women of the target groups interviewed during LDFS pre-design mission perceived this migration as a major issue because men tend to set up families in new places and do not come back. As men exit, women move into agriculture and the inequities in rights over resources including land, water, trees, livestock, grazing and fisheries raise serious constraints to the sustainability of their families.

38. **Gender and youth mainstreaming in LDFS components.** In light of the premises described above and of the context specific gender analysis, LDFS activities will address the challenges of climate change experienced by the target groups through the adoption of a gender-responsive approach[126]. LDFS gender strategy will cut across the three main different target groups and will be entrenched in the project's three components as described below.

39. ***Component 1: Institutional capacity building for sustainable land management and biodiversity conservation at landscape level.*** The gender strategy will promote gender equality by increasing women's access to skills and knowledge, and strengthening women's decision-making roles at an institutional level.

40. The first output is based on geographical targeting, however, it will be assured that village representatives are representing all three target subgroups with 80% coming from households in the food insecure subsistence agro-pastoral farmers subgroup and the mostly food secure subsistence farmers subgroup. The project will set quota among district and village staff (>30% women) and community members (>30% women, >30% youths) trained on landscape-level integrated natural resources governance and management, climate change adaptation and biodiversity conservation. The project will adopt training approaches that increase women's participation (i.e. increasing the use of female extension staff and trainers; selecting appropriate materials, language and media; and ensuring that the timing and venues are also convenient for women). Furthermore, quota of women in leading positions >30%) will be within inter-village NRM committees (see paragraph on Direct Targeting.)

41. For the second output, the project will provide trainings for women in group formation, leadership skills, confidence building and negotiating skills to enhance gender balance at institutional level which currently is very low, mainly because of lack of trained women on sustainable NRM. In consideration of the GDI ranks of the target district, among the lowest of the entire Country, gender awareness trainings will be conducted at community level to increase general understanding about the importance of including women in rural development opportunities.

42. **Component 2: Upscaling of sustainable and climate-smart agriculture, land, water and pastoral management systems**. In consideration of the gender gaps highlighted above, and in particular to i) unequal access to resources (land, water, credit) in favour of men, ii) women's low levels of literacy and numeracy, iii) lack of business development and management skills, especially records keeping, and iv) limited voice, leadership and decision making capacity in NRM groups (land,

[124] *Gender and climate change research in agriculture and food security for rural development*, CGIAR, CCAFS, MICCA, FAO, 2013

[125] According to UN Water findings, women and girls spend up to 6 hours every day fetching water. A study in Tanzania showed that reducing the distance to a water source from 30 to 15 minutes increased girl's school attendance by 12% (http://www.unwater.org/)

[126] A growing body of evidence demonstrates that more equal gender relations within households and communities leads to better agricultural and development outcomes, including increases in farm productivity and improvements in family nutrition. (World Bank, FAO and IFAD, 2015).

water, forestry, livestock/agriculture, and producer groups), the project will support the following initiatives.

43. To increase women's access to skills and knowledge, the project will set a quota for women (>30%) in FFS and any other existing or established learning group, increase the use of women extension staff and trainers; select appropriate materials, language and media; and ensure that the timing and venues are convenient also for women. In target areas like Mkalama, where women face issue of men's migration because of food insecurity, the project will develop women's skills in areas that are not traditionally considered to be in the women's domain (e.g. Sustainable Land Management), educating women and men about ownership and inheritance rights, including land. In areas where cultural context does not allow male/female mixed groups, the project will conduct gender awareness at a community level and set up women's self-help groups for knowledge-sharing on conservation farming practices. In particular, the project will apply the community-led methodology of Gender Action Learning System (GALS) to be applied to FFS, with emphasis on generating benefits particularly relevant for women and youth.

44. For market-oriented women and girls, the project will develop and/or strengthen women's business and entrepreneurship skills for development of climate-resilient commodities, such as bee-keeping, medical plants, wild fruits, mat and basket making. The small entrepreneurs will be connected with existing savings and credit co-operative societies like SACCOs or village community banks like VICOBA.

45. To strengthen women's decision-making roles, the project will work with water/land/forest/livestock/agriculture groups to increase their participation as members and leaders. Selected female members of project groups will be trained in leadership skills, confidence building and negotiating skills.

46. To improve women's well-being and ease their unpaid workloads, the project will promote the upscaling of labour-saving technologies (i.e. minimum tillage in conservation agriculture, efficient cook stoves, planting and managing woodlots for household needs, and improving water management) for activities performed by women in relation to marketable commodities, as well as other household tasks (water supply, food processing, fuel supply). Nutrition, and eventually maternal health care and health, will be included in the FFS curricula.

47. Lastly, LDFS will raise awareness among communities on ownership and inheritance rights, including land, promoting joint land titling or assets registered in woman's name.

48. **Component 3: Monitoring and assessment.** Gender will be mainstreamed within the overall M&E system, including the logical framework. Firstly, the baseline survey to be conducted at the beginning of the project will be gender-sensitive by analysing i) access to and control over productive resources and inputs; ii) access to information and the use of existing knowledge; iii) division of labour and time use between men and women; iv) existing skills, capacity needs, and priorities in the uptake of conservation farming practices; and v) participation in decision-making and sharing of expected benefits from the project, and how these aspects are determined by gender and power relations. These issues will be addressed during project implementation and results will be evaluated against targets on a quarterly basis through the M&E system. Based on data disaggregated by sex and age (when needed), progress in gender responsive activities will be monitored, and precautions will be taken to avoid widening gender disparities or negative impacts and further gender-related challenges. In the project evaluation stage, the project will examine the progress toward project objectives and specific LDFS outcomes and sub-outcomes, including gender-related outcomes, and disseminate the findings.

49. **Implementation arrangements.** PCU will strive to have a balanced representation of men and women among its staffing. The Project Coordinator will have overall responsibility for ensuring that the targeting and gender strategy are interwoven in the project management tools (M&E system, PIM, AWWPB) and effectively implemented. This will be included in the ToRs. Within the PCU, the Monitoring and Evaluation Specialist will be responsible for the planning and monitoring of the gender mainstreaming in the project. Relevant expertise in the field of gender and poverty inclusion is required.

50. District Focal Persons, in close collaboration with District Facilitation Teams (DFTs), should have a demonstrable commitment to pro-poor and gender-inclusive approaches, youth etc., involving and consulting with the District Focal Officer in the project implementation as appropriate. In order to ensure adequate knowledge of relevant gender issues and how to deal with them during implementation of activities, all District Focal Persons and DFTs will benefit from training on gender awareness at year one.

Attachments to Appendix 2 (LFDS Poverty, targeting and gender)

Attachment 1 - Targeting checklist

Targeting checklist	Design
1. Does the main target group – those expected to benefit most – correspond to IFAD's target group as defined by the Targeting Policy (poorer households and food insecure)?	Yes, primary beneficiaries of LDFS are smallholder farmers vulnerable to climate change. The geographic areas where they live are among those facing the greatest threat of environmental degradation in Tanzania, with highest level of poverty and food insecurity. Data are available in the working paper.
2. Have target sub-groups been identified and described according to their different socio-economic characteristics, assets and livelihoods – with attention to gender and youth differences?	LDFS target group comprises three main subgroups: i) *Food insecure subsistence smallholder agro-pastoral farmers* – with not enough access to productive land and water or other resources to produce enough to cover their food needs. They rely regularly on food aid and are very vulnerable to climate shocks. (approximately 50% of the project area population); ii) Mostly food secure *subsistence smallholder agro-pastoral farmers* – able to fulfil their own needs, but not to produce much excess to sell. They are very vulnerable to climatic or other shocks to their livelihoods which in severe situations leaves to periods with food insecurity, and want to improve their agricultural productivity (approximately 40% of the project area population); iii) *Market oriented agro-pastoral farmers* – regularly able to sell excess production to market. They have adequate land and some skills that they wish to use to increase their surplus production available for sale (approximately 10% of the project area population.) Targeting of women, female-headed households, youth and disadvantaged groups cuts across all categories of beneficiaries.
3. Is evidence provided of interest in and likely uptake of the proposed activities by the identified target sub-groups? What is the evidence?	An initial community needs assessment was undertaken by the VPO during a reconnaissance visit to the project areas in Nov 2015, followed by two pre-design missions on the field together with IFAD. Communities, local authorities and line ministries were interviewed to understand constraints and opportunities of the target groups. The project activities were then designed in a participatory way together with the project district officers who represented the interests and needs of their districts' communities. Target groups main demand was 1) reduced land degradation, improved soil health and increased productivity of agro ecosystems; 2) diversified and climate resilient production systems that increase all-season income generation.
4. Does the design document describe a feasible and operational targeting strategy in line with the Targeting Policy, involving some or all of the following measures and methods:	
4.1 ***Geographic targeting*** *– based on poverty data or proxy indicators to identify, for area-based projects or programmes, geographic areas (and within these, communities) with high concentration of poor people;*	Main targeting strategy. The geographic targeting has been used to select districts and communities with high concentration of environmental degradation, food insecurity and poverty as well as areas where there might be conflicts among communities related to access to and use of crop, grass and forest land and water resources. The selection of the five districts and twenty-two villages has been country-driven and consistent with national priorities. (See ***Attachment 4 - Poverty, food insecurity, malnutrition and land degradation indicators for LDFS district and ward selection***)
4.2 ***Self-targeting*** *– when good and services respond to the priority needs, resource endowments and livelihood strategies of target groups;*	Firstly, the project aims to address the priority needs of the *Food insecure subsistence agro-pastoral farmers* by increasing the production for home consumption through improved access to water and conservation and climate smart farming, and some selling of surplus for income generation. Secondly, the project aims to address the needs of the mostly food secure *subsistence agro-pastoral farmers* by stabilising production outputs through conservation and climate smart farming and improving their income generation through access to markets with a diversified choice of products. Thirdly, the project aims to address the needs of the *Market oriented agro-pastoral farmers* by facilitating their access to market.
4.3 ***Direct targeting*** *– when services or resources are to be channelled to specific individuals or households;*	LDFS activities will aim to: ▪ Use quotas (>30% women; >30% youth) to ensure women and youth are represented among the membership and/or leadership of producer groups, enterprises, trade associations, etc. ▪ Set quantitative targets for participation in project activities. ▪ Introduce technical training specifically targeting women and youth such as training on cost/benefit analysis, leadership skills, confidence building and negotiation skills. ▪ Promote women and youth visits, exchange programmes and attendance at trade fairs and exhibitions as appropriate and in accordance with local cultures.

*4.4 **Empowering measures** – including information and communication, focused capacity- and confidence-building measures, organizational support, in order to empower and encourage the more active participation and inclusion in planning and decision-making of people who traditionally have less voice and power;*	LDFS activities will aim to: ▪ Reduce women's unpaid workloads through labour-saving technologies, such as minimum tillage in conservation agriculture, efficient cook stoves, planting and managing woodlots for household needs, trees and improving water management;; ▪ Encourage skills transfer among household members; ▪ Disseminate public information about the project to ensure activities and services are accessible to all and to enhance transparency; ▪ Raise gender awareness in the community; ▪ Mobilize gender and youth to actively participate in project activities as "agents of change"; ▪ Initiate community-led planning (e.g. identify/finalize eligibility criteria, targets, activities); ▪ Increase community-based consultation on public investment in infrastructure and research related to climate change and land degradation mitigation; ▪ Establish and/or strengthen producer groups, associations and networks, providing financial literacy and leadership training for each viable/feasible selected produce and support the development of the small businesses (e.g. beekeeping, processing traditional medicine from plants and trees, NTFPs such as wild fruits, mat and basket making); ▪ Form and/or strengthen inter-village committees, village institutions such as NRM committees, tree nursery groups; ▪ Integrate gender sensitisation into all agricultural extension and farmer training programmes, skills development and materials.
*4.5 **Enabling measures** – to strengthen stakeholders' and partners' attitude and commitment to poverty targeting, gender equality and women's empowerment, including policy dialogue, awareness-raising and capacity-building;*	LDFS activities will aim to: **Policy strengthening** ▪ Conduct policy studies on social aspects of rural livelihoods; ▪ Support national level authorities to influence the vulnerability context favourably by reducing exposure to shocks or by increasing preparedness for shocks; **Service provision** ▪ Ensure gender-sensitive training delivery (e.g. by selecting a suitable location, timing and duration; training couples rather than just one spouse; ensuring language and literacy levels reflect the abilities of the participants) **Capacity building** ▪ Sensitise and train government staff (i.e. national, district and front-line), agricultural and community development departments, service providers, microfinance institutions, the PMU and implementing partners in pro-poor development and gender empowerment (including the project's commitment to targeting and gender mainstreaming); ways to enhance the voices of women and poor farmers; and how to pay attention to the diverse livelihoods, needs and priorities of different categories of members of the community. ▪ Participate in in-country networks, formation of partnerships and alliances and public forums. ▪ Encourage female extension staff to participate in training and field visits, both to develop their capacity and to encourage women farmers to attend. **Institutional design** ▪ Promote the use of participatory processes (e.g. participatory needs assessment, community action planning and participatory implementation processes). ▪ Pay particular attention to institutional design for community-based natural resource management, watershed management, small-scale irrigation, range management, community-driven development and group income-generating activities.
*4.6 **Attention to procedural measures** – that could militate against participation by the intended target groups;*	LDFS activities will aim to: ▪ Simplify and streamline application procedures and record-keeping. ▪ Translate application forms and project documents into the local language and have them available in both Kiswahili and English as appropriate. ▪ Provide free technical support to assist groups to complete application forms and to prepare and cost subproject proposals. ▪ Make beneficiary contribution requirements (e.g. the provision of labor or cash) realistic, rather than inadvertently excluding some categories of resource-poor people. ▪ Prefer endogenous innovation to introduced technologies.
*4.7 **Operational measures** – appropriate project/programme management arrangements, staffing, selection of implementation partners and service providers.*	A Project Coordination Unit (PCU) will be responsible for the day-to-day management of the project. The PCU comprise of at least the Project Coordinator, one Senior Accountant, one Monitoring and Evaluation Specialist, with additional staff positions to be confirmed by the GoT. District Focal Persons, in close collaboration with District Facilitation Teams (DFTs), will facilitate implementation of the project at district level (all districts have a Gender Focal Point in line with the *Tanzania National*

	Strategy for Gender Development, 2008). The PCU will consolidate progress, monitoring and evaluation reports and advice the Technical Advisory Committee (TAC). The TAC will be established and will be composed of Director of Environment, District Executive Directors of respective project sites, and Directors of relevant line ministries to advise the PSC.
5. Monitoring targeting performance. Does the design document specify that targeting performance will be monitored using participatory M&E, and also be assessed at mid-term review? Does the M&E framework allow for the collection/analysis of sex-disaggregated data and are there gender-sensitive indicators against which to monitor/evaluate outputs, outcomes and impacts?	YES. The targeting performance will be monitored using participatory M&E and assessed at mid-term review. All data will be disaggregated by sex and age as appropriate, with due qualitative analysis. Gender-sensitive indicators will be part of the Results and Impact Management System (RIMS) data collection and reporting."

Attachment 2 - Gender checklist

Gender checklist	Design
1. The project design report contains – and project implementation is based on – gender-disaggregated poverty data and an analysis of gender differences in the activities or sectors concerned, as well as an analysis of each project activity from the gender perspective to address any unintentional barriers to women's participation.	YES. Gender-disaggregated poverty data are available in the working paper. For analysis of gender differences in the activities or sectors concerned see ***Attachment 3 – LDFS Gender analysis tools***. For analysis of each project activity from the gender perspective see main text of PDR.
2. The project design articulates – or the project implements – actions with aim to: • Expand women's economic empowerment through access to and control over productive and household assets;	LDFS will raise awareness among women and men about ownership and inheritance rights, including land and promote joint land titling or assets registered in woman's name. Market-oriented women will receive financial literacy and leadership trainings and will be facilitated access to extension advice, credit (VICOBA, SACCOs), insurance and inputs – especially for crop, livestock or forest products' producer groups that are mainly in women's domain.
• Strengthen women's decision-making role in the household and community and their representation in membership and leadership of local institutions;	LDFS will work with water/land/forest/livestock/agriculture groups to increase women's participation as members and leaders (at least >30% of total beneficiaries). Selected female members of project groups will be trained in leadership skills, confidence building and negotiating skills.
• Achieve a reduced workload and an equitable workload balance between women and men.	LDFS aims to reduce women's unpaid workloads through labour-saving technologies, such as minimum tillage in conservation agriculture, efficient cook stoves, planting and managing woodlots for household needs, trees and improving water management.
3. The project design report includes one paragraph in the targeting section that explains what the project will deliver from a gender perspective.	YES. See paragraph 29.
4. The project design report describes the key elements for operationalizing the gender strategy, with respect to the relevant project components.	YES. See para 29 as well as paragraphs describing LDFS components.
5. The design document – and the project implements – operational measures to ensure gender-equitable participation in, and benefit from, project activities. These will generally include:	
5.1 Allocating adequate human and financial resources to implement the gender strategy.	Training on gender sensitive approaches has been budgeted for in component 1 and 2. At PCU level, the Project Coordinator will have overall responsibility for ensuring that the gender strategy are interwoven in the project management tools and effectively implemented. This will be included in his/her ToR.
5.2 Ensuring and supporting women's active participation in project-related activities, decision-making bodies and committees, including setting specific targets for participation.	LDFS will set quotas as per below: a) 30% women in leading positions within inter-village NRM committees; b) >30% of women trained on landscape level integrated natural resources governance and management, climate change adaptation and biodiversity conservation among district and village staff and among community members; c) >30% women trained through FFS (adoption of GALS approach); d) >30% women trained among groups operating tree nurseries and practicing community forest management
5.3 Ensuring that project/programme management arrangements (composition of the project management unit/programme coordination unit, project terms of reference for staff and implementing partners, etc. reflect attention to gender equality and women's empowerment concerns.	PCU will aim to have a balanced representation of men and women among its staffing. Within the PCU, the PC will have overall responsibility for ensuring that the targeting and gender strategy are interwoven in the project management tools and effectively implemented, whereas the M&E Specialist will be responsible for the planning and monitoring of the gender mainstreaming in the project. District Facilitation Teams will work in

	collaboration with the District Gender Focal persons (who are present in all five districts) as necessary and they will all benefit from training on gender awareness at year one and a refresher at year two.
5.4 Ensuring direct project/programme outreach to women (for example through appropriate numbers and qualification of field staff), especially where women's mobility is limited.	At least 30% of FFS participants will be women. FFS "classes" will facilitate women attendance by selecting location, timing and duration of the trainings suitable to them. Language and literacy levels of the FFS will reflect the abilities of the participants.
6. The project's logical framework, M&E, MIS, and learning systems specify in design – and project M&E unit collects, analyses and interprets sex- and age-disaggregated performance and impact data, including specific indicators on gender equality and women's empowerment.	People-centred indicators of the logical framework are disaggregated by gender and age. Gender and youth disaggregated performance and impact data will be followed through from the baseline studies, internal reports, to and including supervision and evaluation reports.

Attachment 3 – LDFS Gender analysis tools

Table 12: Gender considerations of LDFS conservation practices by district perception[127]

	Contribution to Goals Relating to			Gender Impact	Requirements for Adoption of Practice					
Conservation Practices	Climate Change Adaptation	Mitigation (Reducing GHGs)	Potential Household Food Security and Nutritional impacts	Women's ability to control income from practice	Relative amount of time until benefits are realized	Potential for women to benefit from increased productivity	Female and Youth labour availability	Female access to and control of land	Female access to water for agriculture	Female access to cash and ability to spend it
Reforestation/ Afforestation										
Tree planting	Medium	Medium-low	Low	Medium-low	Medium	Medium - high	High	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low
Tree nursery	Low (Mich.) High (Magu)	Medium-low	Low	Medium	Medium	Medium - high)	Medium - high	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low
Fruit trees	Medium	Low	Low	Low	Medium	Medium - high	High	High (Mich) **Low (Mag/Mka)**	Medium-low	High (Mich) **Low (Mag/Mka)**
Conservation farming										
low tillage	Medium-low	Medium-low	Medium-low	Low	Medium	Medium	High	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low
soil coverage	Medium-low	Low	Medium-	Low	Medium	Medium	Medium -	Medium-low	High (Mich)	Medium-low

[127] Table 1 describes how men's and women's constraints differ by climate-smart option in the LDFS area. Inputs were provided by Magu, Mkalama and Micheweni districts' Councils for LDFS Gender Analysis, 2016. Based on average inputs, the contribution of a given practice to adaptation, mitigation, and food and nutrition security is medium-low, as well as its perceived gender impact (here measured as the degree to which women are likely to control income from the practice.) This means that Component 1 will play a key role training village and district level government staff on landscape level integrated natural resources governance and management, climate change adaptation and biodiversity conservation. With regard to the importance of the listed requirements for women to adopt the practice, only Micheweni recognizes the importance of access to resources for women to adopt a given practice. All districts agree that a high percentage of female and youth labour is required for almost all type of practices, yet the average potential for women to benefit from increased productivity is medium. Overall, Micheweni feedback is more gender-sensitive than the one from Magu and Mkalama, which reflects 2014 GDI rates.

			low				high		**Low (Mag/Mka)**	
crop rotation	Medium-low	Low	Medium-low	Low	Medium	medium	High	Medium-low	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**
green manure / farmyard manure / composting	Medium-low	Low	Medium-low	low	Medium	Medium	High	Medium-low	High (Mich) **Low (Magu)**	Medium-low
increased incorporation of residues	Medium-low	Low	Medium-low	Low	Medium	Medium	Medium-high	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Magu/Mka)**	High (Mich) **Low (Magu/Mka)**
Use of drought tolerant crop varieties	Medium	Medium	Medium-low	Low	Medium-low	Medium-high	High	Medium-low	High (Mich) **Low (Magu/Mka)**	Medium-low
Adjustment of cropping calendars	Medium-low	Medium-low	Medium-low	Low	Medium-low	Medium	High	Medium-low	High (Mich) **Low (Magu/Mka)**	High (Mich) **Low (Mag/Mka)**
Agroforestry practices										
Riparian and upland forest buffers	Medium-Low	Medium-Low	Medium-Low	Low	Medium	Medium-High	High	Medium-low	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**
Silvopasture	Medium-Low	Medium-Low	Medium-Low	Low	Medium	Medium-High	High	Medium-low	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Magu/Mka)**
Alley cropping	Medium-Low	Medium-Low	Medium-Low	Low	Medium	Medium-High	High	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**
Windbreaks	Medium-Low	Medium-Low	Medium-Low	Low	Medium	Medium-High	Medium-High	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low
Pasture management / Restoration of degraded rangeland										
Improved local pasture management	Medium	Medium	Medium	Low	Medium	High (Mich) Med (Mka) **Low (Magu)**	High	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low
Assisted and natural rangeland regeneration	Medium	Medium	Medium	Low	Medium	High (Mich) Med (Mka) **Low (Magu)**	High	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**	Medium-low
Water mobilization / conservation										

Rainwater harvesting	Medium	Medium	Medium	Medium-Low	Medium	Medium-high	High	Medium-low	High **Low (Mkalama)**	Medium
Chaco-dam	Medium	Medium	Medium	Medium-Low	Medium	Medium-high	High	**Low (Magu)**	High **Low (Mkalama)**	Medium
Ponds	Medium	Medium	Medium	Medium-Low	High	Medium-high	High	**Low (Magu)**	High **Low (Mkalama)**	Medium
Boreholes	Low (Mich) High (Magu)	Medium	Medium	Medium-Low	High	Medium-high	High	**Low (Magu)**	High **Low (Mkalama)**	Medium
Scale-up of alternative energy technologies										
biogas	Medium	Medium	Medium	Medium-Low	Medium	Medium	Medium-high	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**	Medium-low
solar	Medium	Medium	Medium	Medium-Low	Medium	Medium	Medium-high	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**	Medium-low
efficient cook stoves	Medium	Medium	Medium	Medium-Low	Medium	Medium	Medium	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**	Medium-low
Development of climate resilient commodities										
beekeeping	Medium	Medium	Medium	Medium	Medium	Medium-high	Medium	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**	High (Mich) **Low (Mag/Mka)**
processing traditional medicine from plants and trees, NTFPs such as wild fruits	Medium-High	Medium	Medium	High	Medium	Medium-High	Medium-High	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low
mat and basket making	Medium -High	Medium	Medium-Low	Medium-High	Medium	Medium-High	Medium-High	Medium-low	High (Mich) **Low (Mag/Mka)**	Medium-low

Table 13: Gender profile in LDFS target areas[128]

	Haubi			Sigili			Mpambala			Sukuma			Micheweni & Kiuyu Maziwang'ombe		
Ownership of	♀	♂	Both	♀	♂	Both	♀	♂	Both	♀	♂	Both	♀	♂	Both
Land															
Seed									Men: Cereals Women: Legumino us						
Manure															
Livestock															
Pest control systems															
Access to															
Agricultural inputs (organic and inorganic fertilizers, seeds and seedlings and veterinary services)															
Trainings			More men						More men			More men			
Decision making positions			More men			More men			More men						
Cash			More men			More men			More men			More men			
Land						More men									
Gender roles at community level															
Crop farming[129]													Rice		
Livestock keeping															
Land clearing															
Land ploughing															
Hoeing															
Planting															
Weeding															
Harvesting															
Beekeeping															
Business															
Arts and craft															
Tree planting															
Building houses															
Selling goods in the market															
Fetching fuel wood															
Fetching water															
Child care															
Food preparation															
Cleaning houses															

[128] Inputs provided by Kondoa, Nzega, Magu, Mkalama and Micheweni districts' Councils for LDFS Gender Analysis, IFAD:2016
[129] Cash crops are mainly male-dominated, while food crops are female-dominated.

Attachment 4 - Poverty, food insecurity, malnutrition and land degradation indicators for LDFS district and ward selection

a) Indicators at district level

Districts	% Poverty	% food insecurity	Malnutrition children under 5 years	Average annual rainfall (mm)	Land degradation level
Dodoma[130]					
Bahi	Not available	Not available	Not available	Not available	Not available
Chamwino	28.2	30	4.5	400	Not available
Chemba	21		4.5	600	Not available
Kondoa	32	25	4.2	506.3	71
Kongwa	7.9	15	2	600	Not available
Mpwapwa	52	55	5.6	600	30
Singida[131]					
Ikungi	37	30	3	500	35
Iramba	20	10	1	675	22
Manyoni	33.3	12	3.2	650	5
Mkalama	49	32.1	3.4	450	68
Singida DC	46	27.6	3	600	Not available
Itigi	33.3	10	0	500	45
Singida MC	-	20	3.1	700	8
Tabora[132]					
Ingunga	19.9	25.7	1.01	700	Not available
Kaliua	30.0	5-8	2.5	1050	Not available
Nzega	40.0	27.2	3.18	700	65
Sikonge	16.0	5.0	1.2	950	Not available
Urambo	38.0	21.0	2.0,	700	Not available
Uyui	19.9	27.7	1.01	600	Not available
Mwanza[133]					
Kwimba		Insecure and rural	0.35	720-1000	It is ranked as the 3rddistrict in land degradation. The district faced only with a problem of free range grazing which leads to overgrazing
Magu	43	30	3.42	700	67 / It is the most severely affected by land degradation than any district in the Region. Its soil is highly vulnerable to soil erosion due to its nature. Overgrazing presence.
Misungwi		Insecure and rural	0.3	700-1000	Degraded but the problem is not severe in comparison to other district

[130]*Sources*. Kongwa District: National bureau of statistics; District Agriculture; Office – projection; District Hospital; District Agriculture Office; District Environmental and Sanitation Office-project ¦ Kondoa District: Health Department, 2016; Agricultural and Livestock Department, 2016; Planning, Statistics and Monitoring Department, 2016 ¦ Chemba District: Nutrition status in Tanzania: 2014 National Nutrition Survey; Agriculture Office

[131]*Sources*. Singida DC: Singida District Council Profile 2015/2016; Singida Regional Hospital DHIS – 2015 (underweight); Singida District Agriculture 5 year Food Security Report (2011 – 2015); Singida Regional Socio – Economic Profile ¦ Ikungi DC.: DED Office Ikungi DC (Planning and Statistics Department); DED Office Ikungi DC (Agriculture and Livestock Departments); Regional Hospital - DHIS - 2015 (underweight) ¦Iramba DC: DED Office Iramba DC (Planning and Statistics Department), DED Office Iramba DC (Agriculture and Livestock Departments); Regional Hospital - DHIS - 2015 (underweight) ¦ Singida MC: Agriculture department(ARDS); Regional Hospital - DHIS - 2015 (underweight); Boma Meteorological centre at Singida District in Singida MC; Agriculture department(ARDS)-Singida MC ¦ Manyoni DC: DED Office: Tanzania House Hold Budget Survey 2011/2012; DED Office: Agriculture Department (ARDS); Regional Hospital - DHIS - 2015 (underweight); DED Office: Meteorological weather stations in the District Council ¦ Itigi DC: DED Office Itigi DC (Planning and Statistics Department); DED Office Itigi DC (Agriculture and Livestock Departments); DED Office Itigi DC (DMO) ¦ Mkalama DC: Mkalama District Council Profile 2015/2016; Mkalama Hospital DHIS - 2015 (underweight); Mkalama District Agriculture department annual reports (2012 – 2015).

[132]*Sources*. Nzega: District Social-Economic Profile 2010; Nzega District Council - Department of Agriculture; Uyui¦ Uyui District Socio economic Profile 2008; Uyu Agricultural Dept.; Uyui District Council - Health Department; Uyui District Council - Department of Agriculture ¦Urambo: District Planning Office; District Agriculture and Cooperative Office; District Medical Office; District Agriculture, Irrigation and Cooperative Office; District Land and Natural Resources Office

[133]*Sources*. District, Mwanza Regional and Ministry of Agriculture data; Districts and Regional Rain gauges stations in Mwanza; URT (2014) Status of Land degradation trends in Tanzania; Mwanza Region, Referral Hospital.

Sengerema		More or less Secure	0.32	800 – 1380	Second to Magu district in land degradation especially in the Southern Part of a district
Ukerewe		More or less Secure	0.7	720 - 1300	Less degraded, the whole area of a district is located at the Island
Zanzibar[134]					
Micheweni	74.6	32.8	3.43	900	47
Wete	47.7	15.7	0.3	1706.25	Not available
ChakeChake	51.6	24.4	0.4	1237.5	Not available
Mkoani	52.4	21.0	0.6	1260	Not available
Kaskazini A	20.0	4.4	0.6	1231.25	Not available
Kaskazini B	23.3	7.0	0.5	1201.25	Not available
Kati	25.1	7.2	0.8	1676.25	Not available
Kusini	26.5	6.0	0.8	1206.25	Not available

b) Indicators at ward level as provided by districts authorities

District	Selected Ward	District Wards	% poverty	% Food insecurity	% Malnutrition children under 5 years	Land degradation level (%)
Nzega[135]	Sigili	Wella		63.3%	10%	
		Utwigu		88.4%	0%	
		Muhugi		64.8%	0%	
		Nata		68.9%	0%	
		Mwasala		63.5%	0%	
		Lusu		64.8%	0%	
		Isanzu		64.9%	0%	
		Shigamba		94.0%	0%	
		Nkiniziwa		74.5%	2%	
		Puge		67.7%	0%	
		Budushi		73.1%	10%	
		Tongi		58.8%	2%	
		Ugembe		83.0%	0%	
		Magengati		70.0%	0%	
		Itobo		67.6%	0%	
		Ndala		85.8%	0%	
		Milambo Itobo		71.9%	0%	
		Magengati		61.6%	0%	
		Mizibaziba	n/a	75.0%	0%	n/a
		Isagenhe		65.5%	0%	
		Mbutu		62.7%	0%	
		Mambali		69.0%	0%	
		Semembela		72.4%	0%	
		K/ nhalanga		87.5%	0%	
		Uduka		71.3%	0%	
		Bukene		67.1%	0%	
		Mbutu		70.6%	0%	
		Ikindwa		48.1%	0%	
		Mwamala		77.3%	0%	
		Buhondo		62.6%	1%	
		Igusule		71.4%	2%	
		Sigili		48.0%	4%	
		Mwangoye		66.0%	3%	
		Kasela		71.9%	4%	
		Isanzu		66.7%	3%	
		Karitu		60.8%	13%	
		Ndala		75.0%	3%	
		Kasela		87.3%	22%	
Kondoa	Haubi	Haubi[136]	32%	25%	42%	71%
		Pahi	21%	33%	42%	52%
		Kalamba	19%	42%	42%	38%
		Kinyasi	17%	45%	42%	31%
Mkalama	Mpambala	Ibaga	38.5	48	5.1	39%
		Nkinto	38.1	31	4.8	31%
		Matongo	39.7	32	5.3	34%
		Mpambala	41.	49	5.4	35%

[134] *Sources*. Zanzibar household budget survey 2014 – 15; Ministry of health and social welfare – Zanzibar 2014; Tanzania Metrological stations 2004 - 2011

[135] According to Nzega district, additional criteria for ward selection were the readiness of the community to the project, land availability, good governance, health indicator including mortality rate and under five mortality rate, and literacy rate.

[136] According to Konda district, Haubi ward has been the most venerable area within the district and it has been provided with food aids from 2013 to date.

		Mwangeza	37.9	30	4.8	36%
		Gumanga	38	33	4.7	37%
		Nduguti	37.2	30	4.8	33%
		Nkalakala	36.8	29	5	33%
		Mwanga	36	29	5	34%
		Ilunda	37.6	29	4.9	36%
		Kinampundu	37.2	30	4.8	37%
		Kinyangiri	38.5	26	4.8	47%
		Iguguno	37.7	25	5.1	38%
		Tumuli	38	26	4.6	41%
		Kikhonda	38.9	33	5.0	33%
		Msingi	38	34	4.8	38%
		Miganga	38.8	32	5.0	38%
Magu	Sukuma	Bujashi	33.00%	37.00%	6%	56%
		Bukandwe	38.00%	36.00%	4%	53%
		Jinjimili	41.00%	39.00%	7%	57%
		Kahangara	29.00%	32.00%	3%	68%
		Kisesa	27.00%	29.00%	3%	59%
		Kitongosima	35.00%	31.00%	4%	67%
		Kongolo	39.00%	32.00%	8%	68%
		Lubugu	37.00%	35.00%	6%	56%
		Lutale	29.00%	28.00%	7%	46%
		Magu Mjini (Magu town)	21.00%	23.00%	5%	52%
		Mwamabanza	35.00%	31.00%	6%	62%
		Kandawe	29.00%	30.00%	4%	63%
		Mwamanga	31.00%	29.00%	8%	47%
		Ng'haya	30.00%	28.00%	7%	68%
		Nkungulu	36.00%	32.00%	6%	51%
		Kabila	36.00%	32.00%	6%	51%
		Nyanguge	30.00%	27.00%	5%	54%
		Nyigogo	29.00%	30.00%	4%	62%
		Shishani	32.00%	26.00%	6%	49%
		Sukuma	46.00%	42.00%	9%	73%
		Bujora	27.00%	29.00%	3%	61%
		Buhumbi	35.00%	32.00%	8%	56%
Micheweni[137]	Micheweni	Micheweni Mjini	59%	35%	57%	44%
		Micheweni Chamboni	61.3%	37.9%	61%	60%
		Kwale/Majenzi	53%	37%	28%	52%
		Shumba Mjini	53%	55%	40%	31%
		Mjini Wingwi mc	67%	64%	65%	55%
	Kiuyu	Kiuyu Mbuyuni	55.4%	42.1%	32%	63%
	Maziwang'ombe	Maziwa Ng'ombe	49%	51%	34%	60%

[137]Data are provided at village level rather than wards because of different administrative set up in Zanzibar compared to Mainland.

Appendix 3: Country performance and lessons learned

A. Country performance

1. With a total value of loans of US$360 million (48% of the total estimated portfolio costs of US$769 million), IFAD's lending portfolio to Tanzania is the second largest (after Ethiopia) in the East and Southern Africa region.

2. The Government has provided co-financing for US$72 million to IFAD-funded projects (or 9.6% of total portfolio costs). The remaining costs have been co-financed by the African Development Bank (parallel financing), the World Bank, the Japan International Cooperation Agency (JICA), the Government of Belgium and the Government of Ireland. In addition to loan, IFAD has approved 37 grants, most of which had regional coverage.

3. Based on the 2015 CPE and other key evidence-based evaluations, IFAD's support to Tanzania's sustainable agricultural and rural development has contributed to improved performance and impacts on IFAD's target groups, in both Mainland and Zanzibar. Some of the main results and emerging impacts of the above investments have contributed to:

- Expanded rural infrastructure such as small-scale irrigation and market-access roads, and agricultural support services, have generated increased areas of crop production and improved yields/productivity, employment, household food security, assets and incomes. Good progress has been made on crops in the Mainland, but livestock-related activities and pastoralism have received less attention;
- Farmer empowerment (including women) by strengthening farmer groups, water user associations, and savings and credit associations, has enhanced IFAD target groups' capacities to participate and contribute to bottom-up participatory planning and implementation of agricultural development plans at the village, ward and district levels (District Agricultural Development Plans [DADPs]);
- In spite a limited emphasis on natural resources management in the design, projects had overall positive or neutral environmental impacts. Environmentally friendly technologies promoted by the extension services and in the FFSs include the use of composting and animal manure, stall-feeding, and good agricultural practices;
- Through support for ASDP I, the introduction of a programmatic, sector-wide approach to implementing agricultural policies and strategies is in itself a significant achievement. This has included alignment and harmonization of key sectoral policies, institutional arrangements and development partner investments, including support to the successful Government's decentralization policies and mechanisms – for example, about 75% of ASDP funds were channelled through the DADPs.

B. Lessons learned relevant to LDFS

Lessons learned from IFAD portfolio

4. There are several innovations in the IFAD-supported projects which resulted to be successful, and could be scaled up through appropriate mechanisms and processes. For the LFDS the most relevant include: (i) participatory land use planning (SRMP); (ii) FFS-based innovations such as the Farmer Facilitators; (iii) enhanced access to finance by smallholders/"active poor" (RFSP); (iv) commodity value chain approaches for smallholders (MUVI and MIVARF); (v) introduction of participatory planning at the community level through the DADPs (KAEMP and ASDP), (vi) use of low cost, farmer and environment-friendly techniques (KAEMP, ASDP-L, MUVI.)

5. **Participatory land-use planning**. Lessons from SRMP show that participatory land use planning used to develop village land use management plans leads to registration of village land and

resolution of conflicts between pastoralists and sedentary communities over access to grazing land and water resources. The adopted participatory methodologies were successfully built on existing customary practices.

6. **FFS-based innovations.**In Zanzibar, key impacts have been achieved through the FFS approach of ASDP-L promoting the integration of enhanced crop and livestock technologies and improving support services provided by community animal health workers (CAHWs). These interventions demonstrate cost-effectiveness and good sustainability prospects, with demonstrated spill-over effects to nearby farmers and their communities.

7. **Enhanced access to finance by smallholders/"active poor"**. Lessons from RFSP show that availability of financial resources enabled farmers to improve land productivity, to double the area under crop production and in some cases to improve yields. Moreover, food crops (maize, beans, sorghum, groundnuts and sunflower) have been used as food as well as cash crops.

8. **Commodity value chain approaches for smallholders**. The MUVI-MIVARF experience demonstrates that value chain development requires proper diagnostic assessment of key actors and their capacities to foster partnerships from the outset. Private-sector entrepreneurs such as wholesalers, processors and exporters, and other partners such as cooperative apex organizations, need to be involved during project design to better understand their interest and potential, and how they might internalize project incentives for their involvement and cooperation.

9. **Use of low cost, farmer and environment-friendly techniques.** Lessons from different projects (e.g. KAEMP, ASDP-L) show the high sustainability of low cost farming techniques such as the use of natural, botanical extracts as pesticides; composting and admixture of farmyard manures as fertilisers; hot water treatment to de-infest planting material; farmer grown and selected seeds; and introduction of appropriate alternative crops, such as vanilla and pineapple. In extension, the strong reliance on group activities, farmer to farmer dissemination of information and ideas, encouragement of farm record keeping and farm business management and the instigation of the Farmer Cadre system are thought likely to be enduring facets of any viable advisory system.

10. Other lessons of importance to the management of implementation of LDFS include: i) the **zero year concept** (the implementation of KAEMP, for instance, would have been greatly facilitated and expedited if there had been a zero year before the formal commencement of the project when community sensitisation, PRAs and logical framework training for district staff and village leaders and officials could have been undertaken, leading to the preparation of realistic village development and community action plans; a real understanding of the demand-driven concept; and mitigation of the dependency syndrome; at the same time, a proper baseline survey, some key diagnostic studies and clear identification of the target group could have been carried out, and staff recruitment and procurement advanced); ii) **linkage of components** (in KAEMP, for instance, the integrated, participatory community-based approach has worked to a degree in each separate sector, but lack of sufficient, continuous inter-component linkage, for example between agriculture and health with respect to child nutrition, has precluded attainment of the full potential for synergy of project benefits); **sustainability concerns** (the question of sustainability of project benefits and of definition of the means, measures and methods of phasing out of projects needs to be comprehensively addressed at the outset of design and built into the implementation plan); the **terms and conditions for district staff involvement** (lessons from KAEMP show that the mode of implementation through the decentralised district system has been successful, but would have been even more effective in terms of commitment and accountability if staff had been given clear job descriptions, with their responsibilities, the incentives and penalties to be applied in respect of performance, and the opportunities for training and possibly promotion spelt out); **provision of complementary services and structures** (in PIDP, for example, the provision of storage dams and catchments management turned out to be key in holistic planning of the irrigation schemes).

Lessons learned from ASDP I

11. Relevant to LDFS design and implementation are also some of the lessons learned from ASDP-1 over the last six years. In particular:

i. Thinly spread resources result in fragmented results/impacts, generally difficult to measure. ASDP was launched as a national programme covering all districts in Tanzania Mainland. Initially, one of the options considered was a phased implementation, covering a few districts at a time. In hindsight, because of the scale and complexity of implementing a new programme nationally, phasing may have been a better option.

ii. Increased productivity needs to be linked to value addition, marketing and increased farmer income. ASDP-1 experience show that many farmers are already knowledgeable about basic production techniques, except perhaps for new crops and new practices that emerge periodically. What is lacking and gaining importance is focus on how farmers increase their incomes by engaging in more profitable activities including value addition and improved market efficiency[138].

iii. Incomplete irrigation schemes and inadequate maintenance limit sustainability and farmers' returns due to poor planning and management of irrigation development, inadequate resources and limited access to professional support services and productivity enhancing technologies. Lessons show that new investments need to be prioritized through feasibility studies to determine the most cost effective irrigation infrastructure, area to be developed for irrigation and institutional organization and management of schemes. The majority of the schemes supported by ASDP-1 were rehabilitation and improvement of existing schemes, but deferred maintenance, faulty designs and poor workmanship of irrigation schemes require corrections.

Lessons learned from WSDP I

12. Equally important to LDFS are the key lessons learned from the implementation of WSDP I, including the below.

i. Water user associations have raised awareness to communities to participate in water resources management which in turn minimized water use conflicts, improved water allocation mechanisms, catchment conservation, willingness to pay for water use fee, applications for water use and groundwater drilling permits have increased etc. This outcome needs to be sustained and strengthened;

ii. Growing tensions encroachment and degradation of water sources as a result of growing human development activities in water catchments; to arrest the situation, many more actors need to take part in catchments management including communities, and LGAs;

iii. Inadequate water storage infrastructure impedes the nation's ability to deal with climate variability and it is impacting food, energy, water and environmental security and causing huge economic loss. Climate change is going to further stress the nation's water resources. IWRMD plans will provide opportunities for integrating climate change adaptation measures in water use planning for various sectors;

iv. The issue of data collection, rehabilitation and construction of water resources monitoring stations as well as information management system is still needed in all BWOs and need to be sustained;

v. Increased allocation of the necessary resources to manage water resources such as monitoring, enforcing regulations and improving access to information, as well as protection of water sources from contamination shall be guaranteed;

[138] IFAD is already addressing this issue through both MUVI and MIVARF.

vi. Comprehensive plans for whole district, which was the focus during WSDP design was abandoned, as a result a narrow focus on small number of projects (ten villages) per LGA was opted; this caused the district-wide vision to be missing in WSDP. This issue needs to be addressed;

vii. Efficiency of Council Water and Sanitation Teams (because they are composed of heads of departments) need to be augmented by a team of middle level officers for day-to-day follow-ups of implementation;

viii. Local Government Capacity Building Consultative Group for WSDP was never formed. This resulted in inadequate coordination of WSDP capacity building efforts, hence inadequate performance in strengthening the capacity of LGAs to deliver expectations. This needs to be formed because capacity building still needs various interventions to augment current and previous efforts;

ix. The use of consultants to conduct hydrological studies (for boreholes), and later employing contractors to drill had several challenges including the problem of various dry boreholes.

Increasing Rural Women's Income through Climate-Smart Agriculture in Western Kenya

A pilot project under FAO's Mitigation of Climate Change in Agriculture (MICCA) program, initiated in Kenya in September 2011, focused on small-scale female and male dairy farmers, with the aim of integrating CSA into the farming system and improving farm and milk productivity, income, and livelihoods. In the Kamotony area, women concerned about providing for their children in hard economic times formed a group but could not determine what they could do to improve their prospects. Through the pilot project, they received training in CSA practices and decided to establish a tree nursery. Sales of indigenous tree seedlings, tea cuttings for planting material, ornamental trees, and garden flowers gave them a financial stepping-stone for investing in dairy production. They increased their farms' milk productivity after applying the knowledge gained through training in improved fodder production, feed storage, and dairy cattle management. The new practices allowed them to reduce risks and access credit, which enabled them to make further investments in their agricultural enterprises.

(WB,FAO,IFAD:2015)

Other lessons learned

13. Additional lessons learned which are of particular relevance to LDFS have been identified in a recent assessment on land degradation conducted by the Government of Tanzania[139]:

i. **Participatory Forest Management**. Also from the implementation of the PFM law (ref: Forest Act of 2002) it emerges the need to involve local communities in both the design and the implementation of village land use plans. To date, PFM has enabled villagers to have traditionally "reserved" forests for a range of productive, social, traditional or sacred reasons. Good examples are the "ngitili" forests of Shinyanga and Mwanza regions, developed by the Sukuma pastoralists for dry season grazing, and the "mpungi" or "mshitu" clan forests of North Pare Mountains used for sacred reasons. Yet the challenge remains to geographically expand the adoption of village plans and/or promote the continuous update of the same.

ii. **Participatory Land Use Management**. The implementation of the Participatory Land Use Management (PLUM) guidelines, developed and tested by the National Land Use Planning Commission (NLUPC) in Dodoma, Manyara, Tabora, and Arusha, proved the

[139] Status of land degradation in Tanzania, URT, 2014

effectiveness of land use planning on land management and reduced conflicts on land resource use among land users.

iii. **Sustainable Pasture Management**. A critical issue concerning SPM is that rangelands are generally managed as common property, where pastoralists and their herds migrate as a function of seasonal and spatial variations in rainfall. However, experience shows that pastoralists are able to manage the resources in an equitable manner. A good example of sustainable pasture management is provided by Ngitiri experience in Shinyanga and Mwanza regions. Through this traditional initiative pastoralists were able to provide forage for livestock - especially oxen - at the end of the dry season when villagers prepare their land for agriculture. Vegetation and trees are nurtured on fallow lands during the wet season so that fodder supplies are available for livestock during dry seasons. Also the Maasai communities practice sustainable pasture management through traditional division of their collective pastures into different types of areas governed by traditional rules. The most fundamental division is of pastures used during the wet season and areas used as dry season refuges. Wet season pastures tend to be those without permanent water that can only be accessed during the periods of rainfall. Dry season pastures tend to be areas which have permanent water nearby or which are particularly resistant to drought, such as forests which retain vegetation that livestock can access even during severe droughts. Moreover, some pastures are designated for use by calves and weak or infirm livestock.

iv. **Integrated Crop-Livestock Farming Systems**. Experiences in Manyara and Dodoma regions showed that an integrated approach of livestock and crop farming system (groundnuts, pigeon pea, maize/pigeon pea intercropping and starter doses of phosphate) increased the productivity of maize-legume-livestock production systems, the system resilience and agro-ecosystem services, including provisioning of food and feed; and improved water and soil conservation, soil nutrient supply and cycling, soil health and soil structure; carbon sequestration and biodiversity; as well as adaptation to climate variability and change.

v. Finally, lessons from development partners suggest that participatory, inclusive approaches aimed at building adaptive capacity, such as farmer-to-farmer extension or farmer-led innovation, are scalable, but individual innovations - including some that are particularly attractive to women - are difficult to scale out, because they are suited to highly specific environments and contexts. Another lesson from climate change adaptation projects is that it is valuable to recognize that women make an active and important contribution to climate adaptation based on their local knowledge and capacity, and that it is limiting and simplistic to view them as passive victims of climate change. Successful adaptation projects increase women's opportunities to add value to their agricultural activities - for example, through agricultural processing and marketing - and diversify their income-earning opportunities. In other words, they promote transformational change in agriculture and acknowledge women's role in that process[140].

[140] *Gender in climate-smart agriculture*, WB, FAO and IFAD, 2015

Appendix 4: Detailed project description

1. This appendix describes the three components of LDFS in detail. In order to reach community and ecosystem resilience as well as sustained food security, selected villages will need to return degraded ecosystem services to productivity, through a landscape based approach to natural resources management and the introduction of sustainable land management and livelihoods.

2. Figure 1 below presents the Theory of Change for this project, in which the red boxes show the current situation and impacts on natural resources, driving the need for LDFS interventions. **The project's objective** is to reverse land degradation trends in central Tanzania and Pemba (Zanzibar) through sustainable land and water management and ecosystem-based adaptation. The objective will be achieved through the introduction of enhanced production and natural resource use practices, such as conservation farming, sustainable land and water management and ecosystem-based adaptation.

3. Project activities will be gender-sensitive and tailored to fit the needs and capacity of each of the three target beneficiary subgroups, namely, i) the food insecure subsistence smallholder agro-pastoral farmers to focus on increasing their productive assets and capacity through improved management of land and water resources though a farmer field school approach and nutrition education; ii) the mostly food secure subsistence smallholder agro-pastoralist farmers to further develop their capacity on conservation and climate smart agriculture, enabling them to produce climate resilient commodities; and iii) with market-oriented agro-pastoral farmers towards the development of climate resilient commodities.

4. The expected impacts are reductions in overall food insecurity and in malnutrition levels for children under 5 years old, reduced land degradation prevalence and an overall increase in household resilience to climate variability and change.

5. The validation of the Theory of Change was conducted in cooperation with stakeholders during consultations with communities and a two-day workshop with district officers from the five selected districts. Within communities, consultations were first held in large mixed focus groups and then split by gender focus groups to understand differences among gender. District level consultations were held during a two-day workshop with technical officers including, agriculture, livestock, environment, water resources, fisheries to learn about current challenges faced at the district level and corresponding solutions implemented so far. In addition, meetings were held in Dar es Salam with relevant line ministries (MALF, MOWI, MNRT) and VPO staff, supplemented by a literature review. The main findings underpinning the Theory of Change are summarised below:

- *Low water availability and unreliable rainfall:* Among the five selected districts, the main limiting factor for farmers to reach food and nutrition security or to increase agricultural productivity is the low availability and access to water. In addition, unreliable rainfall, characterized by a late onset of the rainy season often coupled with extreme climate events, is misleading farmers as to when to start sowing seeds, emphasizing the uncertainty of food security from one season to the next.

- *Increasing vulnerability to climate shocks:* In addition to unreliable rainfall and lack of water availability, the occurrence of extreme climate events, such as floods and prolonged droughts, has increased, making communities increasingly vulnerable to climate shocks. Affected districts have seen their crops fail and their livestock die, having to rely on food aid.

- *Lack of technical capacity on sustainable land management and conservation farming:* Agricultural cultivation, in the five selected districts, tends to be marked by unsustainable farming methods such as slash-and-burn shifting farming practices, which are known as a cause of deforestation exposing land to soil erosion such as wind and water, but also a cause of biodiversity loss. In order to meet household income shortfalls from crop failure or livestock loss, farmers practice deforestation for charcoal production. Due to inadequate farming practices, deforestation and overgrazing, it is estimated that 61% of land in Tanzania is already degraded particularly in semi-arid areas, including in some of the selected regions[141].

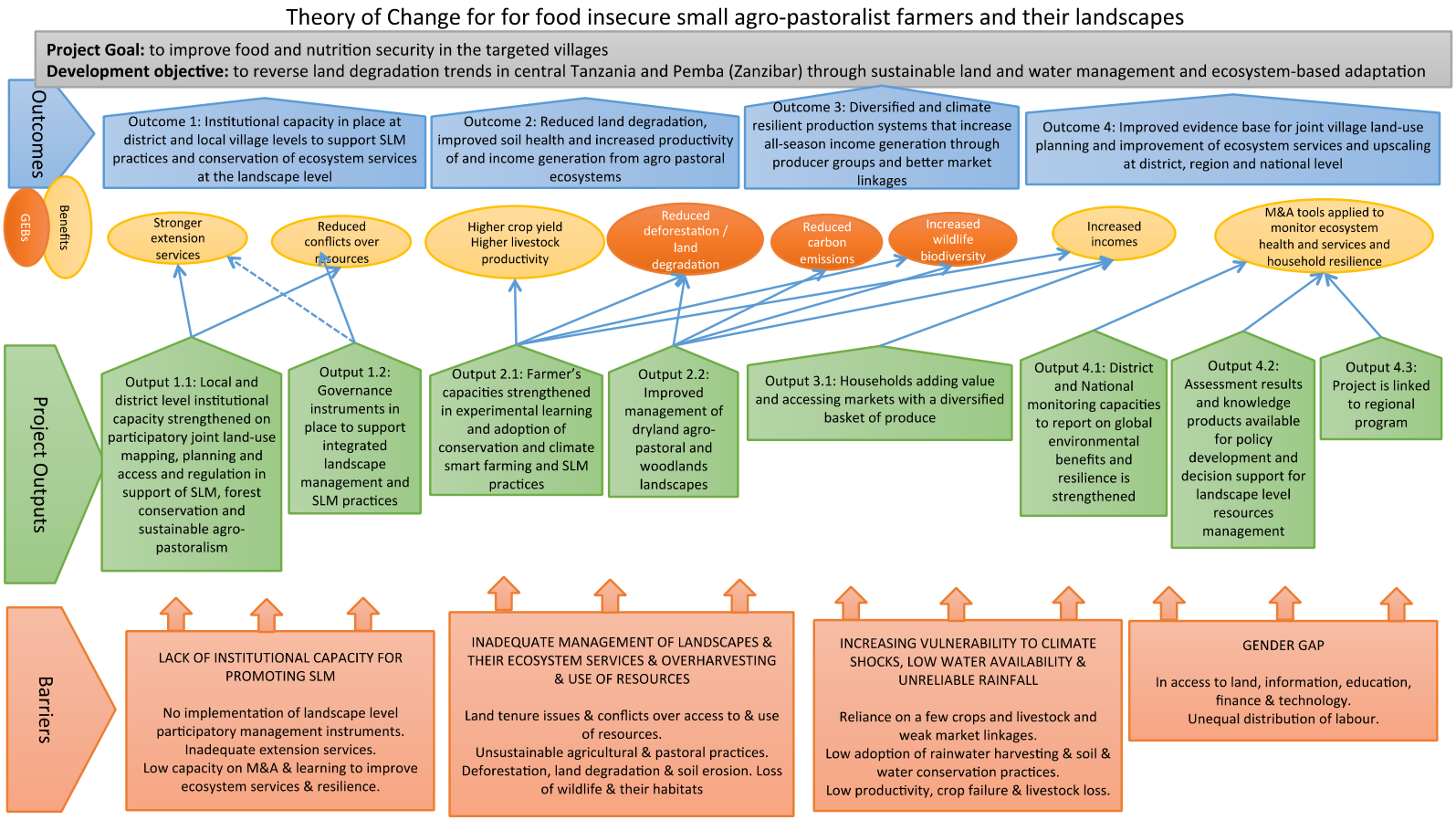
[141] United Republic of Tanzania – URT (2014). State of the Environment Report, Vice President' s Office, URT

- *Lack of institutional capacity:* These challenges are reinforced by the lack of institutional capacity in general and more specifically on sustainable land management practices, monitoring and assessment coupled with inadequate extension services, which had led to land tenure issues arising from the lack of planning the use of land resources.

- *Gender gap:* While men and women of the targeted areas hold multiple roles within the household and at the community level, a gender gap exists among men and women in terms of their access to and control over natural resources, education, finance, technology and information. The lack of water availability equally affects livestock herds generally under the responsibility of men, leading them to migrate to other areas for water. While men migrate with livestock, women stay behind and are responsible for collecting water and firewood, household duties, taking them away from more productive activities, which could eventually provide access to financial capital, technology and information (see Appendix 2).

6. The project is based on three interlinked components, where components 1 and 3 play a supportive role in establishing enabling conditions for investments in sustainable agricultural production, resources management, and climate resilience to reach long lasting impacts, included in Component 2 (see Figure 1 in PDR's main text, showing links between outcomes and components). Figure 1 below presents the Theory of Change for this project. The red boxes at the bottom show the current barriers to reach food security, community and ecosystem resilience, while sustainably managing resources. The red arrows show how benefits are generated, starting from the current situation, then from activities to outputs, and reaching the outcomes and the goal and objective of the project. The interventions and outputs start with joint village resources mapping, diagnostic and land use planning (component 1) and establishing the baseline for assessing ecosystem degradation trends, household and community resilience, and food security (component 3). From this planning process enhanced land and water management and income generating interventions and conservation farming technologies and practices are defined and implemented (component 2). These improved practices will not only lead to increased land and water productivity and income generation, but also improved habitats for biodiversity and reduced land degradation and carbon emissions (GEBs). Through component 3 monitoring, assessment and KM and learning systems will continue to support: decision making in future iterations of the joint village planning process; adjustment in resources management, practices and technologies; and further upscaling of good landscape level planning models and resources management practices and conservation technologies. The four outcomes will be reached through multiple benefits generated by outputs, lifting initial barriers.

Figure 1: Theory of Change Diagram for LDFS project



7. A key feature of this project, from which it expects to derive its transformative effect and to multiply benefits, is the landscape approach. "A 'landscape approach' means taking both a geographical and socio-economic approach to managing the land, water and forest resources that form the foundation – the natural capital – for meeting goals of food and nutrition security and inclusive green growth. It is done by connecting crop, range, pasture, forest, wood, and protected area lands for provision of ecosystem services and increased productivity"[142]. A landscape approach aims at reconciling agriculture, conservation and other competing land uses in order for ecosystem services to co-exist within the landscape. It allows for decision-making on a larger scale, rather than isolating each village and ignoring impacts beyond community limits or trade-offs between and among agriculture, conservation and livestock grazing.

8. To achieve its objective, the project is structured into three inter-related components: Component 1 will set the enabling conditions for the project to reach its objective: namely to reach sustainable land and water management at landscape level sustaining ecosystem services and enhancing food security. It will strengthen institutional capacity at the village level and establish inter-village committees with the goal of developing landscape level inter-village participatory land use planning processes to foster an integrated and holistic management of natural resources. Component 2 will support the implementation of sustainable land and water management priorities, conservation farming practices, rehabilitation and sustainable management of rangeland and wood land resources, and income generating activities agreed within said plans. Based on assessment results, Component 3 will focus on monitoring and assessing the project's impacts, incorporating lessons learned and contributing to the continuous improvement of the landscape level approach to natural resources management, supporting integration of best practices in policy making at the district, regional and national levels.

Component 1: Institutional capacity building for sustainable land management and biodiversity conservation at landscape level.

9. Component 1 will build capacity of customary, village and district institutions on natural resources management and joint village land use planning at the landscape level. This will support the development and mainstreaming of sustainable land management and biodiversity conservation practices among selected village communities, sharing the same resources. This component will establish inter-village natural resources committees within which SLM and biodiversity conservation practices will be introduced through training, and participatory land use plans will be adopted at village and landscape levels to support ecosystem services through an integrated landscape management.

Table 1: Component 1: outcome and outputs

Outcome	Outputs
Outcome 1: Institutional capacity in place at district and local village levels to support SLM practices and conservation of ecosystem services at the landscape level	**Output 1.1:** Local and district level institutional capacity strengthened on participatory joint land-use mapping, planning and access and regulation in support of SLM, forest conservation and sustainable agro-pastoralism
	Output 1.2: Governance instruments in place to support integrated landscape management and SLM practices

10. Outcome 1 will focus on building institutional capacity at district and village levels to support the implementation of sustainable land management (SLM) and biodiversity conservation at the landscape level for selected villages within each ward. Existing village organizational structures will be strengthened in order to facilitate the establishment of new inter-village committees with the aim of planning and managing the use of and access to natural resources at the landscape level. A review of the existing village plans, customary institutions and community organizations, village level committees, training needs and priorities will be conducted that the joint VLUP process can build on to avoid creating yet another layer of village organizational structures.

[142] TerrAfrica, 2014

Output 1.1: Local and district level institutional capacity strengthened on participatory joint land-use mapping, planning and access and regulation leading to SLM, forest conservation and sustainable agro-pastoralism

Activity 1.1.1: Establishment of a representative inter-village NRM committee and mapping of all resources users in the landscape

11. The inter-village NRM committees will bring together at least two neighbouring villages within a given landscape with elected representatives from communities, including a targeted percentage of women, men, elders and youth, as well as district officers for agriculture, environment, livestock, land use planning and water resources. An initial mapping of all resources users of the landscape will be conducted to identify settled, migratory users and existing NRM user groups at the village level, in order to ensure all natural resources users including agro-pastoralists, pastoralists, and hunter-gatherers are represented in the committees. This output is based on geographical targeting, however, it will be assured that village representatives are representing different resources user groups and all three project target subgroups with at least 80% coming from households in the food insecure subsistence farmers subgroup and the mostly food secure subsistence farmers subgroup. At least 30% should be women and 30% should be young (<35 years old).

12. Existing NRM user groups at the village level will be actively involved in the inter-village NRM committee in order to work together at the landscape level and agree on adoption of SLM, biodiversity conservation priorities and the means to achieve sustainable agro-pastoralism. NRM user groups will be established as needed, such as woodland management groups, rangeland management groups, and producer groups at the landscape level under the inter-village NRM committees.

13. Committees will be co-chaired by one representative from each village, and leading positions will be voted for among community members, while district staff will act as facilitators within NRM committees operations. Representation from the regional government and relevant ministries, local NGOs, existing community groups and private sector organizations will also be encouraged. Tasks undertaken by the inter-village NRM committees will include planning and managing shared resources, and agreeing upon access and user rights and regulations via bylaws.

Activity 1.1.2: Development of a meaningful consultation plan for the preparation of joint VLUP and establishment of a grievance mechanism

14. A consultation plan at the landscape level will be developed by the project's PCU in preparation of joint VLUP to give voice to all resources users in the process. Consultation processes leading to informed consent (Free, Prior Informed Consent - FPIC) will be organized in order to ensure a bottom-up approach and participation from all resources users' preparation of conducting joint VLUPs. The FPIC is a proactive approach to identify development pathways together with local communities, therefore improving the relevance and quality of the project's investments, increasing community ownership over the investments made by the project and enhancing the sustainability of its results. In addition, a grievance mechanism will be clearly established in case community members are negatively affected by the project's activities.

Activity 1.1.3: Review of existing village plans, institutions and organizations and identification of training needs and eventual adjustment of existing guidelines

15. Prior to conducting joint VLUPs, the project will review existing village plans, natural resources management and PLUP related guidelines as well as institutions and organizations involved in using and sharing natural resources.

16. The Tanzania National Land Use Planning Commission set specific guidelines for village land use planning (VLUP) based on the Land Use Planning Act No.5 (1999) and more recently the Land Use Planning Act No. 6 (2007). The Land Use Planning Act No. 6 for 2007 aims to improve local access to and control of land and natural resources. The guidelines outline a participatory process to facilitate the decentralized development of VLUPs and the formation of joint village land use planning authorities, providing resources user groups/ associations with a certificate of customary rights of occupancy and use of the shared land and resources. However, this framework has not seen many VLUPs developed yet. After the SRMP I and II, only 13% of the villages in the selected four districts had completed VLUPS, only a few had been certified and the majority were more than 10 years old,

without being effectively implemented.[143] While joint VLUPs were developed under SRMP 2, factors constraining VLUP completion still include i) lack of financial, human and transport resources to support the formulation process; ii) lack of required investment for their implementation (i.e. water access for livestock, cropland and improved grass on communal grazing land); (iii) weak monitoring and enforcement capacity of village and district authorities; iv) limited capacity to accommodate evolving changes in land uses; and (v) lack of public awareness on the importance of VLUP for conflict prevention and sustainable natural resource management.

17. Training (under Activity 1.1.4) as well as investment in improved NRM (Component 2) and monitoring skills will be provided to NRM committees in order to overcome these constraints and successfully implement joint village land use planning decisions at the landscape level.

Activity 1.1.4: Training of committee members, district and village staff, and communities involved using a learning-by-doing approach

18. Once established, the inter-village NRM committees will serve as a forum for members, namely village and district level government staff, community members, natural resources user groups and other relevant stakeholders, to receive training on landscape level integrated natural resources governance and management, climate change adaptation and biodiversity conservation. The project will provide training building on a review of gaps and needs identified and the lessons learned and proven models built under the SRMP II project and other joint village resources governance and landscape management experiences in Tanzania.

19. Trainings will then be delivered by relevant sector ministries and service providers including NGOs and research institutions and will cover all inter-village NRM committee members: (i) awareness raising on the benefits of joint VLUPs; (ii) climate change impacts and related vulnerabilities and adaptation strategies building resilience; (iii) participatory diagnostic and mapping of natural resources and their use in different livelihood activities, resources health status, degradation drivers, climate change vulnerabilities and the linkages to landscape level dynamics and sustainable ecosystem services; (iv) joint village participatory land-use planning and use regulation supporting sustainable land and water management and biodiversity conservation; and (v) options for biodiversity conservation and sustainable land and water management and conservation farming practices and technologies.

128. The training strategy will be to use the learning-by-doing approach as much as possible, namely their landscape as a case study to lay the foundation of Output 1.2, which will lead to village and landscape land use plans. The project will use quotas to include different groups of trainees (community members, village and district staff), targeting at least 80% coming from households in the food insecure subsistence farmers subgroup and the mostly food secure subsistence farmers subgroup, at least 30% should be women and 30% should be young (<35 years). Training approaches increasing women's and youth participation will be implemented (for further detail see Appendix 2).

Output 1.2: Governance instruments in place to support integrated landscape management and SLM practices

While Output 1.1 will strengthen institutional and technical capacities of district and village staff as well as community members, Output 1.2 will put capacity into practice within inter-village committees, by conducting participatory landscape diagnostic and mapping of resources and Village Land Use Plans (VLUPs).

Activity 1.2.1: Negotiation of agreements on land-use zoning, resources access and use regulations by different user groups building on existing bylaws and governance systems

20. These participatory processes will be conducted at the village and landscape levels simultaneously to ensure they are in line with each other. The objective will be to engage communities in identifying and addressing degradation threats, to promote and increase benefits from SLM and

[143] SRMP 1 & 2 Final Report Phase 1 and 2, January 2015

conservation of ecosystems services, and to reduce conflicts related to access to and use of crop, grass/grazing and forest land and water resources through a conflict analysis.[144]. This will take the form of consultations to negotiate agreements on land-use zoning; resources access and use regulations by different user groups building on existing bylaws and governance systems, adjusted and complemented as needed, and granting of certificates to established user groups of customary rights of occupancy and use.

21. The development of joint village land-use plans will be supported by the Tanzania National Land Use Planning Commission's Guideline for Village Land Use Planning, Administration and Management (2013) and will take into account the complements developed under the SRMP II project for joint village land-use planning to reach landscape level management capturing shared resources governance issues. This will be done through participatory mapping exercises, held by the inter-village NRM committees as well as the analysis of satellite imagery with contribution from a specialized consultant. To ensure that men and women participating in the land use planning feel ownership and are equally engaged in the decision-making, quotas will be applied to include at least 80% coming from households in the food insecure subsistence farmers subgroup and the mostly food secure subsistence farmers subgroup, at least 30% should be women and 30% should be young (<35 years).

22. The joint VLUPs will include land-use zoning, resources access and use regulations by different user groups building on existing bylaws and governance systems adjusted and complemented as needed with granted certificates to established user groups of customary rights of occupancy and use of the shared land and resources.

Activity 1.2.2: Prioritize areas for and groups to support land and vegetation cover rehabilitation and biodiversity conservation (in VLUP)

23. The joint VLUPs plans will also identify and prioritize areas for land and vegetation cover rehabilitation and biodiversity conservation, through activities such as conservation agriculture, climate smart agricultural practices, rainwater harvesting, tree nurseries and sustainable woodland management and rangeland management. User groups will decide in which type of activities they want to engage in during the joint VLUP process and will then form into producer groups engaging in different agro-pastoral and woodlands related activities to improve ecosystems health and resilience at the landscape level.

24. In addition, the project will support villages and districts in integrating identified priorities within land use plans into village and district planning and budgeting, by annually assessing district planning and budgeting against the project's Annual Work Plan and Budgets (AWPBs) to decide under which department's budget the priorities fit in. The strategy to integrate these priorities at the district level will be to keep the integrated landscape management approach which refers to "long-term collaboration among different groups of land managers and stakeholders to achieve the multiple objectives required from the landscape. This will translate into a multi-sectoral approach at the district level, which will ultimately upscale inter-village NRM committees into other wards within selected districts landscape level.

Activity 1.2.3: Identify technologies and sites for rainwater harvesting and infiltration for aquifer recharge and catchment management as well as recommendations for conservation and climate smart farming practices suitable for the farming systems in the landscape.

25. As part of the outcomes from village land use planning, the project will recommend technologies and sites for rainwater harvesting, infiltration for aquifer recharge and catchment management, contributing to minimize losses and increase yield during to prolonged droughts. The VLUPs will also provide recommendations on which conservation and climate smart farming practices are suitable for the farming systems in the landscape.

Activity 1.2.4: Preparation and final agreement on the joint VLUP including a simple monitoring system managed by the local stakeholders with indicators allowing for following the progress and outcomes of the implementation of the plan for future iterations of the planning process.

[144] Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict

26. As a result of training and of conducting participatory joint VLUPs, resources user groups will be aware of the benefits of taking a landscape approach to resources use. The plans will include a simple monitoring system managed by the local stakeholders with indicators allowing for following the progress and outcomes of the implementation of the plan for future iterations and adaptive land use planning. Inter-village land use planning decisions will be implemented under Component 2 and activities to monitor their progress will be supported by Component 3. Therefore, inter-village NRM committees will play a crucial role in continuously monitoring and assessing LDFS outcomes and impacts, using M&A tools and will contribute to the sustainability and up scaling of the project's interventions.

Component 2: Up scaling of sustainable and climate-smart agriculture, land, water and pastoral management systems.

27. This component will support the implementation of the actions prioritised within landscape level joint village land use plans conducted by inter-village NRM committees in Component 1. This Component will support the sustainability of ecosystem services and food and nutrition security in five focus areas: i) conservation agriculture and other climate smart agricultural practices; ii) rainwater harvesting and micro-catchment management; iii) sustainable rangeland management; iv) tree nurseries and sustainable woodland management; and v) income generation activities and linkages to markets for sustainably produced and climate-resilient commodities. Conservation of habitats sustaining drylands biodiversity will be an integrated activity in rangeland, woodland and micro-catchment conservation and management.

28. The Farmer Field School (FFS) experimental learning approach will be used as a delivering mechanism for Component 2 (see Box 1 below). The FFS mechanism will not only focus on the building of farmers and agro-pastoralists on sustainable natural resources management practices, but it will also strengthen agricultural extension services and create a farmer-to-farmer extension service.

29. Using the Farmer Field School (FFS) for delivering capacity building and strengthening NRM groups, this component will apply gender and youth sensitive strategies to ensure that at least 30% participation of women and 30% participation of youth in the different thematic FFS groups. This will be provided through the community-led methodology of Gender Action Learning System (GALS) to be applied to FFS and with emphasis on generating benefits particularly relevant for women and youth are generated by the activities supported. The GALS methodology will carry out the FFS approach to overcome unequal gender and social relations, using a set of pictorial tools that can reach both literate and illiterate people. The GALS approach can be integrated with a variety of interventions, such as rural finance, natural resource management, value chain development.

Table 2: Component 2: outcomes and outputs

Outcome	Outputs
Outcome 2: Reduced land degradation, improved soil health and increased productivity of and income generation from agro-pastoral ecosystems	Output 2.1: Farmer's capacities strengthened in experimental learning and adoption of conservation and climate smart farming and sustainable land and water management practices
	Output 2.2: Improved management of dryland agro-pastoral and woodlands landscapes
Outcome 3: Diversified and climate resilient production systems that increase all-season income generation through better market linkages	Output 3.1: Households adding value and accessing sustainable markets with a diversified basket of produce

30. To achieve Outcome 2, an assessment of existing FFS or NRM user groups will be conducted and new thematic farmer field schools (FFS) will be established on conservation agriculture and other climate smart agriculture practices, sustainable rangeland management, tree nurseries and sustainable woodland management, both in mainland and Pemba project areas. The FFS approach will facilitate farmer's development of new knowledge and capacities through joint experimental

learning (see Box 1 on FFS). The LDFS will follow the guidelines described in the FFS Implementation Guide to implement and operate Farmer Field Schools[145].

Output 2.1: Farmer's capacities strengthened in experimental learning and adoption of conservation and climate smart farming and sustainable land and water management practices

Activity 2.1.1. Identify existing FFS or establish new ones, adjust curriculum

31. The tried and tested Farmer Field School (FFS) approach has been used in Tanzania with success in other IFAD projects with MALF. The expertise of MALF will be used to identify existing FFS and to establish new ones in the selected districts, while service providers will be used to support the district extension officers in facilitating the FFS process. The FFS will facilitate farmers' development of new knowledge and capacities through joint experimental learning (see Box 1 below).
32. The field schools groups will not only be for crop farmers but also for agro-pastoralists, through water and catchment area, rangeland and woodland management building as much as possible on existing village and joint village NRM groups and customary institutions. The FFS approach builds experimental learning skills among farmers and a farmer-to-farmer learning and exchange environment. It will be supported by: i) on-farm or in the landscape experiments, validation studies and demonstrations of conservation farming and SLM practices; ii) on-farm or in the landscape adaptive field trials; iii) field days, farmer exchange and exposure visits; and iv) classroom-based training session.

Box 1: Farmer Field School Approach (FFS)
The aim of the FFS approach is to provide capacity building and support smallholder farmers (men, women and youth), and rural communities in the adoption of resilient agricultural technologies and livelihoods practices.
FFS are flexible in that they can respond to local demands or problems as they are identified. They are based on a bottom-up process of learning or an "experiential learning cycle" (with a minimum duration of one and half years or more, during which farmers' groups are followed and supported on a weekly basis), where groups of farmers are the ones deciding on what to study. The method of interaction is non-formal and based on field observations and group discussions, as well as simple experiments, drawings, models and other tools. The experimental, learning-by-doing approach facilitates the adaptation of the technologies to local agro-ecological systems, including climate risks and production practices and the adoption by farmers in the wider area. Farmers participating in FFS gain organizational skills, knowledge and practical skills that carry over beyond the end of the project. Moreover, due to the comprehensive planning processes, they are able to define the critical broader challenges faced in their livelihoods, as well as strategies to mitigate the challenges. The FFS process is guided by a dual systematic problem–solution identification process that guides consequent actions, thus setting a solid base for sustainability. The FFS is therefore a vital entry points for the up scaling of actions, as it integrates the learning about various topics in a local agro-ecosystem specific context, and for mobilises farmers in the dissemination of new technologies and practices across the FFS groups and networks.

Building FFS organisational structure
33. The effective deployment of the FFS approach requires an organisational structure with adequate human resources as well as a step-wise procedure. In the context of LDFS, the proposed structure consists of (i) Project Coordinator and selected District Officer playing the role of Focal Persons for the FFS at national and district level respectively, (ii) FFS Master Trainers, (iii) FFS Facilitators, and (v) Lead Farmers (see Figure 5). The FFS approach will be supported by on-farm experimental/validation studies and demonstrations, on-farm adaptive field trials, field days, farmer exchange and exposure visits, as well as classroom-based training session. An international FFS master trainer will be contracted to train national master trainers from the relevant ministries and focal points from the five districts, who will again train FFS facilitators working with lead farmers, selected by the different FFS groups, in facilitating and leading the FFS groups and sessions.

Training of Trainers and Facilitators
34. In the first year of implementation, local natural resources management and agriculture officers at the district level as well as village staff in each community will be trained by Master Trainers

[145]FFS Implementation Guide: FAO, JICA and KFS, 2011

to become FFS facilitators. Trainees will receive a minimum of two-week TOF course (Training of Facilitators) as well as a one-week technical training on Enterprise Catalogue related technologies.

35. In the second year of FFS, the project will engage farmers who graduated from FFS[146] and selected by the communities to become trained facilitators, which will increase ownership and accelerate the dissemination of appropriate production practices. Farmer facilitators are also great assets to the FFS process, as they have a better understanding of the community, the surrounding landscape, which makes them a more responsive person to community needs. Once trained, facilitators will act as guides and not as leaders of the FFS.[147] The aim will be to establish a farmer-to-farmer learning and exchange environment, as the FFS groups will be the starting point for the creation of small producer groups and cooperatives for income generation and linking to markets supported under output 3.1.

Development of Curricula

36. Each curriculum will be a season-long learning process, following a crop or livestock cycle. Four general curricula will be adapted to each site and community members and will cover four of the five main areas of the component: i) conservation agriculture and other climate smart agricultural practices; ii) rainwater harvesting and micro-catchment management; iii) sustainable rangeland management; iv) tree nurseries and sustainable woodland management. Farmers, agro-pastoralists and facilitators will take part in a participatory consultation process to adapt FFS curriculum from existing curricula, using the GALS methodology. Gender and youth sensitive strategies will be applied to ensure at least 30% participation of women and 30% participation of youth in FFS.

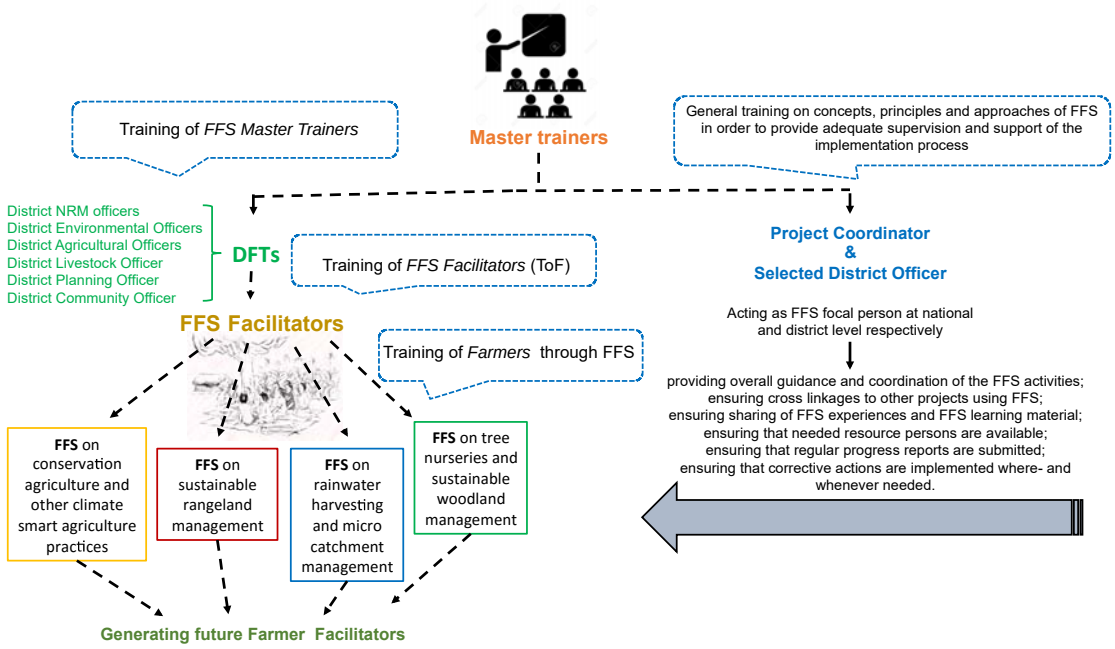
37. While farmers will largely express current farming issues and barriers to sustainable land and water management practices, the latter will promote innovative and sustainable farming (i.e. climate smart agriculture, conservation agriculture and permaculture), land and water management practices as well as other relevant topics that are beyond the farmers' current knowledge, such as integrated pest management, but fit with the overall transformation of the farming system. All FFS curricula will include basic nutrition education in order to ensure that the increasing diversity of products is optimized, contributing to nutrition security and diversity.

38. FFS curricula will also be strengthened according to priorities and themes identified within the PLUP at the landscape level, and building on previous experiences such as the WOCAT SLM database, the Compendium of Best Practices for Sustainable Land Management in Tanzania (VPO, 2014).

Figure 5~~6~~: FFS Organisational structure

[146] The selection of farmers to become FFS facilitator must follow Step 10 of the Field Manual for Field Facilitators (FFS Implementation Guide, 2011 (FAO, JICA and KFS).

[147] Farmer Field School Implementation Guide, 2011 (FAO, JICA and KFS)



Output 2.2: Improved management of dryland agro-pastoral and woodlands landscapes

Activity 2.2.1. Support / Roll out the following thematic FFS in selected districts

39. Activities aimed at improving natural resources management within Component 2 will target all three sub-groups, namely food insecure subsistence smallholder farmers, mostly food secure subsistence smallholder and market-oriented farmers. According to FAO standards, 25 is the maximum number of members per farmer field school. For each FFS, efforts will be made to comply with the quotas for gender equality. To this end, among the 25 members, there will be at least 30% women and 30% youth. The FFS facilitators will provide farmers with weekly support and follow up for a minimum duration of one year and a half or more. The field-based learning process of the FFS approach will provide a platform for farmers to make management decisions without taking personal risk to carry out experiments that they would not make for their fields, therefore validating crop, livestock and natural resources management practices in an integrated way to then up-scale in their own fields.

- **FFS on conservation agriculture and other climate smart agricultural practices**.

40. Although climate-smart agriculture practices such as conservation and climate smart farming are being introduced in Tanzania through the Climate Smart Agriculture Programme notably, the selected project areas are still lacking capacity and efficient extension services, preventing communities from benefiting from conservation agricultural practices. Land suitable for agriculture will be identified within the landscape and village level land use plans. Each FFS will then select the practices they wish to learn in conservation farming and experiment in the field school.

41. Through FFS, farmers will do experimental learning and sharing and select most locally suitable practices such as:

- Principles of conservation agriculture including minimum soil disturbance (no-tillage), permanent soil coverage through mulching and other practices increasing soil moisture and / or rotational farming to maintain soil biodiversity;
- Contour bounds in sloping land to promote water retention and reduce soil erosion, as well as other land erosion physical prevention measure;
- Integrated soil fertility management, including practices such as mulching, green manure, crop rotation and intercropping to diversify and incorporate better adapted drought tolerant and short cycled crop varieties, which will adapt cropping calendars to climate variability; These drought tolerant and short cycled crop varieties will be sourced through local formal and informal seed systems and tested within FFS.

- Agroforestry practices, such as windbreaks used to protect row crops from soil erosion and with multiple benefit species for soil fertility and fruits and wood harvesting or alley-cropping to increase farm productivity, due to added nutrients and organic matter to the soil and plant system and provide additional products, such as fodder, firewood or stakes from hedgerows, while increasing soil and biomass productivity, hence reducing emissions by sequestering more carbon in the soil;
- Integrated pest management (IPM), which advocates for prevention rather than cure and promotes farmers' empowerment through experience-based activities leading farmers to become experts on their crops and make decisions.
- Permaculture, which is a system of agriculture focused on simulating or directly using patterns and features in natural ecosystems, will also be applied where appropriate.

42. During operation, the FFS group may choose to support diversified and resilient production systems and disaster risk reduction and preparedness as well as other measures farmers are interested in to promote sustainable agriculture, livelihood security and diversification. The aim will be to establish enough FFS so that they develop FFS networks within the same landscape, which will be overseen by the inter-village NRM committee. The FFS groups and networks are considered as legal entities with constitutions and bylaws and are community-based organizations represented at the district level community development office.

- **FFS on rainwater harvesting and micro catchment management**

43. Water user groups will receive technical assistance as well as input support to conduct rainwater harvesting at the farm and community scale to not only irrigate crops but also provide water for livestock. Rainwater harvesting is defined as "method for inducing, collecting, storing and conserving local surface runoff for agriculture in arid and semi-arid regions".[148] Support will be provided to buy equipment such as tanks or rehabilitate/build infrastructure such as wells, charco dams and small earth ponds. Where possible, opportunities for fish farming in the ponds will be pursued using the successful experience from the Climate Change Adaptation Regional Project.

44. In some cases, the project will also provide training on micro supplementary irrigation schemes implemented with the support from the Ministry of Water, using lessons learned from SRMP-2 and WSDP-II. In line with the rest of the project's activities, water user groups will be required to include women and youth as decision-makers.

45. The construction and rehabilitation of water conservation infrastructures will be sub-contracted through the local government authorities to local engineering firms. The Gender Action Learning System will be used within FFS to map out the gender power dynamics among community members and the roles men and women play in accessing, using and conserving water resources.

46. The lack of maintenance is a major challenge in the sustainability of harvesting and storing schemes, therefore training through FFS will also provide knowledge on access and use regulations to avoid livestock causing degradation of the dam and surrounding grazing areas. In addition, FFS will implement schemes entrusted to water user groups using a fee-based community arrangement to access resources and conduct effective maintenance, such as removing silt, and conservation of the catchment areas.

- **FFS on tree nurseries and sustainable woodland management**.

47. According to farmers interviewed within the MICCA pilot project in Kenya and Tanzania (ICRAF), there is still a lack of awareness of the benefits of trees and of the existing forest legislation, and a lack of knowledge on seedling management and lack of germplasm.[149]

48. In line with the National Tree Planting and Management Strategy, the Ministry of Natural Resources and Tourism, district extension staff and eventual service providers, woodland management groups working within inter-village committees, will receive technical assistance and inputs for the establishment and operation of community tree nurseries to improve local seedling supplies at the village or landscape level. Native tree species will be identified at the village and landscape levels to ensure they are suitable for each landscape. Members of the community tree

[148] Boers and Ben-Asher, 1982 in Rainwater harvesting technologies for agricultural production: A case for Dodoma, Tanzania, by N. Hatibu and H . Mahoo (1999)
[149] Planning, implementing and evaluating CSA in smallholder farming systems: The experience of the MICCA pilot projects in Kenya and Tanzania (ICRAF, 2016)

nurseries will include members from woodland management groups, but also community members, and will be supported by a national consultant specialized in forestry management.

49. Members of the community tree nurseries will be trained and supported in the establishment of community nurseries and on sustainable forest management. Members who will operate community tree nurseries will be compensated for the management of seed quality, seed collection and seedling production and maintenance. LDFS will build on resources allocated by the district's budget for the National Tree Planting Strategy and provide more materials, such as seedbeds, shade cloth, watering system and planting bags. Free seedlings distribution will be done once in the first year of the activity, and will then be sold in order for the community tree nurseries to be self-sustained and cost-effective.

50. Village and landscape level land use plans completed in Component 1 will be used to identify hotspots to reforest or rehabilitate. Farmers will use the tree seedlings provided by community tree nurseries established to improve local seedling supplies. They will be trained in woodland management including sustainable harvesting, biodiversity conservation and tree planting for establishment of woodlots or rehabilitation of woodland combined with natural regeneration using a mixture of multi beneficial native tree species such as Acacia gum. The areas for wood lots and wood land rehabilitation will be the ones identified and agreed upon in the landscape level land use plans because of their importance for reversing land degradation, increasing soil and biomass productivity, restoring hydrological regulatory functions, and enhancing biodiversity conservation while reducing GHG emissions.

51. Through the FFS approach, farmers will make experiment in the field school and will learn about the ecosystems' hydrological regulatory functions to understand the dynamics and benefits from tree planting. Using beneficial indigenous tree species such as Acacia gum and palatable grasses and shrubs, farmers will increase soil and biomass productivity and increase carbon sinks, leading to better ecosystems services, higher food security and community resilience.

52. In order to achieve effective results in tree planting and management, the government (MDAs and LGAs), private sector, CSOs (CBOs NGOs and FBOs), local communities and individuals, woodland management groups will receive training on tree planting and on monitoring the benefits and improvement in local seedling supplies generated by the community tree nurseries. Monitoring as well as managing the planted seedlings will be aligned with the M&E plan of the National Tree Planting Strategy.

53. In addition, while it is estimated that 90% of the Tanzania's energy needs are met through wood fuels, biomass burning accounts for the largest source of CO_2 emissions in Tanzania.[150] In rural areas, households most commonly use firewood as the main source of fuel for cooking. In line with the National Tree Planting Strategy, this activity will upscale the establishment of improved cook-stoves to not only release pressure on forest for charcoal production and on biodiversity habitats, but also reduce carbon emissions, therefore contributing to climate change mitigation. Women will see their time fetching firewood reduced, as energy-efficient cook stoves will use less firewood, leaving them with more time to invest in other activities. In addition, the use of energy-efficient cook-stoves also improves indoor air quality, which will help in reducing health issues. Energy-efficient cook stoves will be provided by the project and distributed to communities in which training will be provided by a national consultant specialized in renewable energy, on how to install and use the cook stoves.

54. Other available alternative energy technologies, such as biogas and solar, which aim at reducing use of charcoal and firewood will also be introduced in the communities.

- **FFS on sustainable rangeland management**

55. Directly linked to the FFS on community tree nurseries and sustainable woodland management, this thematic FFS will mobilize rangeland management groups at the landscape level to manage grazing zones for assisted and natural rangeland rehabilitation, promoting resilient indigenous species of grass and shrubs. In line with Tanzania's Livestock Modernization Initiative (TLMI), which builds on experience from SRMP II, the project will emphasize the need to identify grazing areas that will be protected through landscape joint village land use plans, in order to avoid conflicts between farmers and agro-pastoralists.

[150] Compendium of Best Practices for Sustainable Land Management in Tanzania (VPO, 2014); Planning, implementing and evaluating CSA in smallholder farming systems: The experience of the MICCA pilot projects in Kenya and Tanzania (ICRAF, 2016)

56. With the support from the MALF and district extension staff, rangeland management groups will also be strengthened or established and receive technical assistance in different rangeland management practices including stocking balancing, assisted and natural rangeland rehabilitation and conservation of rangeland biodiversity, and the enforcement of no grazing zones in the rainy season for building fodder buffers for prolonged dry periods.

57. In this regard, FFS curriculum will build on the Ngitiri indigenous practice already used in semiarid areas in Tanzania and regulated by bylaws established by the users and selected among best practices in SLM. "The system involves setting aside land ranging from about 0.5 ha of degraded cropland and rangeland in the case of individual ngitiris to 500 ha for communal *ngitiris*. These areas are restricted of any livestock and crop production during the rainy season thus allowing vegetation regeneration. Once vegetation has regenerated after the rainy season, *Ngitiris* are then used for grazing as standing hay, during the periods of acute fodder shortage in the months of August to October". [151]

Outcome 3: Diversified and climate resilient production systems that increase all-season income generation through the producer groups and better market linkages.

Output 3.1: Households adding value and accessing sustainable markets with a diversified basket of produce

58. This output will be implemented in the second year of the project's implementation and will target households identified as mostly food secure subsistence agro-pastoral farmers and market-oriented agro-pastoral farmers. While Outcome 2's targeting strategy targeted food insecure agro-pastoral farmers and aimed at contributing to their food security and bringing their activities towards market, Outcome 3's targeted sub-groups who already have access to financial capital as well as the natural and physical capital to produce and process selected climate-resilient commodities.

59. Support will be provided on methods to process, transform and access to markets for crop, livestock and NTFP products from sustainable managed landscapes, with the aim of increasing all-season income generation.

Activity 3.1.1 Perform viability and feasibility assessments for preselected produce, including financial and commercial viability.

60. A viability and feasibility assessment including financial and commercial viability will be conducted by the PCU assisted by a micro agro-business and marketing specialist together with community members to select viable climate-resilient local crops, livestock and NTFPs products to be supported. In order to facilitate the feasibility assessment and create community ownership, the consultant will use community-led methodology such as the Gender Action Learning System (GALS) to identify potential commodities, while promoting equality of decision-making and equality of work and leisure opportunities within households. The GALS will also be of use to reveal power relations among different stakeholders.

61. Using lessons learned from IFAD's MIVARF and MUVI projects, the specialist will make sure to develop thorough assessment of key actors and their current capacities to foster partnerships from the outset of venturing into income generating activities. For the drylands agro-pastoralists and pastoralists there is high potential for income generation through livestock marketing improvement. The project will work in close collaboration with the IFAD funded MIVARF project, as livestock marketing has proven a good opportunity for income generation in the drylands. Models such as the pro-poor market access business model will be built upon in establishing and facilitating the market links with rapid communications and market intelligence sharing system among members and clients (this model includes three levels of business operation required to act as network, namely the Information Board Managers (IBMs), the Market Access Companies (MACs) and Regional Managers (RM)[152].

Activity 3.1.2. Organize farmers, women and youth in producer groups for each viable/feasible selected produce and support the development of the small businesses

[151] Compendium of Best Practices for Sustainable Land Management in Tanzania (VPO, 2014)

[152] http://www.cop-ppld.net/fileadmin/user_upload/cop-ppld/items/Fact_sheet_on_Keekonyokie_Market_system.pdf and http://www.fao.org/3/a-i2088e.pdf

62. Producer groups established as a result of FFS under output 2.2 or other producer groups eventually linked to woodland or rangeland management groups will receive training on the selected commodity, and more importantly build their capacities in: organisational strengthening, postharvest and storage methods, product processing and packaging, accountant, marketing and small business planning and management. Targeted sub-groups for this activity will be subsistence and market-oriented farmers, who already have access to financial capital as well as the natural and physical capital to produce and process selected climate-resilient commodities. Thanks to GALS, a quota will be women and youth will be included in the producer groups, providing them with access to generated benefits from the activities, giving them the opportunity to increase their income per season.
63. The small production activities could include the following commodities: beekeeping, processing traditional medicine from plants and trees, NTFPs such as wild fruits mwani (aquatic medicinal plants) farming, mat and basket making.

Component 3: Monitoring and assessment
64. This component will build the capacities of and support district staff and inter-village NRM Committees in adopting monitoring and assessment (M&A) tools for evaluating and documenting progress in improving ecosystem services and household resilience to climate variability and change and the benefits to food security of the targeted villages. By strengthening community members' capacity to systematically monitor, evaluate and document progress in improving ecosystem services and resilience to climate change and the benefits to food security of the targeted villages, activities under this component will contribute to the continuous improvement of landscape level land use plans monitored at the inter-village NRM committee level. Tools used to monitor and assess progress will create a standardized evidence base for landscape level NRM, which will further support the up-scaling of the NRM approaches to increase food security, ecosystem and community resilience, hence contributing to the global environmental benefits (GEBs) within policy integration and projects investment. Finally, Component 3 will contribute to the GEF-IAP-FS monitoring and evaluation of the regional level programme, providing inputs to compare results with other IAP child projects.

Table 3: Component 3: outcomes and outputs

Outcome	Outputs
65. Outcome 4: Improved evidence-base for joint village land-use planning and improvement of ecosystem services and up-scaling at district, region and national level	Output 4.1 Strengthening District and National M&A capacities to document progress in ecosystem services and household resilience and report on GEBs are strengthened
	Output 4.2 M&A results and knowledge products available for policy development and decision support for landscape level resources management
	Output 4.3 Project is linked to regional program

Outcome 4: Improved evidence-base for joint village land-use planning and improvement of ecosystem services and up-scaling at district, region and national level

66. Monitoring of ecosystem services in Tanzania is not systematic at district level and it is largely based on visual perceptions. Nevertheless data collection, analysis, storage and retrieval can be challenging because of: i) inadequate funding, ii) lack of training and instruments to measure key parameters and establish functional databases (for example in the use of remote sensing and GIS analysis, training on data capture and management), and iii) shortage of frontline staff. The District level structures for monitoring and reporting are present but require support to work effectively. Building on existing capacities at national and district levels, the GEF-IAP-FS includes adding an assessment dimension to the conventional M&E with focus at documenting progress in improving ecosystem services and resilience and the linkages to increased food security for the target population.

Output 4.1 Strengthening District and National M&A capacities to document progress in ecosystem services and household resilience and report on GEBs are strengthened

Activity 4.1.1 Provide training to Project Coordination Unit, line ministry and district staff as well as project beneficiaries at district and ward levels on methods and tools to assess and monitor project indicators

67. Under Output 4.1, the project will support district staff and villagers in adopting monitoring and assessment (M&A) tools and protocols for land degradation prevalence, biodiversity conservation, carbon benefits and household resilience to climate variability and change. These tools will serve as decision support for the landscape level NRM through the inter-village committees and land-use plans. They will also allow for reporting on the achieved global environmental benefits (GEBs) of the project. These M&A tools will be used for the baseline study at the project start and for subsequent assessments of biodiversity, carbon benefits, soil quality, water availability and land rehabilitation during the project duration. The M&A tools selected for this project include:

- The *GEF Tracking tool* for the GEF IAP-FS programme;

- A *climate resilience scorecard* and the resilience framework has been developed by DFID[153] Tailored to the project's activities, the scorecard will monitor household resilience to climate variability and change through the following set of questions to which a positive answer means a more resilient household:
  1) Have one or more household members participated in the formulation of joint village land-use plans?
  2) Is at least one family member participating in a FFS or a producer group that has increased household production and/or incomes?
  3) Has the household adopted a climate-smart production system including measures for the sustainable management of soils and water in at least 1/4 of its cultivate d land?
  4) Has the household access to a secure water source (rainwater harvesting and micro supplementary irrigation) for at least 1/5 of its cultivated land?
  5) In the last years has the family used weather forecast information to take decision on crops and varieties to cultivate and time of planting?
  6) Does the family have access to a renewable energy source for household and production needs?

Other sets of questions will be developed during the project's inception and the questionnaire will be applied at project start up, midterm and end in order to evaluate resilience but also the project's improvement. The scorecard questions may further be supported by the application of the IFAD Multidimensional Poverty Assessment Tool (MPAT), which is also household based and includes questions designed to capture climate adaptation capacities and covers food security.

- The *Land Degradation Surveillance Framework (LDSF)* to monitor the effectiveness of land rehabilitation over time, developed by the World Agroforestry Centre (ICRAF).

68. The Land Degradation and Ecosystem Health Surveillance Framework (LDSF) will be introduced as a pilot monitoring system in each district, as a possible precursor to a national – to assess the status and trends of the ecosystem health. This will provide each district with both a baseline and a monitoring methodology that can be institutionalised and remain post-project: a contribution that can now be afforded through GEF funding

69. The LDSF is designed for landscape-level assessments of ecosystem health, including soil condition, vegetation condition/ trends and diversity, land degradation status, carbon assessments and infiltration capacity. It has been successfully applied in a number of projects and studies – mainly in Africa, though not systematically in Tanzania - for baseline assessments of ecosystem health in

[153] (DFID KPI4 Methodology: https://www.gov.uk/government/uploads/system/uploads/attachment_data/file/328254/BRACED-KPI4-methodology-June2014.pdf

forested, agricultural and rangeland systems. The LDSF is also being used for monitoring and impact attribution in projects implementing range management, conservation agriculture and agroforestry. The framework is built around a hierarchical field survey and sampling protocol for a sampling areas of 10 km by 10 km, one per district. The data collection at plot-level is based on a modification of the FAO Land Cover Classification System (LCCS), and includes information on slope and landform, vegetation cover types and strata, land use, land ownership and primary current use. Other information collected includes presence/absence of soil and water conservation structures.

- The *Ex-Ante Carbon Tool (EX-ACT)*, developed by FAO aims at measuring carbon benefits of the project

70. The EX-ACT is a land-based accounting system to estimate the impact of agriculture and forestry development projects on the carbon-balance. It estimates C stock changes. The tool helps project designers to estimate and prioritize project activities with high benefits in economic and climate change mitigation terms. It is mostly used at project level, but can be used for policy analysis and to advocate for more environmentally friendly approaches to food security. EX-ACT uses default values for mitigation options in the agriculture sector based on land-use, such as forest cover, vegetation type, current agricultural management systems, degree of land degradation. The EX-ACT tool can be informed by the data generated by the LDSF monitoring exercise.

71. District and national level staff as well as project beneficiaries will be trained to measure and continuously follow-up on ecosystem indicators by applying the LDSF, EX-ACT tools on computers. Training will also include data analysis and database management and how to turn the data into useful knowledge and information products to support district level planning and, creation of evidence for awareness and up-scaling. The monitoring and assessment tools will be integrated into the monitoring and planning procedures of District offices. Skills development in data management and reporting will be included in the capacity and training plan to be developed. The collected data will be linked to the information provided in the development of the District Development Plans.

Output 4.2 M&A results and knowledge products available for policy development and decision support for landscape level resources management

Activity 4.2.1 Conduct a baseline study and regular assessments of biodiversity, carbon benefits, soil quality, water availability and land degradation, using selected tools from the training provided in Output 4.1

72. In the first project year the baseline and targets for carbon and agro biodiversity monitoring will be adjusted and the project will support the design and establishment of the LDSF sampling sites as well as data collection and analysis. This will be supported by ICRAF (LDSF) and has been included in this component's budget.

73. In line with the learning-by-doing approach used throughout FFS, training provided to PCU, line ministries, district staff as well as project beneficiaries under activity 4.1 will be provided as part of the actual application of the M&A tools during the baseline study. The application of the M&A tools should be conducted by at least 30% should be women and 30% should be young (<35 years old).

Activity 4.2.2 Produce research on land degradation, mitigation and biodiversity

74. The adoption of the M&A tools will contribute to the production of research documents and knowledge products on landscape level NRM in semi-arid areas. In addition, lessons learnt from M&A will not only contribute to improve and upscale landscape level, and landscape level land use plans, but will also expect to influence policies on SLM at the regional and national levels.

Activity 4.2.3 Use lessons learnt from M&A to support / influence policies on SLM and landscape level joint village land use planning and management

75. The project results will generate broader lessons about how the landscape level land use planning and governance as well as conservation practices regenerate and improve ecosystem services and food security and will be used to support policy development on land use for instance. As Tanzania is in the process of reforming the land policy, through its practical experiences, LDFS will contribute to identifying bottlenecks in the current framework and efficient entry points for sustainable

land use planning and natural resources management at the landscape level. Lessons learned from M&A will also support specific strategies for improving farmer's adoption rates and gender equality and involvement of youth.

76. The project results will also contribute to the implementation of the SRMP-3, the Dryland Project and the National Tree Planting Strategy and other supportive policies, in identifying where harmonisations may be needed and where the remaining gaps may be. To maximize the project results, emphasis will be placed on developing case studies and individual stories as well as reporting on quantitative results. The underlying premise is that with better awareness of the agro-ecological connections and increased productivity and access to food, this should provide incentives to upscale investments in ecosystem approaches.

Output 4.3 Project is linked to regional program

Activity4.3.1. Participation in regional program activities including study tours, research, knowledge sharing

77. Lastly, under this component, the PCU and project beneficiaries at the district, region and national level will link this project activities and results to the regional GEF IAP-FS programme in order to exchange knowledge and lessons learnt on best practices with the other 12-country participating in the programme, by participating in IAP-FS programme meetings.

78. LDFS is an integral part of a 12 country regional program, the Integrated Approach Pilot on Sustainable and Resilient Food Security. Each country project will contribute to the collective impact of this program, which is intended to inform approaches to food security in the drylands of Sub-Saharan Africa towards win-win solutions between food production and maintaining ecosystem health and in face of anticipated climate shocks. Each country project has committed to participating in the peer-peer applied management opportunities which are an integral part and distinct feature of this program, and which will be cost shared with the cross-cutting coordination and applied knowledge management and capacity building ‘’hub’’ project. Countries will not only participate in, but also host site visits in village and communities on specific themes of interest to exchange knowledge and lessons learned among the 12 countries.

79. In turn, the LDFS project will benefit from participating in this program by accessing good practices through peer learning, sharing current thinking on food security policy as well as gaining access to technical expertise on a cost-sharing basis where there is interest from multiple project countries. The program will generate knowledge management products and have an advocacy function which draws upon and creates visibility for the anticipated success stories from the country projects at the level of sub-regional and regional bodies within the context of food security debates and policy making. This program is multiple GEF Agencies but IFAD is the Lead Agency. The program will be coordinated via a substantive cross cutting project worth $10.4m and with a full time task manager.

Appendix 5: Institutional aspects and implementation arrangements

1. This Appendix describes project oversight, management and coordination and identifies actors and stakeholders who will be involved in the implementation of the project.

2. As the GEF Agency for the project, IFAD will provide technical and financial supervision and implementation support of the project and support on issues affecting timely and quality project implementation from the IFAD office in Dar es Salaam. IFAD will undertake implementation support, supervision, mid-term review and completion missions. The missions will address IFAD, GoT and GEF concerns. As per IFAD's standard operation procedure, representation from the Government will be included in all supervision missions. Upon completion of each mission, an Aide Memoire will be discussed and agreed between GoT and IFAD; and for each mission a single report will be filed, which meets IFAD, GoT and GEF requirements. A key responsibility of the supervision is to review quality of outputs and progress against the declared targets set in the Project's logical framework. If timing allows, missions will be combined with supervisions for IFAD baseline investments.

3. Given that the project's focus is on land degradation and food security and that the environment division is housed under the Vice President Office (VPO), the VPO will be the national executing agency implementing the project. On behalf of the Ministry of Finance, the Recipient, the VPO will lead the project and liaise with IFAD throughout the project implementation. Implementation will be through an embedded Project Coordination Unit (PCU). The Director of Environment of VPO will be charged with the responsibility of overall administration and supervision of the PCU. The Permanent Secretary of VPO will take the overall fiduciary responsibility of the project as well as the Project Steering Committee.

4. Coordination with baseline initiatives will be sought to avoid duplication and facilitate synergies between LDFS and baseline projects. Given that three of the five baseline projects are IFAD projects, the IFAD country office will act as supervisor to coordinate work plans between projects, while synergies will be leveraged through district authorities.

5. A **Project Steering Committee (PSC)** chaired by the Permanent Secretary of the VPO, with representation of the relevant sector ministries and IFAD projects, will be established to provide oversight and strategic guidance for the project, in particular when guidance is required by the Project Coordination Unit (PCU) (see Figure 6).

6. The PSC will convene twice a year to provide oversight on implementation, and approval of Annual Work Plans and Budgets (AWPB) as well as project progress reports. The PSC will play a critical role in project monitoring and evaluation by ensuring the quality of these processes and products, and using evaluations for performance improvement, accountability and learning. The PSC will ensure that required resources are committed and will arbitrate on any conflicts within the project or negotiate solutions to any problems encountered with external bodies.

7. The Project Coordinator will act as the secretariat of the PSC, which will be composed of the PS of the:

- Ministry of Agriculture, Livestock and Fisheries (MALF);
- Ministry of Water and Irrigation (MOWI);
- Ministry of Natural Resources and Tourism (MNRT);
- Prime Minister's Office Regional Administration and Local Government (PORALG);
- Ministry of Finance and Planning (MFP);
- Minister of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF) - Zanzibar;
- Ministry of Lands, Water, Energy and Environment (MILWEE) – Zanzibar.

8. Day-to-day project management and implementation will be the responsibility of the **Project Coordination Unit (PCU)** housed under the VPO office at a location to be agreed between all project partners at inception. The PCU will consist of a National Project Coordinator (seconded from the VPO

staff[154]), a Senior Accountant (seconded from the VPO), a full time Monitoring and Evaluation Officer (seconded by the VPO/recruited externally) and technical staffs. Short-term specialist expertise will be contracted according to need and availability of financial resources. Project procurement will be undertaken by the VPO's dedicated procurement team in line with IFAD and Government procurement guidelines.

9. The PCU will be responsible for the overall planning of project activities; guiding, supporting and supervising project implementation; procuring goods and services; financial management of the project resources; and monitoring and reporting on implementation and financial progress. It will work in collaboration with line ministries and government services including the Regional Secretariat and District Facilitation Teams to define performance-based MoUs based on district AWPB and determine backstopping arrangements according to the needs and priorities of the target districts.

10. In particular, the LDFS PCU will be the central financial management hub of the Project responsible for data processing and reporting. The PCU will manage transfers to the districts on the basis of activity tagged advances will be transferred to the district existing accounts. The PCU will then follow up justifications to facilitate financial reporting and generation of withdrawal applications.

11. A **Technical Advisory Committee (TAC)** will be established to advise the PCU and the PSC on the quality of progress reports, AWPBs, and on any technical issues. The TAC will assist the PCU in establishing potential linkages with relevant ministries for technical support. It will be chaired by the VPO Director of Environment and consist of: the VPO Director of Environment, the District Executive Directors of respective project districts, as well as of the relevant Directors of the following ministries: the Ministry of Agriculture, Livestock and Fisheries (MALF); the Ministry of Water and Irrigation (MOWI); the Ministry of Natural Resources and Tourism (MNRT); the Prime Minister's Office Regional Administration and Local Government (PMORALG); the Ministry of Finance and Planning (MFP); the Minister of Agriculture, Natural Resources, Livestock and Fisheries (MANRLF)- Zanzibar; the Ministry of Lands, Water, Energy and Environment (MILWEE) – Zanzibar. The relevant line ministries will assist district level technical officers in resolving technical issues as needed.

12. Project implementation at district level will follow the guidelines for decentralization by devolution (D by D). **District Facilitation Teams (DFT)** will be set up in the selected districts, and their offices equipped. The DFT 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 PCU and to their Regional Secretariat. The District Council Management Team will be responsible for approving the district-level AWPB and monitoring the progress of implementation. The quarterly reports of all five districts will then be reviewed and consolidated by the PCU and submitted to the TAC for approval and then to PSC and IFAD for clearance.

13. The DFT will consist of the technical staff responsible for environment, agriculture, land use planning, livestock, fisheries and water resources, namely: the District Natural Resources Management Officer and Extension Officer; the District Environmental Officer; the District Agricultural Officer and Extension Officer; the Livestock Officer and the Livestock Extension Officer; the District Treasurer and Community Development Officer/Gender focal desk, and the District Planning Officer – under the overall guidance provided by the District Executive Director.

14. Prior to the Project start-up workshop, the VPO and the target Districts will jointly develop the **Project Implementation Manual (PIM)**, and the draft AWPB which will guide implementation. The PIM will be submitted to the PSC and IFAD for non-objection. When an activity or item has not been included in the AWPB, authority to incur expenditure should be sought from the Project Steering Committee and IFAD and detailing from which line item in the AWPB the funds will be reallocated from.

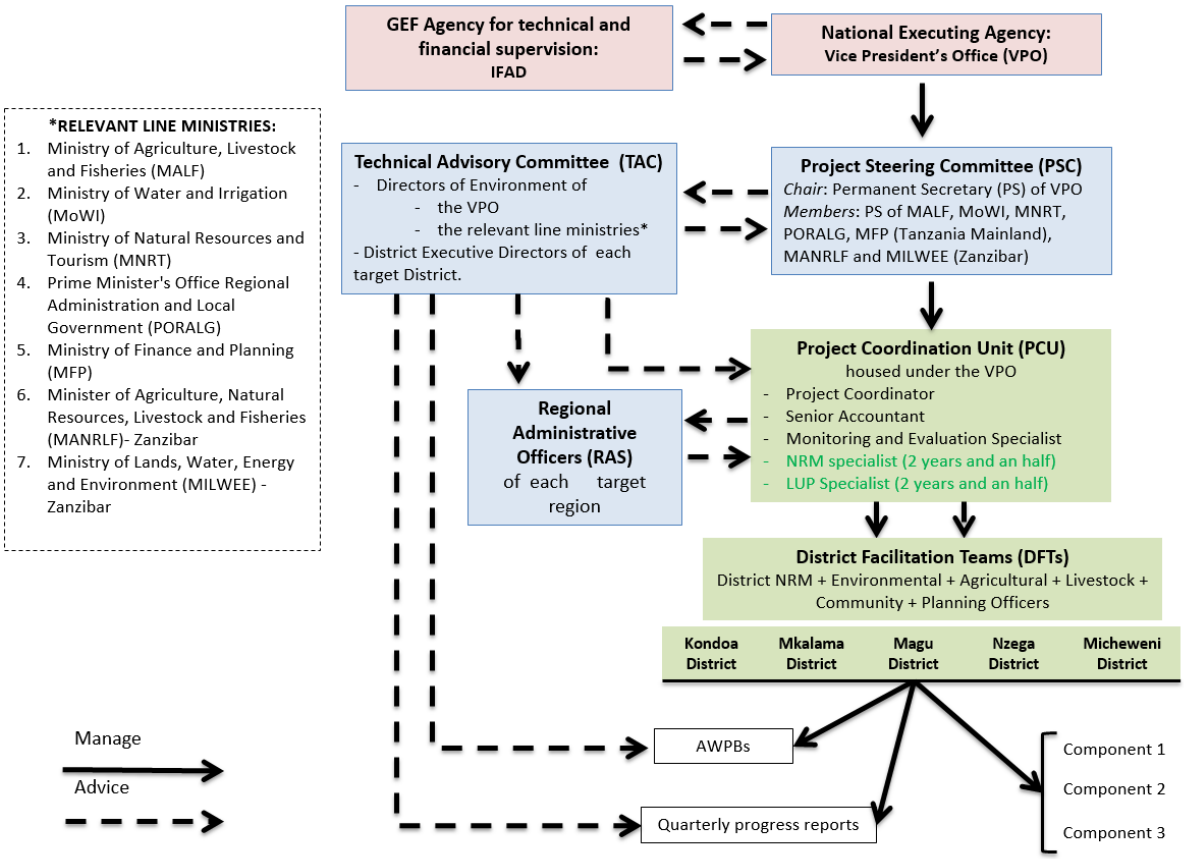
15. A start-up package will include a series of launch workshops to be conducted to ensure buy in of all stakeholders. At the national level, participants will include key government policy- and decision-makers, representatives of research institutes and other technical experts, key NGOs, relevant private-sector bodies, financial institutions, donor bodies and representatives of civil society. The

[154] Secondment means here to take unpaid leave of absence from Government.

district-level launch workshops will bring together the District Council and technical departments, NGOs, development partner-funded projects and representatives of farmer, livestock keepers and water user groups /organizations. At village level sensitization workshops will also be conducted. Gender balance will be sought among participants at all levels.

16. Project management is financed by GoT and GEF. An IFAD-GEF funded start-up grant enables GoT to recruit key staff and initiate priority actions immediately upon signing the LDFS grant agreement with IFAD. This means that project implementation will be in full swing by mid-2017.

Figure 67: Project organisation structure and principal partners



Attachment 1 to Appendix 5. Terms of reference for staff under the Project Coordination Unit (PCU)

A. Project Coordinator (PC)

1. Reporting to the Principle Secretary (PS) of the Lead Agency, the VPO, or a senior official designated by the PS to act on his/her behalf, the PC will be responsible for the day-to-day operations and coordination of the project activities and for ensuring that all requirements (AWPBs, budgetary allocations, disbursement of funds, progress reports, audit reports, withdrawal applications, etc.) are prepared and submitted on time. He/She will also be the Secretary to the Project Steering Committee (PSC), which will be chaired by the Principle Secretary of the VPO or her/his designated representative.

Responsibilities

- Provide effective leadership to the Project Coordination Team;
- Effective utilization of project funds and other resources;
- Implement the decisions of the PSC;
- Disseminate government policy related to the project and agricultural development;
- Mobilize funds as per the project requirements and rules;
- Deploy all project staff as appropriate and supervise PCU staff to ensure that they meet their mandated responsibilities;
- Manage the work of the Senior Accountant and the M&E Specialist as well as the national and international consultants ;
- Organize the staff training programme;
- Recruitment and supervision of technical assistance;
- Ensure project implementation according to the AWPB and Procurement Plan;
- Ensure that technical designs of project activities are done as per specifications or universal requirements;
- Ensure full functioning of the project's Monitoring and Evaluation system;
- Supervise implementation of activities financed by the project through contracts, implementing partners or farmers/herders;
- Ensure that project progress, audit and other reports are produced and submitted to the appropriate stakeholders on a timely basis;
- Adequate liaison and networking with other key agencies either working in the project area or potentially concerned with project activities, and with other relevant sectoral projects;
- Ensure gender mainstreaming and equality in all project activities;
- Accurate knowledge management including information dissemination about project activities;
- Represent the project at relevant functions and meetings; and
- Perform any other duty relevant to the project as may be assigned by the PSC or PS of the lead agency responsible for the project or his/her designated representative.

Qualifications

- Be a professional of high standing and have leadership skills;
- Have a first degree in Agricultural or Environmental Sciences or a relevant field from a recognized university. Relevant post graduate qualification focusing on Natural Management will be an added advantage;
- Proven managing skills and have a good understanding of participatory approaches to activity–based planning, budgeting and accounting;
- Full command in planning and budgeting as well as of M&E
- Have 15 years working experience, 5 of which must be at senior management position within the VPOs office if he/she is seconded;
- Have clear understanding of government policies and operations;
- Be up to date with the reform process in the relevant sectors;
- Be computer literate and able to apply basic software for the project;
- Be conversant with appropriate technologies used in the various project components;

- Be able to mobilize funds and be familiar with development partners and financiers;
- Be able to work in a multi-sectoral and multi-disciplinary professional setup;
- Have proposal and report writing skills;

Be able to communicate in national language and English.

B. Senior Accountant

2. Reporting to the Project Director, the Senior Accountant will be responsible for the administration of the financial resources of the project.

Responsibilities

- Assist in the financial management tasks under the responsibility of the Project Coordinator, including information on the transfer and conversion of funds,
- Verify financial entries in the appropriate Accounting Software
- Assist district facilitation teams in preparing annual budgets (AWPBs), quarterly expenditure reports, cash advance requests and any other financial management tools required by IFAD or the VPO
- Prepare inventory reports, reports on goods and services acquired
- Coordinate with the Ministry of Finance and Planning as relevant,
- Make timely payments of contractual fees and procurements,
- Provide support in the use of financial management software for financial monitoring and reporting on project financial flows
- Set up and maintain project files,
- Collect and archive project related data processing and information reporting;
- Establish document control procedures;
- Undertake project financial closure formalities including submission of terminal reports, transfer and disposal of equipment, processing of semi-final revisions, and support professional staff in preparing the terminal assessment reports.
- Assist in the timely issuance of contracts and assurance of other eligible entitlements of the project personnel, experts, and consultants by preparing annual recruitment plans in AWPBs.
- Undertake any other administrative tasks delegated by the Project Manager

Qualifications

- Have a Bachelor of Commerce (Accounts options) or Finance or Business Administration degree from a recognized university plus professional accounting qualification (CPA);
- Have 10 years working experience in a similar position;
- Be familiar with financial management/accounting in a government ministry/department and donor-funded projects;
- Be computer literate, especially in electronic spreadsheet, and other specialized accounting packages;
- Have a good working knowledge of accounting, personnel and procurement policies and procedures;
- Have a good working knowledge on: (a) banking, and (b) financial control;
- Have strong leadership and communication skills.
- Be fluent in both English and national language;

C. Monitoring and Evaluation Specialist

3. The project will be supported by a full time Monitoring and Evaluation Specialist reporting to the Project Coordinator, whose main responsibilities will be to ensure all of the activities outlined in Appendix 6 will be completed.

Responsibilities

- Coordinate all activities in component 3 as indicated by the Project Coordinator;
- Establish a Monitoring and Evaluation (M&E) system taking into account the Government monitoring frameworks, IFAD RIMS, GEF Tracking Tools the project objectives and the experience from other IFAD supported Projects in Tanzania;

- Develop reporting templates, in a participatory manner; for different levels of reporting
- Develop a Management Information System (MIS) for managing data and information for overall monitoring;
- Organize and supervise the project baseline survey at the beginning of the project, and all other data collection efforts undertaken during the lifetime of the project (i.e. impact assessment studies);
- Update the project log-frame as required, making sure that changes are tracked overtime;
- In collaboration with other members of the PCU, the Districts and other implementing partners, coordinate the preparation and revision of the project annual work plan and budget (AWPB) and ensure consistency with the project log-frame;
- Facilitate the project's annual review workshops
- Organize and contribute to Supervision Missions, impact assessment studies, Mid Term Review and Completion Review (PCR);
- Collate essential data to be included in quarterly, semi-annual and annual progress reports;
- Measure the project output indicators, progress and performance
- Perform and supervise data collection
- Conduct six months and annual progress reports
- Participate in GEF IAP Regional implementation workshops
- Monitor financial and physical progress as well as reporting back to stakeholders to create a better learning environment;
- Organize training on M&E for members of the PCU, implementing partners and Districts as required; provide technical backstopping to implementing agencies for preparing the AWPBs and for compliance with reporting requirements;
- Improve project performance by providing relevant and well researched information to the PCU, implementing partners and counties on a timely basis;
- Ensure capture of intended impact as well as successes and failures
- Liaise with the component managers within the key ministries and the Field Implementation Teams the Districts, implementing partners and service providers for effective linkages and information exchange;
- Ensure gender mainstreaming and equality in all project activities;
- Undertake any other duties assigned by the PD.

Qualifications

- Have a Bachelor's degree in Economics, Mathematics, Statistics or a related field from a recognized university. A post graduate diploma/certificate in MIS or M&E will be an added advantage;
- Have 8 years working experience, at least 3 of which must be in M&E of Government of Tanzania or donor-assisted project;
- Full command in M&E related techniques including conducting surveys and PRAs;
- Be computer literate and able to use advanced computer packages for quantitative and qualitative analysis and data base storage;
- Have knowledge and experience on the project cycle related activities and developments in the sector;
- Be fluent in both English and the national language;
- Have good interpersonal and communication skills.

Appendix 6: Planning, M&E and learning and knowledge management

1. This appendix describes the additional monitoring and assessment and monitoring and evaluation with respect to the global environmental benefits to be achieved or contributed to by the LDFS.

Expectations for the GEF-IAP child country project

2. The requirements of the GEF-IAP Food Security Programme includes adding an assessment dimension to the conventional M&E with focus at documenting progress in improving ecosystem services and resilience and the linkages to increased food security for the target population. For this end the assessment tools offered under the GEF-IAP Programme for Food Security and supported by programme partners include the **Land Degradation Surveillance Framework (LDSF)** supported by ICRAF, and the **Ex-Ante Carbon Balance tool (EX-ACT)** developed by FAO. These tools will be complimented by the IFAD developed **Results and Impacts Monitoring System (RIMS)** household survey tools. The assessment dimension of the M&E framework will serve the creation of an evidence base across the programme to support up-scaling of ecosystem approaches to increases resilience, local food security and global environmental benefits including through policy adjustments and integration in the design of investment programmes.

3. Guiding principles that LDFS will follow are:

- Harmonise the framework with other M&E systems and key indicators of government;
- Where possible align LDFS indicators with other IFAD programmes for a rationalised portfolio;
- Adopt results-based management, based on output and outcome indicators to capture changes in ecosystem status and services and track food security enhancement and gender and youth related issues;
- Use of objective-oriented Logical Framework and Annual Work Plan for planning and monitoring;
- Involvement of beneficiary communities in data collection, analysis and progress monitoring linking in particular the project monitoring and assessment to the monitoring of the progress in and effectiveness of the implementation of the landscape level land use plans decided under inter-village NRM committees;
- Use standardised mechanisms for data collection supported by the RIMS survey, EX-Act, and the LDSF where the district level is accountable for systematic data entry and the PCU is responsible for consolidation; and
- Develop learning, innovation and knowledge management mechanisms supporting in particular policy processes and wider up-scaling.

Key ecological, social and economic indicators

4. The short version of the Logical Framework is presented in the executive summary of the project design report and included in full version as an Attachment to this appendix. It is used as a core framework for results based management of the project. At the goal and development objective level the framework includes indicators that track increase in household resilience to climate variability in terms of decrease in month with food shortage and child malnutrition. These indicators are monitored through the RIMS survey and a household resilience scorecard covering LDFS target population. The objective of the project will also be measured by tracking reduction in the land degradation prevalence, which will be monitored through the LDFS. Resilience is further tracked at the outcome and output level in terms of increase in yield per hectare, number of farmers adopting conservation farming and SLM practices at the landscape level, hectares reforested or with recovered vegetation cover (all monitored and assessed through the LDSF) as well as hectares covered with improved pasture and management practices integrating biodiversity, and water availability for primary livestock and horticulture needs. Finally, carbon sequestered and greenhouse gas emissions avoided, as a global environmental benefit, is monitored and assessed through the Ex-Act.

5. The logical framework includes indicators for which the collected data are disaggregated by

gender, age and wealth class, to track the inclusiveness (or lack thereof) and the effectiveness of the gender and youth strategies.

6. One initial activity will be to adjust the logical framework, examining its consistency and the feasibility of targets. Local organisations should be fully consulted in this process and involved in the development of the M&E plans at local level. Additional quantitative and qualitative indicators should be selected and endorsed on a participatory basis in particular at the output level. These will complement the main list of indicators currently presented in the Logical Framework. Furthermore, the review of the logical framework will include: i) the establishment of the main M&E activities and responsibilities among the project's different stakeholders; ii) commitment from stakeholders, the information they should provide and at what frequencies; and iii) format and content of the different reporting requirements.

7. As explained above the main indicators in the M&E Framework supported by the tools, namely LDSF and Ex-Act, are aimed at measuring changes in food security, land degradation, biodiversity, mitigation and resilience to climate change and will serve as inputs to the overall outcome and impact monitoring and assessment at the aggregated level for the GEF-IAP Food Security Programme including for the completion of the GEF-IAP tracking tool. The baselines have been estimated but will be adjusted within the first year of the project. The application of the RIMS survey at project start up, midterm and ending is a standard practice for IFAD. In addition to the tools related to the global and local environmental benefits promoted through the GEF-IAP Food Security Programme these IFAD tools will provide a clear set of verifiable indicators to assess and report on project outreach and impacts on food security and nutrition and the access to production assets in the target population.

Planning and M&E system

8. A project inception workshop will be held within two months of project becoming effective with the full project team, district officers, relevant government counterparts and IFAD. It is crucial to build ownership of the project's goals and objectives and presents the modalities of implementation and execution, as well as providing inputs for the annual work plan and budget for the first project year. An inception workshop report will be prepared and shared with participants.

9. The M&E Specialist will be responsible for planning, monitoring, reporting, evaluation and assessment, learning, knowledge management and communication, as well as ensuring appropriateness and efficiency of implementation related to targeting (food insecure, gender, youth, geographical). The M&E Officer will also be responsible to conduct special studies and knowledge products, communications and knowledge management facilitating the implementation of the up-scaling strategy, cross-component learning and organisation of policy seminars and workshops, stakeholder relations and other events. The inter-village NRM committees at landscape level, the FFS groups and networks, water user groups and other NRM user groups, tree seedling nursery groups, and small producer groups will play a key role in the participatory monitoring of ecosystem services, agro-ecological and climate change resilience measures.

10. Planning of project activities will be an on-going and participatory process coordinated by the District Facilitation Teams (DFTs) and the PCU with support from the Technical Advisory Committee (TAC) with Annual Work Plan and Budget (AWPBs) forming the backbone of the planning. The AWPB, together with the Logical Framework's results-based indicators, will be the basis for monitoring project progress. Monitoring starts at the lowest level of the AWPB and the Logical Framework and will capture all four levels of results (activities, outputs, outcomes and impact at development objective and goal level) on a continuous basis. Findings from M&E will be enriched with feedback that comes from on-going generation of lessons learned, best practices, beneficiary and stakeholder stories also defined as learning and knowledge management.

11. The AWPB will be the key instrument for implementation and operational control. The AWPB for the first year will be based on the LDFS Project Design Report and its Attachments and prepared by a small team of experienced staff. Training will be given to the DFTs and the PCU in the preparation of AWPBs. Subsequent plans shall include a brief description of the implementation of the project in the previous period and the possible challenges and opportunities for the upcoming year. The plan must also include: (i) the results obtained by component and the proposed plan for the next year including execution times and specific targets; (ii) the estimated budget by category of expenditure and sources of financing, (iii) foreseen procurement; and (iv) the M&E plan for the year. The PCU's Project Coordinator will oversee the AWPB process and ensure that all stakeholders are fully involved. The DFTs and the M&E Specialist supported by the TAC will be responsible for coordinating the

preparation of AWPB, its consolidation, and presentation to the PSC, finalisation and submission to IFAD. The Senior Accountant will provide costs, incorporation of the financing plan and disbursement arrangement. The PCU's Project Coordinator together with the Senior Accountant will prepare the procurement plan. From year 2 onwards, a decentralised, inclusive and demand driven planning process will be undertaken ensuring that specific activities and timeframes are adjusted to local conditions. The approved AWPB by the PSC and IFAD will be the instrument granting the PCU the authority to conduct activities and incur expenditure.

12. The M&E Specialist supported by the TAC and DFTs will ensure that stories are collected on a regular basis, providing factual information on changes and benefits achieved at village and landscape levels as well as documenting global environmental benefits and up-scaling to other landscapes. Such testimonies are especially relevant for documenting programme attribution to higher level impacts. Photo archives will be kept as part of structuring qualitative information. To ensure an effective flow of information, the M&E Specialist will develop simple and user-friendly tools for data collection, data entry, data processing and analysis. Standard forms and formats will be made available to ensure consistency in the way data is recorded which will also be supported by the application of the LDSF and Ex-Act tools assessing local and global environmental and poverty reducing benefits. These tools are needed to systematically document progress at activities, outputs, outcomes, and impact level and will include:

- Standard formats for submission of financial returns on at least a monthly basis;
- An accounting software to enter data and produce financial summary information;
- Standard forms, based on the AWPB, to record progress and expenditure for each planned activity on a quarterly basis, and standard computer-based formats or templates to enter such data in a consistent manner, to facilitate consolidation;
- Standard forms to record results, in terms of activities completed and specific outputs produced, which will be the basis for physical progress summary information, and standard computer-based formats or templates to enter that data consistently; and
- Standard forms and computer-based formats or templates to enter data on LDFS resources, in particular registers of assets and contracts.

13. By tracking progress, monitoring support early identification of eventual implementation issues that needs to be addressed and facilitate decision making within the project context. In addition, the M&E system of each country project under the GEF IAP Food Security Programme will be part of a broader integrated information system at the programme level. This system is designed to inform and upscale investments in sustainable agriculture and SLM increasing ecosystem services and food security in all participating countries.

Reporting

14. Functional monitoring will provide the data needed to prepare progress reports. Results will be submitted in summary form in quarterly, half-yearly and annual reports to the PSC and IFAD. The AWPB is the starting point to monitor physical progress (actual implementation compared to planned activities) and financial progress (actual expenditure compared to budget).

Progress reports

15. **Progress reports** present a full picture of programme resources, annual and cumulative physical and financial achievements as compared to targets set in the AWPB, analysis of successful approaches and outputs, failures and constraints, and whether progress is being made towards achieving objectives. Progress related to outcomes and overall goal cannot be expected until a reasonable period after interventions and delivery of outputs has passed, however it is necessary to systematically collect data related to the outcomes and goal almost from the beginning. In the first Annual Progress Report, this may take the form of mentioning some of the key findings of baseline surveys that have been carried-out. From the second year onwards, the programme needs to start analysing whether outputs that are being produced are actually leading to outcomes and biophysical changes and changes benefits among the target group. The reports should highlight and justify the implementation strategy and indicate challenges encountered needed to be addressed as part of the

adaptive management of the project. Specific reference should be made to recommendations by supervision missions.

16. **Project Implementation Review (PIR).** In addition to IFAD progress report, the PCU will submit to IFAD a PIR on an annual basis. This report is a self-assessment of the GEF grant's implementation progress and likelihood of achieving project objectives, which were set and endorsed by the GEF and approved by IFAD within the fiscal year155. The PIR will be submitted by IFAD to the GEF as part of the Annual Monitoring Review (AMR), the principle instrument for reporting to the GEF Secretariat on the IFAD GEF portfolio.

17. **Evaluation**. Evaluation by the PCU will ensure that activities being implemented are achieving the stipulated performance and resulting in the desired impact. A particular focus will be the assessment of the effectiveness of the programme on poverty alleviation and generation of sustainable global and local environmental benefits in terms of ecosystem services and its impact of each activity in terms of gender, and categories of households: male-headed, female-headed and youth.

18. **Baseline, mid-term and completion surveys**. These surveys are undertaken at start, middle and end of the programme implementation period and identify, verify and track outcomes and emerging impacts. A baseline survey will be undertaken to benchmark the existing situation in the landscapes as part of the final design of LDFS. The baseline survey and follow-up surveys combine collection of basic demographic and socio-economic data with the application of LDSF and Ex-Act, in order to understand and gauge the linkage between increased ecosystem services and resilience and impacts on food security and poverty reduction.

19. The GEF-IAP Food Security Programme **Tracking Tool** (TT) will likewise be completed at baseline, mid-term and completion allowing for the aggregation of indicators from the individual project level to the programme portfolio level and track overall portfolio performance in the GEF focal areas contributing with finance to the IAP Programme. The TT has been designed to monitoring several outcome indicators that contribute to the overall goals of the IAP Programme and demonstrate how each child country project contributes to the country and regional goals.

20. **Mid-Term Review (MTR).** A MTR will be conducted halfway through implementation (towards end of year 3) to assess the performance and impact and its progress against the established objectives, the efficiency and effectiveness of LDFS management, and the validity of the LDFS design. Recommendations for revisions to the activities and approach, the Logical framework targets, may be made if required.

21. **Programme Completion Report (PCR).** At the end of the implementation period, a PCR will be compiled to provide an overview of the accomplishments of LDFS. The PCR should inform the rationale for and orientation of a follow-on investment programme.

22. An independent **Terminal Evaluation (TE)** will also take place and look at the impact and sustainability of results. It will be conducted by external consultants who will operate under the supervision of IFAD's Evaluation Office and IFAD staff. Technical staff working at the PCU, including the M&E Specialist, and stakeholders will all be collaborating with the appointed consultants for effective evaluation. The report will be submitted to IFAD and the GEF Evaluation Office no more than 12 months after project completion.

Table 14: M&E costed plan

M&E Activity	Responsible Parties	Timeline	Budget
Monitoring of project progress and performance	PCU (Project Coordinator and M&E Specialist)	Continuous	Within Component 3 budget
PIRs	PCU and IFAD	Annually	
Inception workshop	PCU and IFAD	During the first two months after the project is declared	Within Component 3 budget

[155] A fiscal year for the GEF starts on July 1st, and ends on June 30th of the following year.

		effective	
Adjustment of biophysical and socio-economic baseline	PCU, IFAD, key Government partners and international institutions (ICRAF)	Baseline established in Y1	USD 125,000
Measurement of project outcome and impact indicators	DFTs, PCU, IFAD, key Government partners	Mid and End of the project	Within Component 3 / PMC budget
Measurement of project output indicators and progress and performance	PCU (M&E Specialist), DFTs, Local support institutions	Annually	Within Component 3 / PMC budget
Perform and supervise data collection	PCU (M&E Specialist), DFTs, Local support institutions	Continuous monitoring activity	
Six months and annual progress reports	DFTs and Project Coordinator, M&E Specialist	Every 6 months and annually after project start up	Within Component 3 / PMC budget
Participate to GEF IAP Regional implementation workshops	Project Coordinator and/or M&E Specialist, TAC	Every two years	USD 50,000 (Y1, Y3 and Y5 = USD 150,000 total)
Organize project supervision missions	PCU and IFAD	Every six months	Paid by GEF agency fee
Mid-term external evaluation	External consultants (oversight by IFAD)	Mid-term of project implementation	USD 30,000 (Y3)
Tracking Tool	PCU and international institutions (ICRAF)	CEO Endorsement; at mid-term; and project completion	Part of baseline adjustment and outcome and impact indicator measurement
Final external evaluation	PCU External consultants (oversight by IFAD)	After project completion, but no more than 12 months later	USD 30,000 (Y5)
Project completion report	PCU External consultants (oversight by IFAD)	Before project closure	Within Component 3 / PMC budget
Completion workshop	PCU and IFAD	At project completion	Within Component 3 / PMC budget

Learning and Knowledge management

23. Knowledge Management (KM) will be a process by which value is generated from project intellectual and knowledge-based assets. It will include a detailed plan on how information will be obtained and disseminated project reports and reviews, development of knowledge products, policy workshops and the use of communication channels. To share lessons learnt and promote upscaling, the PCU is expected to use a range of different media and approaches, such as farmer field visits, website, radio, video, press releases and articles for local and international newspapers and the IFAD website. The project will benefit from and contribute to the GEF-IAP Food Security Programme knowledge network. The regional knowledge network, IFAD Africa, will provide opportunities to participate in regional thematic workshops, visit sites of similar projects, and guidance for the start-up of KM activities. Tools, such as case studies and stakeholder interviews, will complement the M&A tools described above to deepen the understanding of factors contributing to adoption of SLM practices and success or failure to show impacts on ecosystems services and food security. One of the main purposes of knowledge creation and sharing will be to support policy making by building a comprehensive body of evidence, lessons learned, and good practices. The M&A tools will provide a cost-effective way of building strong cases, and inform policy makers for further up-scaling.

Attachments to Appendix 6:

Attachment 1: Detailed Logical framework
Attachment 2: GHG assessment using EX-ACT (detail results, input data and assumptions)

Attachment 1: Detailed Logical Framework for project monitoring

Baseline figures will be adjusted during the first project year when the Exact, LDSF, resilience scorecard, and MPAT survey is applied

Results Hierarchy	Indicators				Means of Verification			
	Name	**Baseline**	**Midterm**	**End Target**	**Source**	**Frequency**	**Responsibility**	**Assumptions (A) / Risks (R)**
Goal: To improve food and nutrition security in the targeted villages	Percentage points reduction in food insecurity level (index)	50%[156]	5% reduction	10% reduction	Ministry of Health	Project years 2 and 5		(A) Broad systemic constraints to accessing food are controlled, such as market stability, security, fiscal policies (R) Climate shocks and regional economic shocks could impact food supply
	Percentage point reduction in malnutrition level for children under 5 years	TBD	5%	10%	RIMS baseline and impact surveys, household surveys			
Project Development Objective: To reverse land degradation trends in central Tanzania and Pemba (Zanzibar) through sustainable land and water management and ecosystem-based adaptation	Percentage point reduction in land degradation prevalence	45-70% of land affected	10% reduction	20% reduction	Land Degradation surveillance Framework (LDSF)	Annual		(A) It is assumed that restoring key productive ecosystems to productivity is possible, and that this will not lead to expansion but rather to increased productivity. (R) The current system of incentives may be insufficient to ensure continued long-term stewardship of natural resources;
	Percentage of targeted households with increased resilience to climate variability and change (using household resilience scorecard)[1]	TBD	20% of households with increased resilience	40% of households with increased resilience	Resilience Scorecard			

[156] According to the district staff whom participated in the design on average among the districts 50% of households are food insecure. This figure will be adjusted with more precise data from each participating village during the first project year

								population increases may jeopardize sustainability of management systems.
Component 1: Institutional capacity building for sustainable land management and biodiversity conservation at landscape level								
Outcome 1:Institutional capacity in place at district and local village levels to support SLM practices and conservation of ecosystem services at the landscape level	# of landscape level inter-village NRM committees functioning (%women in leading positions)	0 committees	At least 1 per district, bringing together at least 2 or more villages within a given landscape (> 30% women in leading positions)	At least 1 per district, bringing together at least 2 or more villages within a given landscape (> 30% women in leading positions)	Project M&A system District reports Minutes from committee meetings	Annual	VPO	(A) There is willingness and material support at district and village level for enforcing SLM policies and practices (R)
Output 1.1: Local and district level institutional capacity strengthened on participatory joint land-use mapping, planning and access and regulation in support of SLM, forest conservation and sustainable agro-pastoralism	# of district staff, village staff and community members trained (% women, % youth)	0	At least 10 staff per district, 5 staff per village, and 3,000 community members, (>30% women and >30% youth)	At least 10 staff per district, 5 staff per village, and 3,000 community members, (>30% women and >30% youth)	District training reports	Annual	VPO	(A) There are sufficient staff, time and resources to support the local and landscape-based planning processes. There are no open conflicts between members of planning committees or villages. The number of participating villages is sufficient to represent a significant change at landscape level. (R) There is a risk that local government authorities do not have the capacity to maintain the developed institutional mechanisms beyond

								the duration of the project.
Output 1.2: Governance instruments in place to support integrated landscape management and SLM practices	# of land use plans adopted at village and landscape levels	0	1 land use plan per village	At least 1 land use plan per district (landscape level), covering at least 2 villages within a given landscape	Land use plans, District ordinances, bylaws and legal texts	Annual	VPO	
Component 2: Up-scaling of sustainable and climate-smart agriculture, land, water and pastoral management systems								
Outcome 2: Reduced land degradation, improved soil health and increased productivity of and income generation from agro pastoral ecosystems	# of households reporting yield/ha increase disaggregated by gender of household head	0 Households	2,000 HH (at least 20% FHH)	3,000 HH (at least 20% FHH)	Household surveys	Three times during the life of the project		(A) yield increases are used primarily for self-consumption or local market trading as a means of increasing food security. (R) Cultural factors could hinder the long-term uptake of IAP technologies. A severe climate shock could undermine any gains in productivity in the first years of the project.
	GHG emission avoided Carbon sequestered in biomass above and below ground	TBD		307,607 tCO2eq emissions avoided 915,247 tons CO2eq sequestered	Exact (Ex-Ante Carbon Balance Tool)			

Output 2.1 Farmer's capacities strengthened in experimental learning and adoption of conservation and climate smart farming and SLM practices	# of FFS operating and # of farmers participating(% women and % youth)	0 FFS	60 FFS with 25 participants each (>30 % women and >30% youth)	100 FFS with 25 participants each (>30% women and >30% youth)	FFS and training reports	Annual	Districts	(A) Improved management of NR at the landscape level is achievable within the limits of the project's participating villages and resources. A critical mass of Hectares under improved management leads to restoration of ecosystem productivity. (R) There is a risk that communities will prioritize a single set of infrastructure interventions in the land use plans, at the expense of multi-focal interventions which could bring added benefits.
	# of farmers adopting conservation and climate smart farming and SLM practices disaggregated by gender and age	0 farmers are practicing conservation farming	At least 2,000 farmers are practicing conservation farming	At least 3,000 farmers are practicing conservation farming	Household surveys	Annual	VPO	
Output 2.2 Improved management of dryland agro-pastoral and woodlands landscapes	Number of groups operating tree nurseries and practicing woodland management (% women and %youth participating).	0 groups operating tree nurseries	15 groups operating tree nurseries (>30% women and >30% youth)	20 groups operating tree nurseries (>30% women and >30% youth)	Visual observation,	Annual	Districts	
	# ha of rangeland and crop land under conservation and climate smart farming and sustainable management	0 ha under conservation and climate smart farming	4,500 ha under conservation and climate	9,000 ha[157] under conservation and climate	LDSF	Three times during the life of the project		

[157] 3,000 ha of crop and agro-forestry land, 4,000 ha of pastureland and 2,000 ha of woodland.

		and sustainable management	smart farming and sustainable management	smart farming and sustainable management				
	# ha woodlands, rangeland, and degraded land reforested or afforested	0 ha woodlands, rangeland, and degraded land reforested[158]	250 ha woodlands, rangeland, and degraded land reforested or afforested	500 ha woodlands, rangeland, and degraded land reforested or afforested	LDSF	Three times during the life of the project		
	# of farmers reporting having enough water for primarily livestock and horticulture needs and in some cases for complementary irrigation of other crops	0 farmers reporting having enough water	1,500 farmers reporting having enough water	3,000 farmers reporting having enough water	Water availability assessments	Annual		
	Number of groups practicing rangeland rehabilitation and management (% women and %youth participating	0 groups practicing rangeland rehabilitation	10 groups practicing rangeland rehabilitation (>30% women and 30% youth)	20 groups practicing rangeland rehabilitation and management (30% women and 30% youth)	Household surveys and FFS reports with list of participants			
	Number of hectares covered with management practices integrating biodiversity conservation	0 ha covered with practices integrating BD	Within the 4,500 ha above-mentioned, 2,500 ha under covered with management practices integrating	Within the 9,000 ha above-mentioned, 6,000[159] ha under covered with management practices integrating	LDSF	Three times during the life of the project		

[158] 45-70% of total land in project areas are degraded whit very high levels of soil erosion
[159] 4,000 ha of pastureland and 2,000 ha of woodland (these 6,000 ha are included in the above-mentioned 9,000 ha under conservation and climate-smart farming and sustainable management).

			biodiversity conservation	biodiversity conservation				
Outcome 3: Diversified and climate resilient production systems that increase all-season income generation through producer groups and better market linkages	# of households reporting an increase in their income per season from produce supported by the project	0	At least 1,500 households are reporting an increase in income	At least 3,000 households are reporting an increase in income	Household surveys	Three times during the life of the project	Districts	(A) A sufficient number of households demonstrate a significant increase in income to create a multiplier effect in which non-participating households can adopt similar practices. (R) There is a risk that increases in income could create social conflicts and rivalries within and across villages.
Output 3.1 Households adding value and accessing markets with a diversified basket of produce	# of households participating in producer groups adding value and accessing markets disaggregated by gender of household head	0	At least 1,500 households participate in producer groups (among which >30% are female-headed households)	At least 3,000 households participate in producer group (among which >30% are female-headed households)	Household surveys	Annual	District	(A) it is assumed that producer groups design equitable benefit and responsibility sharing mechanisms among members. (R)
	# of youth participating in producer groups and income generating activities	0	>40% of youth participating in producer groups and income generating activities)	>40% of youth participating in producer groups and income generating activities)				
Component 3: Monitoring and assessment								

Outcome 4: Improved evidence base for joint village land-use planning and improvement of ecosystem services and upscaling at district, region and national level	# of districts adopting global environmental and resilience benefit assessment tools (Exact, LDSF, Resilience scorecard) and protocols and using the information for policy and programme design	0	5 districts have adopted global environmental and resilience benefit assessment tools	5 districts have adopted global environmental and resilience benefit assessment tools	Surveys	Annual	Districts, VPO	(A) There are sufficient resources to perform monitoring and assessment using GEF IAP tools beyond the duration of the project. (R) The beneficiaries may not have the necessary technical or logistical capacity to use all GEF tools.
Output: 4.1 District and National monitoring capacities to report on global environmental benefits and resilience is strengthened	# people at village and District levels trained in assessment tools (disaggregated by gender and age)	0	At least 10 staff per district and 15 people per village trained (>30% women and >30% youth)	At least 10 staff per district and 20 people per village trained (>30% women and >30% youth)	Training reports Supervision reports Meeting reports	Annual	Districts, VPO	(A) The institutional and material conditions are in place to allow trained staff to apply acquired knowledge, techniques and tools.
Output 4.2 Assessment results and knowledge products available for policy development and decision support for landscape level resources management	# of assessments conducted and results used by inter-village committees	0	At least 3 baseline and 3 midterm assessments done per district results reflected in joint-village land use plans	At least 3 end of project assessments done per districts	Supervision reports, assessment reports	Three times during the life of the project	Districts, VPO	
	# of knowledge products	0	1 knowledge products	3 knowledge products	Knowledge products	Annual	VPO	
Output 4.3 Project is linked to regional program	# of regional programme meetings attended by the project coordination unit and district facilitators	0	3 regional meetings attended	At least 5 regional meetings attended	Meeting reports, Regional hub reports	Annual	VPO	

Attachment 2: GHG assessment using EX-ACT (detail results, input data and assumptions)

Detail results. The project activities will avoid 307,607 tons CO2eq emissions, or 20,507 tCO2eq per year and create 915,247 tons CO2eq of carbon sink or 61,016 tons CO2eq sequestered per year.

Total tons CO2eq sequestered over the 15 years (5 years for implementation + 10-year capitalization phase: 915,247
Tons CO2eq sequestered per hectare over the 15 years: 96
Tons CO2eq sequestered per hectare per year: 6.4
See Table 14 for detailed assessment results.

Table 15: Results from EX-ACT simulation according to LDFS's activities

Project Name	*Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania*		**Climate Dominant Regional Soil Type**	*Tropical Mountain (Dry)*				**Duration of the Project (Years)**	*15*	
Continent	*Africa*			*HAC Soils*				**Total area (ha)**	*9500*	
Components of the project	**Gross fluxes**		**Balance**	**Share per GHG of the Balance**				**Result per year**		**Balance**
	Without	**With**		**All GHG in tCO2eq**				**Without**	**With**	
	All GHG in tCO2eq			**CO2**			**N2O**	**CH4**		
	Positive = source / negative = sink			**Biomass**	**Soil**	**Other**				
Land use changes										
Deforestation	0	0	0	0	0		0	0	0	0
Afforestation	0	-66,267	-66,267	-49,068	-17,199		0	0	0	-4,418	-4,418
Other LUC	0	-29,425	-29,425	17,600	-47,025		0	0	0	-1,962	-1,962
Agriculture											

Annual	3,902	-25,569	-29,470	0	-28,875		1,888	-2,484	260	-1,705	-1,965
Perennial	0	-124,988	-124,988	-118,800	-6,188		0	0	0	-8,333	-8,333
Rice	0	0	0	0	0		0	0	0	0	0
Grassland & Livestocks											
Grassland	96,602	-114,497	-211,099	0	-208,547		-1,330	-1,222	6,440	-7,633	-14,073
Livestocks	0	0	0				0	0	0	0	0
Degradation & Management	207,104	-246,894	-453,998	-318,091	-52,250		-21,716	-61,941	13,807	-16,460	-30,267
Coastal wetlands	0	0	0	0	0		0	0	0	0	0
Inputs & Investments	0	0	0			0	0	0	0	0	0
Fishery & Aquaculture	0	0	0			0	0	0	0	0	0
Total	**307,607**	-607,640	**-915,247**	-468,359	-360,084	0	-21,157	-65,647	**20,507**	-40,509	**-61,016**
Per hectare	32	-64	**-96**	-49.3	-37.9	0.0	-2.2	-6.9			
Per hectare per year	2.2	-4.3	**-6.4**	-3.3	-2.5	0.0	-0.1	-0.5	2.2	-4.3	-6.4

Input data and assumptions

Output 2.2: Performance indicators

1) Hectares under conservation farming

The end of term target is 9,000 ha under conservation farming, climate-smart practices, improved pasture and woodland management, disaggregated as follows:

- 3,000 ha of conservation farming and agroforestry: 1,500 for improved/conservation farming and 1,500 of agroforestry and conservation farming
- 4,000 ha of improved pasture management
- 2,000 ha of sustainable woodland management

Cropland tab:

3,000 / 3 = 1,000 ha for each traditional system, then divided by 2 (half for CSA practices and half for agroforestry).

Improved/conservation farming: cassava: 500 ha
Improved/conservation farming: sweet potatoes: 500 ha
Improved/conservation farming: maize: 500 ha

Land Use Change tab:

From annual crop to perennial/tree crops (agroforestry) 500 ha x 3

	Start (ha)	Without project (ha)	With project (ha)	Tab in Exact
Traditional farming: cassava	1,000 ha	1,000 ha		Cropland
Improved/conservation farming: cassava:			500 ha	Cropland
Agroforestry system			500 ha	Land Use Change
Traditional farming: sweet potatoes	1,000 ha	1,000 ha		Cropland
Improved/conservation farming: sweet potatoes			500 ha	Cropland
Agroforestry system			500 ha	Land Use Change
Traditional farming: maize	1,000 ha	1,000 ha		Cropland
Improved/conservation farming: maize			500 ha	Cropland
Agroforestry system			500 ha	Land Use Change

Total	**3,000 ha**	**3,000 ha**	**3,000 ha**

Grassland tab: 4,000 ha of improved pasture

	Start (ha)	Without project (ha)	With project (ha)	Tab in Exact
Traditional pasture management	4,000	4,000		Grassland
Improved pasture (with inputs improvements)			4,000	Grassland
Total	**4,000**	**4,000**	**4,000**	

Management tab: 2,000 ha of sustainable woodland management
Large degradation of 2,000 ha of forest zone 1, which would end up being extreme without the project's intervention, or low with the project's intervention.

2) Hectares reforested or afforested
The end of term target is 500 ha reforested.
Land use change tab: Reforestation/afforestation
250 ha reforested on set aside land
250 ha reforested on degraded land

Appendix 7: Financial management and disbursement arrangements

I. Summary of Financial Management arrangements

1. Financial Management Assessment (FMA) has been undertaken as part of the Project design in accordance with IFAD requirements and Financial Management Division (FMD) guidelines on financial management assessment at design. The assessment is based on review of operation of the national executing agency of the project, the Vice President's Office (VPO) in Dar-es-salaam. A review of financial management arrangements of other projects within the VPO and its engagements with the districts has also been done.

II. Summary of strengths and weaknesses of the proposed FM arrangements

2. Summarised below are the key strengths and weaknesses on the basis of which financial management arrangements have been designed.

Strengths:

i. The VPO has previously implemented donor funded projects including those funded by GEF;
ii. The office has qualified and experienced accountants. During the design mission assigned staff to the design team were chartered accountants with experience in project accounting;
iii. Project funds will flow from IFAD directly into a designated account to the operating accounts managed by PCU and later implementing projects rather than from a pooled account at the reserve bank;
iv. There exist internal audit arrangements with services provided by the internal audit department of the VPO that regularly reviews VPO activities including projects. This provides assurance on the strength of internal control systems; and
v. The Auditor General and controller will carry out the statutory audits of the project which will ensure coverage of a good scope and timely submission of audit reports.

Weaknesses:

i. The PCU will be embedded within the VPO, thus project activities are likely to experience delays that characterise the chain of approvals within the Government ministry/department;
ii. Persistent delays in justification from districts leading to delays in submission of withdrawal applications with consequent liquidity problems negatively impacting on activity implementation;
iii. Limited staff capacity at district level to handle accounting and reporting requirements of the project; and
iv. VPO has implemented IFMIS/EPICOR. This is based on the GoT chart of accounts whose customisation to project accounting has not taken off. Thus, the software may not meet the reporting requirements of IFAD including generation of the recently introduced smart SOEs from the software;

3. Capacity constraints to be addressed and operating changes to be made**.**

i. The major capacity gaps to address will accounts staff inexperience with IFAD financial management procedures. VPO has been implementing donor funded projects but has not worked with IFAD financial management requirements in which training will be required;
ii. VPO has implemented the EPICOR accounting software whose operation is based on a pooled bank account. To mitigate against possible delays in release of funds, a dedicated designated account will be opened and operated by the VPO;
iii. VPO will procure and operationalised a dedicated accounting software to manage grant funds;

4. There will be need to provide training support to the internal audit department of VPO and include them in IFAD financial management trainings to enable them appreciate IFAD financial management procedures/requirements.

5. Tanzania's inherent risk is medium as measured by Transparency International's Corruption Perceptions Index (CPI). The country's annual CPI in 2015 score of 3.0 puts it at 117th position out of 168 countries while that of 2014 of 3.1 put the country in the 119th position out of 175 countries ranked which falls in the high-risk category. At project level, the risk before taking into account mitigation measures has been assessed as high.

6. Project design has taken into consideration this risk profile and included mitigating measures at project level to reduce the risk from high to medium level. The main considerations made include the following.

i. VPO in consultation with IFAD will assign staff in charge of financial management and accounting to the project. The staff will be trained in IFAD financial management procedures. Any changes in staff arrangements will be communicated to IFAD;
ii. Given the capacities at the districts, it is not cost effective to open project specific bank accounts in the districts. Accordingly, activity tagged advances will be transferred to the existing district bank accounts and subsequent advances will be done upon justification of previous advances; and
iii. An off the shelf accounting software will be procured and implemented. The software should have adequate modules necessary to facilitate budget control, ageing of advances and production of financial reports by component, expenditure category and financier and facilitate generation of SMART SOEs.

7. The following Financial Management conditions or covenants for Board presentation and conditions for withdrawal.

i. The designated account (DA) and project accounts (OAs) will have been duly opened and specimen of signatures of the authorised persons to manage the DA shall be submitted to IFAD;
ii. The PCU, headed by an assigned Project Coordinator shall have been fully constituted and adequately staffed with in addition to the Project Coordinator, an Accountant, Monitoring and Evaluation Officer and Procurement Officer;
iii. The Project Implementation Manual (PIM) comprising of the financial management module will have been submitted to IFAD for approval;
iv. An off the shelf accounting software will have been procured and implemented with a properly coded chart of accounts to facilitate generation of reports by component, expenditure category and financier and generate SMART SOEs;
v. The Recipient shall, to the fullest extent possible exempt the proceeds of the grant from all taxes. Any taxes and duties paid by the project shall be reimbursed by GoT; and
vi. The Project Steering Committee (PSC) headed by the Permanent Secretary of the VPO will have been established.

There are no proposed exceptions to the general conditions.

III. Project Financial Profile

8. Nature of project eligible expenditures - LDFS project expenditure categories have been assigned in respect to the guidance provided on standard flexcube expenditure categories. Eligible expenditures include the following expenditure categories: (i) equipment and materials, (ii) consultancies, (iii) training, (iv) workshops and (v) operating costs. The summary costs and financing plan are shown in the table below. Detailed cost tables are presented in appendix 9.

9. **Financing Plan.** Total LDFS project costs estimated at about USD 60.12 million over the five-year Project implementation period including baseline co-financing investments from GOT of USD 44.96 million and USD 8.00 million from IFAD. The direct investments in the project will be USD 7.15 million from GEF. . Other anticipated funding sources will beneficiaries who will contribute their unskilled labour, local materials and plots of land for farmer field schools intended to ensure beneficiary ownership of the project. No specific value of beneficiary contribution has been pre-determined as this will be ascertained during implementation as and when it occurs. .

10. The detailed cost tables show the exact activity level attribution to the various financiers which reflect eligibility of expenditure by expenditure category.

11. Beneficiary contribution will be in-kind, mainly in the form of unskilled, local materials and plots of land under the farmer field schools. These will fall under the equipment and materials and training expenditure categories. The financing plan is shown in table 16 below.

Table 16: Financing plan

The United Republic of Tanzanaia
Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS)

Components by Financiers (US$ '000)	GEF		VPO		Mkalama		Nzega		Micheweni		Kondoa		Magu		IFAD Cash		Total		For. Exch.	Local (Excl. Taxes)
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%		
1. Institutional capacity building on sustainable land management, forest conservation and sustainable pastrolism	1,001	8.7	2,600	22.6	671	5.8	990	8.6	1,761	15.3	400	3.5	2,090	18.2	2,000	17.4	11,513	19.2	-	11,513
2. Sustainable and climate smart land, Water and pastrol management ia	4,994	14.5	2,350	6.8	5,589	16.2	6,600	19.1	3,504	10.1	5,600	16.2	3,910	11.3	2,000	5.8	34,547	57.5	107	34,440
3. Monitoring and Assesment	843	7.2	7,450	63.5	180	1.5	495	4.2	750	6.4	-	-	8	0.1	2,000	17.1	11,726	19.5	144	11,582
4. Project management	318	13.6	3	0.1	2	0.1	2	0.1	1	0.1	3	0.1	2	0.1	2,000	85.8	2,332	3.9	-	2,332
Total PROJECT COSTS	7,156	11.9	12,404	20.6	6,442	10.7	8,087	13.5	6,016	10.0	6,003	10.0	6,010	10.0	8,000	13.3	60,118	100.0	251	59,866

12. Project activities will be implemented at different levels. At Project design, funding has been earmarked to specific geographical location such as national or district as the Project activities will be implemented mainly at district level.

Implementation arrangements

A. Implementing and participating organisations with fiduciary responsibilities

13. **The Vice President's Office (VPO).** The VPO will be the National Executing Agency implementing the Project on behalf of the Ministry of Finance, the Recipient. Implementation will be through an embedded Project Implementation Unit (PCU) composed of staff seconded from the VPO headed by a Project Coordinator, or recruited through open competition as required. The Director of Environment of VPO will be charged with the responsibility of overall administration and supervision of the PCU. The Permanent Secretary, VPO will take the overall fiduciary responsibility of the project.

14. The LDFS PCU will be the central financial management hub of the Project responsible for data processing and reporting. The PCU will manage transfers to the districts on the basis of activity tagged advances will be transferred to the district existing accounts. The PCU will then follow up justifications to facilitate financial reporting and generation of withdrawal applications.

15. **Project Steering Committee.** There shall be established a Project Steering Committee(PSC), chaired by the Permanent Secretary, VPO or his/her nominee, and composed of membership from institutions with direct relevancy to the achievement of LDFS project goal and development objective. This will provide strategic guidance towards the achievement of Project objectives and contribute to the higher level sector policy and strategic goals. The Project delivery systems will be integrated into the decentralized government organisational and operational structures that cascade from the national level. The PSC will review and approve AWPBs and the related procurement plans before they are submitted to IFAD for No Objection.

16. **Participating Districts.** At District level, focal persons will be appointed by the District Commissioners. The focal persons will coordinate teams of staff from the different departments that will play an important role in implementing the Project. Service providers to be engaged to undertake the different Project activities will work with District staff; LDFS project will provide the necessary support to the staff in terms of travel costs and field allowances based on GoT gazetted rates. Activities to be undertaken by District staff, and the associated budgets, will be specified in the Project's AWPBs**.** Funds will be transferred on the basis of activity tagged advances, upon completion of which justifications will be made to PCU to facilitate data posting and reporting and generation of withdrawal applications.

17. **Service providers/Contractors.** Any involvement of public/ private institutions in the delivery of Project activities will be treated as service provision, and will be translated into output-based contracts/MOUs. Performance-based contracts will be the basis for payments to contractors and private Service Providers (SP). Any advance payment will be in line with public procurement provisions and stipulated in the contracts for service provision. In any case, for a contractor/service provider to be paid, an invoice will be submitted with evidence that a related milestone to justify a payment has been achieved with full justification of reimbursable costs as provided for in the contracts.

12. **Financial Management Risk Assessment**

A. Inherent risks, Country issues, Entity risks and Project design

18. Major Country accountability issues affecting fiduciary environment

(a) **Country Inherent Risk**: Tanzania's inherent risk is high as measured by Transparency International's Corruption Perceptions Index (CPI). The country's annual CPI in 2015 score of 3.0 puts it at 117th position out of 168 countries while that of 2014 of 3.1 put the country in the 119th position out of 175 countries ranked which falls in the high-risk category.

(b) **Public Expenditure and Financial Accountability (PEFA)** – A repeat Public Expenditure and Financial Accountability (PEFA) assessment report was issued in September, 2013. The assessment was coordinated by the Analysis for Economic Decisions (ADE) with input from PEFA Secretariat, CIDA, EC and the World Bank. The assessment focused on the central government and covered a range of areas including legislations, budgeting, accounting, internal controls, and external audit, among others. The major weakness was expenditure commitments being entered into that are not supported by approved budgets and cash availability, leading to a build-up of payments arrears that eventually have to be paid off at the expense of other public service provision. Compared to the 2010 assessment, there were improvements with notable among the strong areas being improvement in internal controls including strengthening of internal audit function.

(c) The implementation arrangements pose a risk of low disbursements arising from delays in justification at the district levels due to capacity at district level and independence of local Governments to the VPO.

19. Overall assessment indicates that Tanzania is a high risk country. LDFS design arrangements have taken into account this high inherent risk, and proposed appropriate financial management safeguard measures to be put in place at project level. The LDFS PCU will operate separate bank accounts and run a dedicated off the shelf accounting software.

B. Project Control Risks

Table 17: Summary of FM Risks and mitigating actions

	Initial Risk Assessment	Proposed mitigation	Final Risk Assessment
Inherent Risk			
1. TI Index	H	-	H
Control Risks			
1. Organisation and Staffing	H	Par 14	M
2. Budgeting	H	Par 15	M
3. Funds Flow and Disbursement arrangements	H	Par 16 - 19	M
4. Internal Controls	M	Par 20 - 22	M
5. Accounting systems, Policies and Procedures	M	Par 23 - 28	M
6. Reporting and Monitoring	H	Par 28 - 33	M
7. Internal Audit	M	Par 34 - 36	M
8. External Audit	M	Par 37- 38	L
Fiduciary Risk @ Design	**H**		**M**

C. Financial Management and Disbursement arrangements

20. **Financial management organisation and staffing**

a) The ministry of finance and planning (MoFP), as the representative of the recipient, will represent GoT on all matters pertaining to LDFS project. VPO is assigned the responsibility of Lead Executing Agency and will ensure the overall oversight for the implementation of project at all levels including close cooperation and coordination between different government ministries, departments and local authorities. This includes the provision of general policy directions for the implementation, coordinating, implementing and ensuring proper utilisation of funds and reporting on project activities;

b) The VPO will second a nominated Senior Accountant to the LDFS project, on a full time basis, who will be responsible for the accounting function of the project, including posting transactions,

consolidation of financial data, preparation of annual financial statements, periodic financial reporting and overseeing the arrangements for audits, in accordance with GoT procedures and IFAD's audit guidelines. To facilitate segregation of duties, the senior accountant will be supported by other accounts staff in the department and supervised by the Chief Accountant;

c) Since VPO Accountants do not have experience with IFAD procedures, as part of implementation readiness, IFAD will train the assigned accountant in the Fund's disbursement guidelines including management of the designated account, Statement of Expenditures (SOEs) procedures, and preparation of withdrawal applications, financial reporting requirements and IFAD audit requirements;

d) The VPO will ensure that at district level, each participating district will assign an accountant with appropriate profile to perform accounts functions, supported by Assistant accountants for appropriate segregation of duties. This will be part the MoUs entered into with the districts at start up as part of preparation of implementation readiness.

D. Budgeting

(a) The project will be implemented on the basis of approved Annual Work Plans and Budgets (AWPBs). The budgeting process will be done jointly between VPO/LDFS PCU and implementing agencies. The PCU will consolidate the budget, present it for approval by the Project Steering Committee (PSC) and submit the estimates to MoFP for inclusion in the National estimates. A No Objection from IFAD will be required for each AWPB during the implementation. To facilitate proper budget monitoring and control, PCU will provide budget templates to implementing agencies that mirror its code/chart of accounts reflecting components, categories and activities together with funding sources (IFAD, GoT and beneficiaries) as part of preparation for implementation readiness;

(b) The annual planning and implementation cycle will be aligned with GoT's planning cycle, following the fiscal year from July to June while budget preparation extends from January to May. The PCU will pick from the project implementing districts and agencies their budgets for consolidation. The consolidated budget will be approved by the LDFS Project Steering Committee and later submitted to IFAD for No Objection;

(c) The key risks are inadequate budget control and low performance of budgets arising out of slow activity implementation.

(i) To facilitate proper budget monitoring and control, PCU will provide budget templates to districts and other implementing agencies that mirror its code/chart of accounts reflecting components, categories and activities together with funding sources (IFAD, GoT, beneficiaries and other participating agencies) as part of preparation for implementation readiness;

(ii) The annual planning and implementation cycle will be aligned with GoT's planning cycle, following the fiscal year. Detailed budget schedules will be included in the PIM; and

(iii) Budgetary controls will be in-built into the accounting software and the PCU will ensure timely posting of approved budget into the accounting software, producing budget performance reports and advancing funds to districts with indicative budget amounts on the activities to be carried out.

21. **Disbursement arrangements and Flow of Funds – Project design has put into consideration financial management requirements that will** ensure that the grant proceeds will be used for their intended purposes. The following summarises the funds flow arrangements:

a) Bank Accounts – The USD designated account will be opened in the Bank of Tanzania (BOT) specifically to receive loan and grant proceeds.This account will be managed by the VPO in accordance with GoT procedures;

b) A corresponding operating account in Tanzania Shillings (Tsh) managed by VPO/PCU will be opened in a commercial bank acceptable to IFAD from where local authorities and implementing partners will receive the grant funds;

c) The initial disbursement will be based on the approved AWPB with the initial deposit (authorised allocation) being 50% of the first year approved AWPB. The second and subsequent disbursements shall be contingent upon submission of statements of expenditure (SOEs) for at least 75% of the advance clearly providing details of expenditure against approved categories of expenditure. During implementation, if this is deemed insufficient, it will be increased to handle the high operations in the subsequent years. The threshold of direct payments from IFAD will be limited only to large payments over the equivalent of USD 100,000;

d) The funds flow chart attached depicts the use of the standard disbursement methods including (a) Direct payment method for bigger payments over USD 100,000; (b) use of designated account; and (c) reimbursement if GoT has pre-financed any transactions. Detailed instructions for disbursements will be included in the Letter to the Recipient (LtR) issued for LDFS and the PIM;

e) Funds flow monitoring and documentation at the participating provinces and districts will not be required to open an LDFS project specific bank accounts. Transactions at this level will be managed through activity tagged advances which will be transferred into existing district accounts. The district accountants will use the existing systems but provide reports in templates provided by PCU;

f) The VPO will receive funds from IFAD, disburse it to local authorities (district development accounts) and other implementing agencies and or pay for goods and services, and account back to IFAD. The obligation of IFAD will be to disburse funds to VPO or pay directly to suppliers and service providers on behalf of VPO, subject to the terms and conditions of the grant agreement. The funds flow chart is shown in appendix 1;

g) Funds flow will follow IFAD standard disbursement methods including direct payment method for payments above USD 100,000; replenishment method and reimbursement method where GoT/VPO will have pre-financed any expenditure;

h) To ensure proper implementation of disbursement methods and smooth tracking of funds, VPO will ensure that under LDFS project the following issues are addressed.

(b) Training of finance staff designated to implement the project in IFAD disbursement methods as documented in the disbursement handbook;

i. Release funds to implementing agencies in the form of work plan based advances other than general transfers. Each work plan based advance shall be accompanied with a breakdown of activities financed and financial returns should reflect progress on the funded activities;

ii. As part of start up activities to ensure implementation readiness, acquire an off the shelf accounting software and structure the chart of accounts to facilitate recording and reporting of transactions by financier/source of funds, by project component, expenditure categories and activities;

iii. At implementing agency level, to facilitate proper monitoring of utilisation of financial resources and control commingling of funds at that level, provide reporting templates that mirror the activities in the AWPB at time of finalisation of the first AWPB and subsequently update it each budget period at stage of finalisation of the AWPB to reflect the budgeted activities and related expenditure for the grant by each of the implementing agencies;

iv. Internal auditors from VPO will verify the reports provided and supporting documentation retained by the agencies to ensure that funds are being utilised properly and for the purpose for which they are meant; and

v. Where beneficiary contribution will be in kind, this will be computed on the basis of man days of labour provided at a market rate and the cost of equivalent market prices of the materials in the beneficiary community. This will be quantified and reported regularly as individual groups receive allocated grants and provide the contribution.

22. **LDFS project Funds flow Chart -** The Project will have three major funding sources, the GEF IAP grant, GoT and beneficiaries. The GEF grant disbursements will be through one designated bank

account in USD opened in the BOT and one operating account in Tsh in a commercial bank managed by the PCU. The Project Coordinator/Director of Environment and the Chief Accountant at VPO will be principal signatories. GoT will fund taxes, duties salaries of existing staff where physical funds will not flow to the Project. Accordingly, no counterpart funds account will be opened. Beneficiary financing will be in kind, as such will also not require opening of a bank account. The funds flow chart is attached at Attachment 1.

23. **The financial management risks under the area of funds flow and disbursement include the following:**

a) Persistent delays in justification from districts coupled with independence of districts from the central government leading to delays in submission of withdrawal applications with consequent liquidity problems negatively impacting on activity implementation;
b) Limited staff capacity at district level to handle accounting and reporting requirements of the project; and
c) There is a risk of unsystematic capture of beneficiary contribution and counterpart funds;
d) GoT may not meet on a timely basis its contribution as has been the case with ongoing projects. This may negatively affect implementation and achievement of project objectives.
e) Commingling of funds at district level as a result of use of the existing district accounts.

24. The proposed mitigations for the financial management risks under the area are:

i. The finance team at PCU will be facilitated to enable it carry out field visits to follow up justifications and handle posting of transactions from the manual records submitted by districts;
ii. Involve the internal audit department in reviewing project activities and justifications at district level;
iii. Include in PIM clear approach and forms for capture of beneficiary and counterpart contributions;
iv. The use of designated account reconciliation as part monthly management account. This will reflect amounts withdrawn and not yet claimed clearly identifying advances.
v. AWPB for each project should be prepared and approved before completion of the National budget so that the project cost is captured in the National budget estimates upon approval of which a request for GoT contribution to project cost should be requested by VPO; and
vi. Developing for districts reporting templates coded to reflect the budget activities against which advances will be traced.
vii.

25. **Internal Controls -** At Project level, internal controls will be set to ensure that Project resources are properly utilised for purposes they are meant and funds reach intended beneficiaries. GoT systems will be applied in the implementation of LDFS Project, modified to suite IFAD requirements. The key controls should include evidence of funds reaching intended beneficiaries and financial management manuals, adequate segregation of duties with the following functional responsibilities performed by different units or persons, budget control, proper use of accounting software, data backup, and storage of accounting records, among others. **The FM risks under the area of internal controls include the following:**

i. Eligibility of expenditure at district level;
ii. Inadequate scope of internal audit which may not help enforce the prescribed internal control environment given the geographical scope and current budgets;
iii. Improper handling and storage of accounting records at district level.

26. Adherence to the internal control framework will be verified during the internal and external audit exercises and reported to IFAD in the form of an internal audit report and Management letter, in line with IFAD's audit guidelines. Compliance to the internal controls will also be part of the fiduciary checks performed during supervision missions and external Audit.

27. As part of the controls, budget monitoring and control will be supported through the Project's accounting software and reflected in the financial reporting templates at district level. Details on internal controls shall be provided in the PIM.

28. **Accounting Systems, policies and procedures**

(a) VPO is currently using IFMIS/EPICOR, the GoT financial management information system which has been rolled out to all ministries and districts. Under EPICOR, the GoT chart of accounts is used; there is a single treasury account and a central payment system, the exchequer. The system has very strong budget controls and captures all funds, internal and external mobilised by the national treasury. Individual funding sources are allocated codes to facilitate traceability of funds and monitor performance against budget. This system can only be used where funds have been channelled into a single treasury account;

(b) Delays in receipt of funds have been experienced by existing projects having funds transferred through the single treasury account. VPO indicated that the delays between the time of receipt of funds and transfer or accessibility by the project could take as long as three months. This has causes cash flow challenges with negative implication to project implementation. It is noted to operate outside a single treasury account the project must be off the EPICOR financial management information system as the two are linked.

(c) The PCU, which will be established at VPO, the lead implementing agency will acquire and implement its own off the shelf accounting software using specific earmarked bank accounts. Whereas the day to day processing of transactions will be off the EPICOR, periodic returns will be provided by the project to the Accountant General to enable updating of data to the Government accounts (IFMS/EPICOR) by use of dummy exchequer

29. **The financial management risks under this area include the following:**

a) The risk that the current system may not be able to produce required reports in the required formats and may not provide adequate budget control;

b) The software may not be configured to fit the requirements of Smart SoEs with a linkage to AWPB codes.

c) Manual returns from districts and provinces may be bulky and time consuming, which may delay data processing.

d) Delays may be experienced in accessibility of funds leading to cash flow problems with negative implication of activity implementation.

e)

30. Mitigations, Initial and residual risk in relation to accounting system: The procurement of an off the shelf accounting software will be required. The PCU will code the chart of accounts to reflect the reporting requirements of component, category of expenditure and activities. IFAD implementation support missions will progressively support the PCU to continuously improve the accounting system to be able to fulfill the requirements of the Smart SoEs approach. Under this area, the risk remains medium.

31. The policies, guidelines and operational procedures required to support implementation will be consistent with the Government of Tanzania's financial procedures (Public Finance Act, Public Procurement Act, Public Audit Act, among others) and in line with IFAD policies and guidelines. Where there will be inconsistency in the guidelines and procedures, IFAD guidelines will prevail.

32. The PCU will be responsible for consolidating the accounts of the districts and other implementing agencies with its own accounts. As part of implementation readiness, accounts staff at PCU, and implementing agencies will be provided with in-depth training by IFAD at start-up on IFAD's procedures & requirements and financial management best practice.

33. At district level, financial returns on activity tagged advances will be manual. Project financial management will be guided by the financial management manual that will be part of the PIM.

34. **Financial reporting**

The objective of monitoring and reporting is to ensure that complete, accurate and timely reports are produced in accordance with International Public Sector Accounting Standards (IPSAS). The Project will use IPSAS cash basis accounting. The PCU will be the financial management and reporting hub, responsible for posting, reconciling and reporting on Project finances. PCU will prepare and present draft financial statements and statutory audit terms of reference for presentation to the Controller and

Auditor General, which upon completion will be submitted to IFAD in accordance with IFAD audit guidelines. In addition, to the annual audited financial statements, the Project will submit interim financial reports on a six monthly interval as per IFAD's interim financial reporting guidelines.

35. **The key financial management risks, assessed at medium under the area of accounting systems include the following:**

a) Delays of returns from districts that may delay the updating of the computerised accounting system which in turn will affect timeliness and quality of the financial reports;
b) Failure to submit interim financial management reports by the Project; and
c) Failure by the accounting software to produce reports in the required format and details.

36. Mitigations, initial and residual risk in relation to financial reporting: The PCU will provide technical backstopping to the districts; provide them with reporting templates reflecting budget activities for which activity tagged advances have been transferred. In addition, trainings for province and district accountants at start up and during implementation will cover among other aspects reporting requirements including a reporting calendar. Besides, entities failing to submit justifications within the required timeframe will not be replenished with additional funding until full compliance has been achieved. The risk level remains medium;

37. The PCU will maintain adequate filing system of all relevant supporting documentation, including returns (in original) with copies of bank statements submitted by project staff and implementing agencies. In line with IFAD's requirements, documentation will be reviewed by supervision missions and audits. The financial reports will be designed to provide relevant information to management, financiers and other stakeholders monitoring the project's performance. Implementing agencies will be required to submit simplified quarterly financial reports to PCU for validation with their replenishment requests; and

38. To facilitate timely consolidation of financial data, districts and implementing agencies will be required to submit their financial reports to PCU not later than 45 days after the end of each quarter. Districts and implementing agencies failing to submit quarterly reports within the required timeframe will not be replenished with additional funding until full compliance has been achieved. Thus the frequency of fund transfers will depend on the timely submission of reports by each implementing entity. Given that the project accounting system will be off IFMS, financial returns will be provided by the PCU to the Accountant General to enable the update the IFMS system. LDFS project internal controls including authorization and approval processes will rely on the Government established accounting and internal control guidelines as documented in the Public Finance Act, Treasury instruction and related guidelines.

39. **Internal Audit -**Internal audits will be conducted to provide assurance that the Project is being implemented in accordance with the PIM, complies with GoT regulations and is complying with the financing covenants. The key risk is that internal audits will not be monitored to ensure adequate scope, reasonableness of recommendations and implementation of recommendations. There is also inadequate experience with financial management and disbursement requirements of IFAD by the team. The risk that internal audit may not provide the required service has been assessed as medium.

40. Considering this risk, internal audit of the Project will be included in the audit plan of the internal audit department of VPO to cover Project audits twice every year.Internal audit reports and action plans to implement audit recommendations will be shared with IFAD as a reporting requirement.

41. As part of start-up, internal audit staff assigned to the project will be trained in IFAD procedures. Internal audit reports will be required twice every year. Supervision missions would report on the activity of the internal audit with respect to LDFS project by reviewing their reports and assessing management's responsiveness to any recommendations formulated as a complementary measure. Internal controls will also be verified during the annual audit exercise by external audit and reported to IFAD in a Management letter, in line with IFAD's audit guidelines.

42. **External Audit -**In line with the mandate of the Controller and Auditor General under the National Audit Act, the Auditor General will undertake the external audit of the IFAD/GEF grant funds together with the related co-financing and counterpart funding as part of their mandate or will have the discretion to appoint an independent private audit firm acceptable to the Fund. Statutory audit terms of reference will require the IFAD's 'No Objection' on an annual basis.

43. In compliance with IFAD's General Conditions, the LDFS project's financial statements, prepared by the PCU, will be audited on an annual basis and the audit report together with the related management letter submitted to IFAD no later than six months after the end of each fiscal year. **Terms of Reference for external audit are attached at ATTACHMENT 2**

E. Implementation Readiness

Table 18: FM Actions Summary

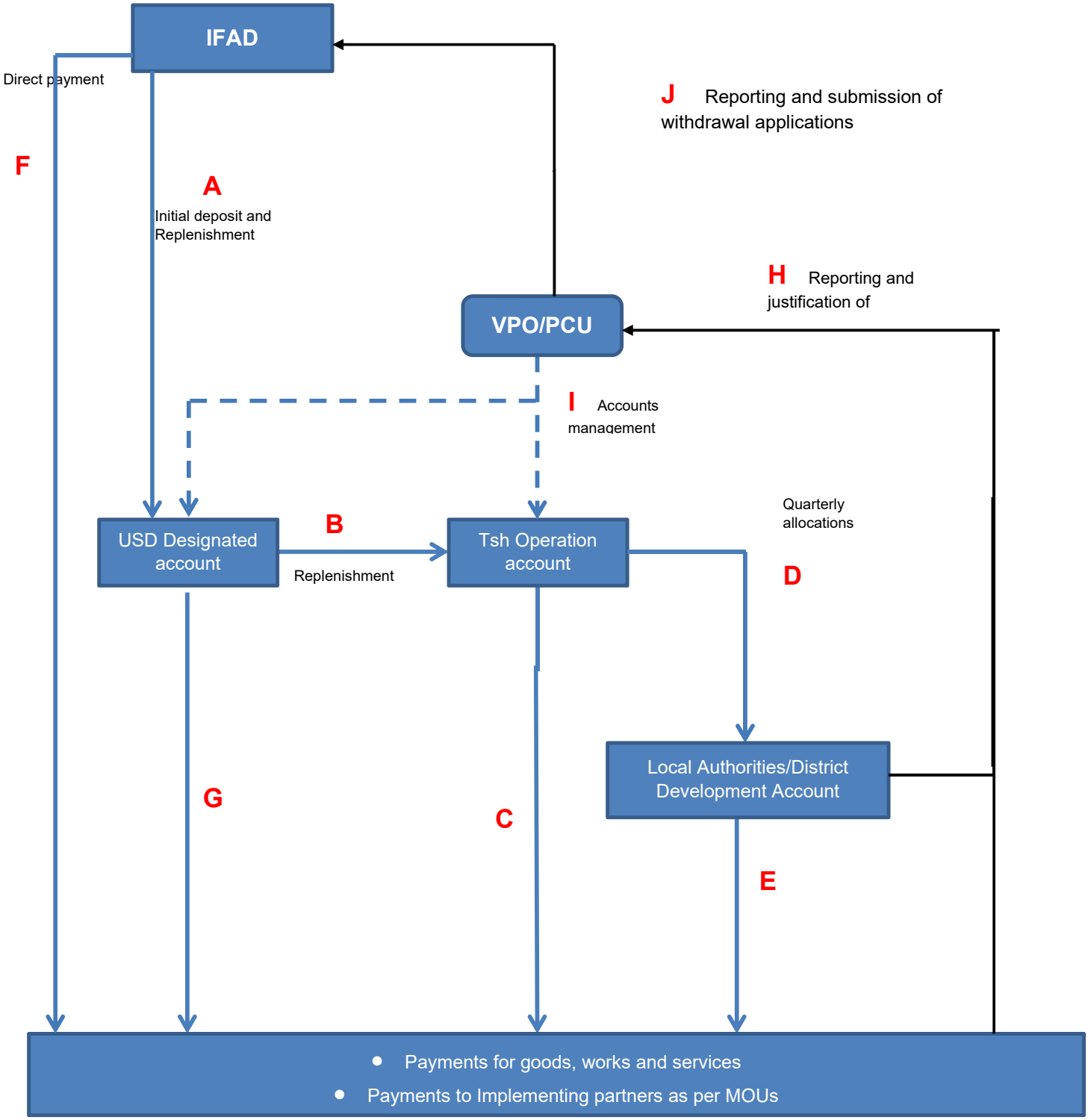
The actions needed to mitigate financial management risks are summarised below

	Action	Responsible Party / Person	Target Date / Covenants
1	Constituting PCU headed by a Full Time Project Coordinator and assigning/recruiting an Accountant, M&E Officer and other project positions and obtaining IFAD No Objection in all cases	VPO	Within first six months
2	Compile the first AWPB and its related Procurement plan	VPO/PCU	Withdrawal condition
3	Open the required bank accounts	VPO	Withdrawal condition
4	Finalise the PIM that should include a comprehensive financial management module with a comprehensive LDFS chart of accounts	PCU	Within first six months
5	Establish a Project Steering Committee headed by the Permanent Secretary, VPO	PS/VPO	Within six months
6	Procure an off the shelf accounting software and code it to meet the reporting requirements.	PCU with Technical assistance	Part of start-up activities
7	VPO internal auditors to provide audit services to LDFS project twice every year.	VPO	From inception throughout implementation
8	The National Audit Office/Controller and Auditor General to audit LDFS project in accordance to IFAD audit guidelines	VPO/National Audit Office	As part of each year's statutory audit requirements

44. **FM Supervision plan:** The risk profile described above require IFAD implementation support especially in the first years of implementation. IFAD missions should include sufficient provision for facilitating the PCU to put in place the systems and controls to manage fiduciary aspects of LDFS project. In the first two years, it is proposed that there should be at least two IFAD missions supplemented by fiduciary follow-up missions to ensure financial management systems and tools are in place and implemented.

45. **Start-up facility.** The IFAD- GEF funded start-up grant is accessible when the grant agreement is formalised; and before conditions for implementation readiness (recruitment/secondment of the Project Coordinator and Senior Accountant, financial management, bank accounts, signatories, Annual Work Plan and Budget, Project Implementation Manual, first withdrawal application, etc.) are met. This grant is provided to facilitate the early start of the Project and can be used to cover start-up expenditures.

Attachment 1
LDFS Project Grant Funds Flow Chart



1. The funds flow described above is as follows:

A. Authorised allocation by IFAD for 50% of the first year approved AWPB, to be followed by periodic replenishments made on the basis of withdrawal applications submitted by the PCU for at least 75% of the advance or three months since submission of the last withdrawal application (J);

B. There will be periodical transfer from the USD Designated Account to the Tsh Operation account, both managed by the PCU but with the principal signatory for the designated account being the Permanent Secretary and an alternate being the Chief Accountant of the VPO. Withdrawals from the Tsh Operation account will require the signatures from the PCU Coordinator, the Chief Accountant and the Project Accountant;

C. Payments to suppliers, contractors, consultants or implementing agencies by the PCU. These payments will be made out of operations account;

D. Quarterly transfers from the Tsh Operation account to the Tsh District Development Account. These transfers will be made on the basis of an approved annual work plan and budget with quarterly activities and targets as work based advances. Transfers will be made and authorized by the PCU;

E. Payments by the district for goods, works and services received;

F. Direct payment by IFAD for goods, works and services received by the PCU. These will be made on the basis of withdrawal applications submitted by the PCU for payments with a value of equivalents of USD 100,000 and above;

G. Payments by the PCU in USD to suppliers, contractors, consultants or implementing agencies for contracts or activities procured in USD;

H. Justifications and financial reports from implementing agencies and local authorities to the PCU;

I. Management of bank accounts, including monthly reconciliations and cash flow projections; and

J. Submission of withdrawal applications consolidated financial reports and audit reports.

2. For implementation at the district level, funds will flow directly from the Project operations account into the District Development Account (DDA), which is a single account for all development projects of the district. Transfers will only be made on a quarterly basis in accordance with the approved annual work plan and budget. No transfers will be made to the district without the approval of their AWPB and quarterly activities/targets. Districts will be provided with reporting templates that will provide for budget and actual expenditure by activity. The reports will be verified against original support documents retained at the districts by internal auditors, external auditors, project accountant and IFAD/GoT missions.

3. The district level financial management assessment has been based on Mbeya district assessment done at design of the Southern Highlands Milk shades Development Project (SHMDP) under the Ministry of Agriculture, Livestock and Fisheries which returned a medium risk.

Appendix 8: Procurement

1. IFAD's General Conditions provide for use of the Recipient's procurement regulations, provided they are deemed to be consistent with IFAD's guidelines. This is in line with the various commitments of the international donor community to work towards increasing the use of national systems where they are compatible with the requirement of the donors. Thus, procurement of goods and services including human resources to be financed from the proceeds of the grant will be done in accordance with the United Republic of Tanzania (GoT) procurement procedures. The IFAD procurement guidelines and handbook require an assessment of national procurement systems as part of project design. The assessment has been done in two stages: (i) overarching country assessment and (ii) project specific assessment.

2. **Overarching Country assessment:** The United Republic of Tanzania has enacted a procurement law that governs public procurement in the Country. The applicable law and regulations are contained in: a) Public Procurement Act, 2011 and b) the Public Procurement Act (cap 410) Regulations under Government Notice number 466.

3. The GoT's legislative and regulatory framework will be used in the implementation of procurement activities under LDFS in as far as they are consistent with IFAD's procurement guidelines. This is consistent with article 4(1) (b) of the Public Procurement Act which provides that ***"To the extent that this Act conflicts with an obligation of the United Republic under or arising out of - any grant agreement entered into by the Government with an inter-governmental or international financing institution in which the Government is the beneficiary, the requirement of such treaty or agreement shall prevail, but in all other respects, the procurement shall be governed by this Act".***

4. The Public Procurement Act established a public procurement policy division under the ministry of finance and planning which develop and review public procurement policies and regulations and advice the central and local governments on procurement policy. The act also established a Public Procurement Regulatory Authority (PPRA) whose main object is to ensure fair, competitive, transparent, non-discriminatory and value for money procurement standards and practices. The law also further created a Government Procurement Services Agency (GPSA) which manages a list of contractors/suppliers/service providers under common framework agreements accessed by all GoT entities.

5. The Vice President's Office (VPO) is categorised under a central Government ministry allocated a vote and assigned procurement entity (PE) status with a Permanent Secretary as an accounting officer/vote holder and its procurement system is governed by public procurement legislative framework.

6. Overall the Country's legal framework provides an adequate operational environment for procurement under LDFS.

Project specific assessment

7. VPO procurement arrangement is that LDFS procurement will be implemented within the mainstream where procurement services will be rendered by Procurement Officers pooled within the procuring entity. Accordingly, procurement activities of LDFS will be managed by the department of Procurement.

8. During the design mission, a procurement assessment was carried out on VPO the lead implementing agency in accordance with the IFAD procurement guidelines and handbook. The assessment also drew lessons from the implementation of procurement under LDFS. Below is a summary of the assessment.

Table 19: Summary of Procurement Risks /Findings and Actions (Risk Mitigation Matrix)

No	Major findings	Actions proposed	Responsibility	Targeted date
1.	Inadequate procurement planning and monitoring and follow-up of procurement activities	a) Make procurement planning a requirement as part of the annual work plan and budget and involve procurement officers in planning; b) Train procurement staff in the preparation and updating and monitoring of procurement plans in the IFAD recommended format; c) Make the use of simplified procurement plans mandatory for use in the local authorities.	Project Coordinator and assigned Procurement Officer	During Project implementation
2.	Lack of capacity in procurement data management and maintenance of procurement audit trail at local authorities	a) Procurement clinic on procurement records keeping to be provided to procurement staff of the LDFS; b) Develop a checklist of procurement records that must be on each procurement file and make it a filing requirement	Project Coordinator and assigned Procurement Officer	During Project implementation
3.	Lack of experience in contract administration and management	Provide training to staff in contract management.	IFAD	At start up

9. Under LDFS thresholds will be as follows:

	Threshold USD	Procurement Method
Goods	Up to 10,000	Request for Quotation (RFQ) using GPSA approved list
	>10,000 - 200,000	National Competitive Bidding (NCB)
	>200,000	International Competitive Bidding (ICB). Prior review by IFAD
Services	Up to 10,000	Least Cost Selection (LCS) - Other methods such as Fixed Budget and Quality Based Selection (QBS) may be used depending on the assignment.
	>10,000 – 20,000	Quality and Cost Based selection (QCBS)
	>20,000 – 100,000	QCBS- Expression of Interest/ Prior review by IFAD for services of value of USD 50,000 and above
	>100,000	QCBS- Expression of Interest/ International advertisement and Prior review by IFAD
Works	Up to 50,000	Request for Quotation (RFQ) using GPSA approved list
	>50,000 - 1,000,000	NCB and prior review for works of USD 100,000 and above
	>1,000,000	ICB and prior review

10. **Procurement organisation structure:** LDFS procurement will be managed by the department of procurement at VPO. A Procurement Officer assigned to the project technically will be responsible to the Director with a dual reporting line to the Project Coordinator. He/She will be the focal point to handle all procurement aspects of LDFS.

11. **Procurement planning:** Procurement planning will follow the GoT planning calendar. Due to the medium inherent risk ranking of the GoT procurement systems; the IFAD prior review thresholds for LDFS will be equivalents of USD 50,000 for goods and services and for works over equivalents of USD 100,000 for the start. This may however be reviewed depending changing circumstances and on the performance of the project during implementation.

12. The Initial 18 month Procurement Plan (PP) and subsequent annual PP's will be consistent with the project's AWPB and its target date of implementation including list of procurement of works, goods, and services to be procured under the project yearly with estimated cost and method of procurement shall be detailed in appropriate formats for each budget year. Items procured outside the procurement plan and the related AWPB will be declared mis-procurement and the related expenditure will be ineligible for financing from the grant proceeds.
13. The tender board will be the overall approval authority as it will approve; (i) all procurement plans; (ii) draft advertisements and other bidding documents; (iii) specific terms and conditions relating to contract amounts, completion periods, stages and conditions of part payments;(iv) all the contracts above US$10,000 (or as shall be specified in the Letter to the Recipient) and (iv) variations/amendments of contracts that have been cleared by the board.
14. LDFS procurement will follow the methods provided for in the public procurement act and regulations and IFAD Procurement guidelines. All ICB procurements will be carried out and managed centrally at the PCU. NCB and local shopping may be carried out at the district level in case bulking opportunities may not be feasible at the PCU. In this regard, districts and other implementing agencies will have to submit their procurement plans for inclusion in the consolidated LDFS procurement plan. Efforts should be made by the Procurement Officer to ensure that the best contract packaging possible, including consideration of what lots can be bulked in a package for which it is possible to find a supplier or bulking opportunities.
15. The consolidated Procurement Plan will be submitted together with the AWPB to the Project Steering Committee for approval, and the department of procurement and Property as appropriate for information/inclusion in the VPO annual Procurement Plan and later to IFAD for a no objection as part of the LDFS project AWPB.
16. **Bidding Documents**: The conduct of a transparent and successful procurement is dependent on the quality of bidding documents. Thus, to guard against mis-procurements, it will be essential that bid documents get very well prepared. Under LDFS, the GoT standard bid documents will be used and adapted to suit each specific procurement item. IFAD clearance of the Standard Bidding Documents under LDFS will be a requirement.
17. **Evaluation of bids**: The proposals will be evaluated in accordance with the Act by an evaluation panel established per each procurement item. Evaluation will be made strictly based on the evaluation criteria stipulated in the Bidding document. In terms of procurement of services based on QCBS, evaluation shall be made in 2 stages: technical first and financial (combined) second. No Objection from IFAD if applicable will also be required in 2 stages.
18. **Signing of Contracts**: After identifying the successful bidder and receiving No Objection as necessary, the selected bidder will be invited to sign a contract. Should negotiation on technical issues (but not on price) be conducted with them prior to signature of a contract, the minutes of the meeting needs to be submitted to IFAD for No Objection. The final contract will also be submitted to IFAD if the contract is modified from the version included in the bidding document.
19. All procurement financed from proceeds of the grant will be exempt from national and local duties and taxes. All procurement will be executed only against approved procurement plans and AWPBs, specifying items to be procured, responsibility for the procurement and the appropriate procurement methods. IFAD missions and annual external audits will, on a sample basis review the procurement processes including bid documents. A detailed procurement cycle will be included in the PIM.
20. Contract Management: PCU will be held responsible for overall contract management including monitoring of performance of the implementing agencies and the local authorities; establishing Contract Management systems. The PCU contract management system will include: (i) management of contract start-up issues, (ii) opening and updating a contracts register (iii) monitoring of contract implementation, (iv) claims management, (v) contract amendments, and (vi) contract completion and these details will be included in the PIM.
21. Procurement records shall include the rationale for the method of procurement, solicitation document including TOR/specifications/bid documents, selection of the contract type, advertisement, record of sale of bids, record of receipt of bids, record of opening of bids, evaluation minutes and

report, the justification for the award, award letter, acceptance letter, contract, and other correspondences related to the procurement. This is consistent with section 61(1) which require a PE to maintain a record of its procurement proceedings in which it is involved, including decisions taken and the reasons for it and such record shall be kept for a period of not less than five years from the date of completion of the procurement or under special circumstances, be kept beyond the period specified in that subsection in the manner and duration prescribed in the regulations. A checklist for some of the key information that should be included in a procurement file will be included with more details in the PIM.

LDFS 18 MONTHS INDICATIVE PROCUREMENT PLAN

The Republic of Tanzania
Reversing Land Degredation Trends and increasing Food Security in Degraded Semi -arid areas of Tanzania (LDSF)
18 Months indicative Procurement plan-Goods

Goods		**Basic data**			**Bid documents**		**Bidding period**		**Bid evaluation**		**Contract finalization**		
Decription	QTY	Estimated value 'USD'	Procurement method	Prior or Post review	Date proposed	Date No Objection	Bid Invitation date	Bid closing date	Bid evaluation Report	No-Objection	Contarct amount	Date contacrt award	Date contarct signature
Materials/Inputs			NCB& LCB										
Lot 1: Material for nursary tree improvement	Ls	50,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 2: Material for up scaling conservation agriculture practises	Ls	200,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 3: Materials for promotion of pasture management	Ls	100,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 4: Training material -Tree Nursaries	Ls	100,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
		450,000											
Vehivles and motor cycle			ICB										
Lot 1: Vehivles (4*4 Double cabin)	1NO	45,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 2: Motocycles	5NO	10,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
		55,000											
Office equipment			NCB& LCB										
Lot 1: Laptops	3NO	4,500			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 3: printers	1NO	1,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 4: Accounting software	1NO	15,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 5: Furniture	4set	4,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
Lot 6: Other office equipments	set	5,000			xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
		29,500											
Subtotal		**534,500**											

The Republic of Tanzania
Reversing Land Degredation Trends and increasing Food Security in Degraded Semi -arid areas of Tanzania (LDSF)
18 Months indicative Procurement plan-Services

	Consultants	Basic data			Request for proposa		Bid proposals		Bid evaluation					Coclusion	
	Description	Evaluation methodology	Estimated value 'USD'	Prior/ Post review	Date prepared	Date No Objection	Invitation date	Submission /Opening Date	Evaluation Report (T)	No-Objection (T)	Opening Financial proposals	Submission of evanuation report (T&F)	No-Objection (T&F)	Date contacrt award	Date contarct signature
1	Consultancy for production of joint village landscape management guidelines	QCBS	24,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
2	Techinical assistance on land mapping and planning	QCBS	30,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
3	Techinical assistance on intergration of plams and budgets	QCBS	15,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
4	Sub contracts with Local government authorities	QCBS	150,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
5	Consultancy for curriculum adjustment	QCBS	15,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
7	Consultancy for baseline study	QCBS	225,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
8	Annual external audit	QCBS	113,000		xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx	xxx
			10,000												
			582,000												

Legend:
QCBS:Quality Cost Based selection

Attachment 2. Draft Audit Terms of Reference

Terms of Reference for the Audit of the Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS) Project, Grant Number .....for the year .....

1.0 BACKGROUND

The Government of the United Republic of Tanzania is in the process of appointing External Auditors for the audit of the **Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS) Project**. The following are the terms of reference ('ToR') on which **the Vice President's Office (VPO)** agrees to engage **audit firm** 'the Auditor' to perform an Audit and to report in connection with the Grant agreement with the International Fund for Agricultural Development (IFAD) concerning **LDFS Project.** These ToR, therefore, have been developed to guide the process of appointing the auditors, and guide the selected auditors to conduct an audit of the LDFS Project Financial Statements.

2.0 OBJECTIVE OF THE AUDIT

The objective of the audit is to provide the VPO with an appropriate level of assurance about the proper use of the funds provided to the LDFS project according to the provisions of the Grant agreement.

3.0 NATURE AND SCOPE OF AUDIT

(i) The audit will be carried out in accordance with the International Standards on Auditing (ISAs) and the International Public Sector Accounting Standards (IPSAS) and will include such tests and reviews as the Auditor considers necessary under the circumstances with a view to obtaining relevant and reliable evidence on which to base the audit opinions;

(ii) In compliance with the Code of Ethics for Professional Accountants issued by the IFAC. Although ISRS 4400 provides that independence is not a requirement for agreed-upon procedures engagements, the Contracting Authority requires that the auditor also complies with the independence requirements of the Code of Ethics for Professional Accountants.

(iii) In accordance with International Standards on Auditing and in line with IFAD's Guidelines for Project Audits.

Special attention will be paid to establishing whether:

(i) The Project Financial statements and accounts have been prepared in accordance with IPSAS or other applicable standards and give a true and fair view of the financial position of the Project at the end of the fiscal year;

(ii) The proceeds of the loan have been used in accordance with conditions stipulated in the Grant agreement with due attention to economy, efficiency, and solely for the purposes for which the financing was provided;

(iii) Government contribution in respect of salaries and through foregone duties and taxes and other services has been accounted for in the Financial Statements;

(iv) Beneficiary contributions as provided for in the Project design document and grant agreement have been adequately captured in the Financial Statements

(v) Goods, Consultancy Services, and Civil Works financed out of the proceeds of the grant have been procured in accordance with stipulations in the Grant agreement and Government of the United Republic of Tanzania financial and procurement regulations and procedures;

(vi) All necessary supporting documents, records and accounts have been kept in respect of all Project financial transactions including expenditures reported in Statements of Expenditures and the Designated Account;

(vii) The Designated Account has been used in accordance with the provisions of the Grant agreement.

4.0 RESPONSIBILITIES OF THE PARTIES TO THE ENGAGEMENT

VPO, the Recipient's National Executing Agency.

a) The Project Implementation Unit (PCU) is responsible for providing consolidated Financial Statements for the services financed by the grant and for ensuring that these Financial Statements can be properly reconciled to the PCU/VPO records and accounts (including all Project districts and implementing partners) in respect of these services.

b) The PCU/VPO accepts that the ability of the Auditor to perform the procedures required by this engagement effectively depends upon the VPO, Districts and implementing partners providing full and free access to its staff and records and accounts.

c) The PCU/VPO shall provide the auditors with all the necessary documentation to perform the assignment properly; in particular the following information shall be provided to the auditors before the beginning of the assignment:

i. The Grant agreement;
ii. Annual Progress Report;
iii. Project Implementation Manual;
iv. Financial Management Manual;
v. Organizational charts along with names and titles of senior managers;
vi. Names and qualifications of officers responsible for financial management, accounting and internal audit.
vii. Description of information technology facilities and computer systems in use and
viii. Copies of the minutes of negotiations, the Project design document, the annual work Plan and budget and the Letter to the Borrower.

'**The Auditor'** refers to the Auditor who is responsible for performing the agreed-upon procedures as specified in these ToR, and for submitting a report of factual findings to the PCU/VPO.

The Auditor shall provide:

A. A separate opinion on Project Financial Statements (PFS)

(i) The auditor will be required to provide an opinion on the financial statements of the Project, and that of the adequacy and performance of the financial, accounting and internal control systems that are put in place, in the Project financial management and operations. Therefore, the expressed opinion must cover funds received into the Project, the expenditures incurred, and the financial position as at the end of the relevant accounting period. The underlying disbursement procedures together with the rules and regulations governing disbursement, and the extent to which they are complied with must be determined and opinion expressed.

(ii) The expressed opinion must also cover the confirmation of the legitimacy of the expenditure claims made by the Project management through Withdrawal Applications, and that they are in accordance with the covenants of the Grant agreement. Where ineligible expenditures are identified as having been included in Withdrawal Applications and reimbursed, the Auditor will note these separately.

(iii) Minimum content of the PFS:

a) Yearly and cumulative statements of sources and application of funds, which should disclose separately IFAD's funds, Co-financiers' funds, Government of the United Republic of Tanzania funds and beneficiaries funds;
b) Statement of sources and application of funds by category of expenditure;
c) Statement of sources and application of funds by component;
d) Yearly and cumulative SOEs by withdrawal application and category of expenditures; reconciliation of the Designated Account;
e) Reconciliation between the amounts shown as received by the Project and those shown as being disbursed by IFAD should be attached as an Attachment to the PFS. As part of that reconciliation the auditor will indicate the procedure used for disbursement (replenishment to the designated account, reimbursement or direct payment) and indicate whether the expenditure is fully documented or uses the Summary of Expenditures format;
f) Notes accompanying the Financial statements;
g) Cumulative status of funds by category and by component;

h) A statement of comparison between the actual expenditures and the budget estimates for the fiscal year;
i) Full disclosure of cash and bank balances; and
j) Other statements or disclosures relevant to the Project .e.g. financial monitoring reports, statement of fixed assets (for disclosure purposes).

B. A separate opinion on the use of the Designated Account; The auditor is also required to audit the activities of the Designated Account associated with the Project including the authorised allocation, replenishments, interest that may accrue on the outstanding balances, and the year-end balances. The auditor must form an opinion as to the degree of compliance with IFAD procedures and the balance of the Designated Account at year end. The audit should examine:

a) the eligibility of withdrawals from the Designated Account during the period under review;
b) the operation of the Designated Account in accordance with the relevant grant agreement;
c) the adequacy of internal controls within the Project appropriate for this disbursement mechanism; and
d) the use of correct exchange rate(s) in conversion of other currencies other than the reporting currency (where applicable).

C. **A separate opinion on Withdrawal Application Statement / Statement of expenditures / Summary of Expenditures (SOEs);** The audit will include a review of SOEs used as the basis for submitting withdrawal applications. The auditor will carry out tests and reviews as necessary and relevant to the circumstances. SOE expenditures will be carefully compared for eligibility with relevant financial agreements, Letter to the Borrower and with reference to the Project appraisal report for guidance when necessary. Where ineligible expenditures are identified as having been included in withdrawal applications and reimbursed, auditors will note these separately. A schedule listing individual SOEs withdrawal applications by reference number and amount should be attached to the PFS. The total withdrawals under the SOE procedure should be part of the overall reconciliation of IFAD disbursements described above. The auditor's opinion should deal with the adequacy of the procedures used by the Project for preparing SOEs and should include a statement that amounts withdrawn from the Project account on the basis of such SOEs were used for the purposes intended under the Grant agreement.

D. **A separate management letter addressing the adequacy of the accounting and internal control systems of the Project, including compliance with IFAD's Procurement Guidelines and such other matters as IFAD may notify the PCU/VOP to include in the audit.**

The auditor is requested to:

a) Comment on economy, efficiency and effectiveness in the use of Project resources;
b) Comment on achievement of planned Project results;
c) Comment on legal and financial obligations and commitments of the Project and the extent of compliance or non-compliance thereof;
d) Comment on systems and procedures such as improvements in accounting, information technology or computer systems, and operations that may be under development, on which the auditor's comments are necessary to ensure effective controls; and
e) Comment on other activities on which an auditor may consider it appropriate to report

E. **Auditors shall certify** :

a) Whether the PFS are drawn up in conformity with international accepted accounting standards (IFRS or IPSAS);
b) Whether the PFS are accurate and are drawn up from the books of accounts maintained by the Project;
c) Whether the provisions of the Grant agreement are adhered to;
d) Whether Procurement has been undertaken by the Project in accordance with the Grant agreement and IFAD Procurement Guidelines;
e) Carry out a physical verification of any significant assets purchased and confirm their existence and use for Project purposes;
f) Whether the Project has an effective system of financial supervision or internal audit at all levels; and
g) Whether the expenditure claimed through SOEs are properly approved, classified and supported by adequate documentation.

5.0 OUTPUTS OF THE AUDIT

The expected outputs of the audit assignment comprise the following:

(i) **Audit Plan:** The Auditor will be expected to reproduce an Audit Plan within one (1) week of receipt of Project Financial Statements. It is expected that the Project Accountant will prepare, and submit to the Auditor, Project Financial Statements on a timely basis.

(ii) **Audit report**: This report should contain the overall opinion that the Project Financial Statements and accounts have been prepared in accordance with International Financial Reporting Standards/IPSAS or other applicable standards covering the minimum content indicated in 4.0 above.

(iii) **Management Letter:** The Management Letter (Report).

6.0 TIME FRAME FOR DELIVERY OF AUDIT REPORT AND MANAGEMENT LETTER

The Auditor is expected to submit the final Audit Report and Management Letter to VPO not later than five and a half months following end of each fiscal year of engagement to facilitate submission of the same to IFAD in accordance with the provisions of the grant agreement.

Appendix 9: Project cost and financing

I. Project overview

1. The total combined LDFS investment and incremental recurrent costs, including physical and price contingencies, are estimated at US$ 7.156 million (TZS 20 billion). Table 19 below presents a breakdown of the costs by LDFS components. The detailed cost tables and additional summary tables are presented as attachments to this Appendix.

2. **Project cost and financing.** The investment in Component 1: Institutional capacity building on sustainable land management, forest conservation and sustainable pastoralism, in base costs totals US$ 1 million (14 % of total costs) while Component 2: Sustainable and climate smart land, Water and pastoral management, accounts for US$ 4.99 million (70% of total costs). Component 3: Monitoring and assessment accounts for US $ 0.843 million (12% of total costs) and Project management costs are 4% of total base costs translating into US$ 0.318 million in monetary terms.

II. Project assumptions

3. **Prices and Contingencies.** The costs presented are prevailing market prices collected from the project districts. To be prudent, price contingencies (inflation) has been included in the cost estimation at a rate of 5.5% and 2% for local and foreign inflation respectively throughout the project period. Physical contingencies have been estimate at rate of 5% for works such as construction of dams only.

4. **Exchange rate**. The exchange rate was fixed at 1 USD = 2,187 TZS. This was the average exchange rate during data collection as provided by the Central Bank.

5. **Taxation and duties**. Taxes have been estimated using information from the Tanzania Revenue Authority (TRA) that includes duties and VAT (18%). Taxes and duties have been included in base cost of each item. Most items procured under the Project are expected to be purchased locally.

Table 20: Programme Cost by Component

The United Republic of Tanzanaia

Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS

Components Project Cost Summary	(TZ Shs '000)			(US$ '000)			% Total Base
	Local	Foreign	Total	Local	Foreign	Total	Costs
1. Institutional capacity building on sustainable land management, forest conservation and sustainable pastrolism	2,309,592	-	2,309,592	1,001	-	1,001	14
2. Sustainable and climate smart land, Water and pastrol management /a	11,499,146	24,503	11,523,650	4,984	11	4,994	70
3. Monitoring and Assesment	1,935,823	8,075	1,943,898	839	4	843	12
4. Project management	733,717	-	733,717	318	-	318	4
Total BASELINE COSTS	16,478,278	32,579	16,510,857	7,142	14	7,156	100
Physical Contingencies	-	-	-	-	-	-	-
Price Contingencies	3,542,381	7,628	3,550,009	0	-	0	-
Total PROJECT COSTS	20,020,659	40,207	20,060,866	7,142	14	7,156	100

III. Financing Plan

IV. **Financing Plan**. The programme will mainly be financed by the GEF grant through IFAD as the implementing agency and Government of Tanzania (GoT).. GEF has confirmed a grant of US$7.156 million and the Government of Tanzania has committed to provide co-financing amounting to USD 44.96 million, while USD 8 million of cash co-financing will be provided by IFAD. The details of financing arrangements are shown in Table 20. .

Table 21: Financing Plan by Components (USD)

The United Republic of Tanzanaia
Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania

Components by Financiers (US$ '000)	GEF		BEN		GOT		Total		For.	Local (Excl.	Duties &
	Amount	%	Amount	%	Amount	%	Amount	%	Exch.	Taxes)	Taxes
1. Institutional capacity building on sustainable land management, forest conservation and sustainable pastrolism	944	99.3	7	0.7	-0	-	951	12.0	-	951	-
2. Sustainable and climate smart land, Water and pastrol management /a	4,975	88.0	219	3.9	458	8.1	5,652	71.6	16	5,354	282
3. Monitoring and Assesment	817	88.3	67	7.2	42	4.5	925	11.7	6	877	42
4. Project management	364	98.9	1	0.4	3	0.8	368	4.7	-	365	3
Total PROJECT COSTS	7,100	89.9	294	3.7	502	6.4	7,896	100.0	22	7,548	327

GoT contribution. GoT contribution will be mainly in form of duties and taxes on vehicles, equipment and motor cycles and a few specified operating expenses.

Attachment 1: Summary Cost Tables

Table 22: Components Project Cost Summary

The United Republic of Tanzanaia
Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS)
Project Components by Year -- Totals Including Contingencies
(US$ '000)

	Totals Including Contingencies					
	PY1	PY2	PY3	PY4	PY5	Total
1. Institutional capacity building on sustainable land management, forest conservation and sustainable pastrolism	507	167	157	85	85	1,001
2. Sustainable and climate smart land, Water and pastrol management /a	190	1,294	1,250	1,158	1,104	4,994
3. Monitoring and Assesment	325	40	160	73	245	843
4. Project management	86	58	58	58	58	318
Total PROJECT COSTS	1,108	1,559	1,625	1,373	1,492	7,156

Table 23: Expenditure Accounts Project Cost Summary

The United Republic of Tanzanaia
Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas
Expenditure Accounts by Financiers
(US$ '000)

	GEF		Total		For.	Local (Excl.
	Amount	%	Amount	%	Exch.	Taxes)
I. Investment Costs						
A. Equipment and Material	2,043	100.0	2,043	28.5	-	2,043
B. Goods, services and inputs	283	100.0	283	3.9	-	283
C. Works	1,700	100.0	1,700	23.8	-	1,700
D. Vehicles	115	100.0	115	1.6	-	115
E. Consultancies	1,277	100.0	1,277	17.8	14	1,263
F. Training	445	100.0	445	6.2	-	445
G. Workshops	318	100.0	318	4.5	-	318
Total Investment Costs	6,181	100.0	6,181	86.4	14	6,167
II. Recurrent Costs						
A. Operating costs	225	100.0	225	3.1	-	225
B. Salaries and allow ance	750	100.0	750	10.5	-	750
Total Recurrent Costs	975	100.0	975	13.6	-	975
Total PROJECT COSTS	7,156	100.0	7,156	100.0	14	7,142

Table 24: Project Components by Year – Components by Financiers (US $)

The United Republic of Tanzanaia
Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS)
Components by Financiers
(US$ '000)

	GEF		Total		For.	Local (Excl.
	Amount	%	Amount	%	Exch.	Taxes)
1. Institutional capacity building on sustainable land management, forest conservation and sustainable pastrolism	1,001	100.0	1,001	14.0	-	1,001
2. Sustainable and climate smart land, Water and pastrol management /a	4,994	100.0	4,994	69.8	11	4,984
3. Monitoring and Assesment	843	100.0	843	11.8	4	839
4. Project management	318	100.0	318	4.4	-	318
Total PROJECT COSTS	7,156	100.0	7,156	100.0	14	7,142

Table 25: Disbursement by semester by Financiers (US $)

The United Republic of Tanzanaia
Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS)
Disbursements by Semesters and Government Cash Flow

(US$ '000)	Financing Available			Costs to be Financed
	GEF	Beneficiaries		Project
	Amount	Amount	Total	Costs
1	554	-	554	554
2	554	-	554	554
3	779	-	779	779
4	779	-	779	779
5	812	-	812	812
6	812	-	812	812
7	687	-	687	687
8	687	-	687	687
9	746	-	746	746
10	746	-	746	746
Total	7,156	-	7,156	7,156

Table 25: Project components by co-financier

The United Republic of Tanzanaia

Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS)

Components by Financiers

(US$ '000)

	GEF		VPO		Mkalama		Nzega		Micheweni		Kondoa		Magu		IFAD Cash		Am
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	
1. Institutional capacity building on sustainable land management, forest conservation and sustainable pastrolism	1,001	8.7	2,600	22.6	671	5.8	990	8.6	1,761	15.3	400	3.5	2,090	18.2	2,000	17.4	
2. Sustainable and climate smart land, Water and pastrol management /a	4,994	14.5	2,350	6.8	5,589	16.2	6,600	19.1	3,504	10.1	5,600	16.2	3,910	11.3	2,000	5.8	
3. Monitoring and Assesment	843	7.2	7,450	63.5	180	1.5	495	4.2	750	6.4	-	-	8	0.1	2,000	17.1	
4. Project management	318	13.6	3	0.1	2	0.1	2	0.1	1	0.1	3	0.1	2	0.1	2,000	85.8	
Total PROJECT COSTS	7,156	11.9	12,404	20.6	6,442	10.7	8,087	13.5	6,016	10.0	6,003	10.0	6,010	10.0	8,000	13.3	

Table 26 : Expenditure Accounts by financier

The United Republic of Tanzanaia

Reversing land degradation trends and increasing food security in degraded ecosystems of semi-arid areas of Tanzania (LDFS)

Expenditure Accounts by Financiers

(US$ '000)

	GEF		VPO		Mkalama		Nzega		Micheweni		Kondoa		Magu		IFAD Cash		Tot
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount
I. Investment Costs																	
A. Equipment and Material	2,043	16.6	0	-	597	4.8	6,600	53.5	1,203	9.7	1,100	8.9	800	6.5	-	-	12,343
B. Goods, services and inputs	283	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	283
C. Works	1,700	15.0	0	-	4,326	38.1	-	-	1,200	10.6	2,888	25.4	1,250	11.0	-	-	11,364
D. Vehicles	115	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	115
E. Consultancies	1,277	9.3	6,500	47.4	672	4.9	495	3.6	1,200	8.7	112	0.8	1,460	10.6	2,000	14.6	13,716
F. Training	445	5.2	4,600	53.4	474	5.5	-	-	951	11.0	1,600	18.6	540	6.3	-	-	8,610
G. Workshops	318	3.7	1,301	15.0	371	4.3	990	11.4	1,461	16.8	300	3.4	1,950	22.4	2,000	23.0	8,691
Total Investment Costs	6,181	11.2	12,401	22.5	6,440	11.7	8,085	14.7	6,015	10.9	6,000	10.9	6,000	10.9	4,000	7.3	55,121
II. Recurrent Costs																	
A. Operating costs	225	5.3	3	0.1	2	-	2	-	1	-	3	0.1	10	0.2	4,000	94.2	4,247
B. Salaries and allow ance	750	100.0	-	-	-	-	-	-	-	-	-	-	-	-	-	-	750
Total Recurrent Costs	975	19.5	3	0.1	2	-	2	-	1	-	3	0.1	10	0.2	4,000	80.1	4,997
Total PROJECT COSTS	7,156	11.9	12,404	20.6	6,442	10.7	8,087	13.5	6,016	10.0	6,003	10.0	6,010	10.0	8,000	13.3	60,118

Appendix 10: Draft project implementation manual

Tentative Table of Contents[160]

[160] The Project Implementation Manual will be further elaborated by the PCU with IFAD support, as a part of project readiness activities.

Appendix 11: Compliance with IFAD policies

1. **IFAD Strategic Framework 2016-2025 "Enabling Inclusive and Sustainable Rural Transformation"**. In developing the LDFS Project Design Report (PDR), the design team has referred to the COSOP (2016-21) as well as to the IFAD's fifth Strategic Framework (2016-2025.) In particular, the project is in line with the following IFAD Strategic Objectives:

i. *SO1 - Increasing poor rural people's productive capacities*, especially by improving the access, security and transferability of natural resources and raising yields (as well as nutrient value) of crops, livestock products and fish;
ii. *SO3 - Strengthening the environmental sustainability and climate resilience of poor rural people's economic activities*.

2. **Environment and natural resource management policy (2012)**. Being a GEF co-financed project, LDFS is fully aligned with the IFAD's environment and NRM policy. Particularly with *principle 1* - Scaled-up investment in multiple-benefit approaches for sustainable agricultural intensification; *principle 3* - climate-smart approaches to rural development; *principle 4* - greater attention to risk and resilience in order to manage environment and natural resource related shocks; *principle 6* - improved governance of natural assets for poor rural people by strengthening land tenure and community-led empowerment; *principle 7* - livelihood diversification to reduce vulnerability and build resilience for sustainable natural resource management; *principle 8* - equality and empowerment for women and indigenous peoples in managing natural resources.

3. **Gender equality and women's empowerment policy (2012)**. In line with IFAD's policy, LDFS activities will address the challenges of climate change experienced by the target groups through the adoption of a gender-responsive approach. A gender strategy has been entrenched in the project's three components as described in the PDR main text and in Appendix 2.

4. **Engagement with indigenous people policy (2009)**. In line with IFAD's policy, the first LDFS design mission team included an expert in IPs' rights[161] who held consultations with pastoralists and hunter-gatherers. Initial consultations were held mainly in the districts of Nzega with pastoralists, and in Mkalama with hunter-gatherers to assess how the project could particularly affect these groups and to understand their needs and priorities. An assessment will then be conducted during the start-up phase of the project to identify all resources users of the landscape – including agro-pastoralists, pastoralists and hunter-gatherers - and to ensure their PFIC on joint VLUP. In addition, to support conflict risk management and inclusion of all voices and needs, a grievance mechanism to receive and facilitate resolution of concerns of the various resource users will also be agreed and established under the inter-village natural resources committees. Finally, best-practices used by pastoralists and hunter-gatherers on sustainable land and water management, ecosystem-based adaptation, and biodiversity conservation will be collected for implementation purposes. Wherever possible and appropriate, traditional knowledge and practices will be blended with modern scientific approaches to support IPs, among others, in enhancing the resilience of the ecosystems in which they live and in developing innovative adaptation measures.

5. **Targeting policy (2008).** The LDFS targeting strategy is based on inclusiveness and comprises food insecure, subsistence and market-oriented households as direct beneficiaries. The project will adopt several targeting mechanisms, including geographic targeting, direct and self-targeting, enabling environment, as well as ensuring procedural and operational measures. The strategy will be assessed at various stages of the project life to readjust or reinforce whenever it is needed.

6. **Improving access to land and tenure security policy (2008).** The project will work specifically on sustainable land and water management in line with IFAD's land policy among others. The guiding principles of IFAD's land policy suggest that IFAD should be aligned to national policy priorities, do no harm, focus on gender dimensions of land usage and empower rural people and their organizations on land tenure. The project will consider the extent to which land access and tenure

[161] Dr. Elifuraha Laltaika, independent expert to the United Nations Permanent Forum on Indigenous Issues (UNPF II)

security are issues of concern, in particular for the poor who may wish to get involved in SLM practices and conservation of ecosystem services at the landscape level.

7. **Knowledge management (2007).** LDFS is aligned with the IFAD's KM strategy, which suggests that projects should have baseline studies and should have dedicated frameworks for knowledge management in order to "learn systematically and collectively from its own projects and programmes, and from the experience of its partners, particularly poor rural people, in order to deliver high-quality services and to enable its partners to find innovative ways to overcome poverty, and to use the knowledge acquired to foster pro-poor policy reforms." Moreover, the project will contribute to the GEF-IAP-FS monitoring and evaluation of the regional level programme, providing inputs to compare results with other IAP child projects.

8. **Free, prior and informed consent (FPIC)**. The design of LDFS has been guided by the FPIC operational principle among others. During the design of the project, the local communities have been consulted to ensure their understanding and ownership of the project activities. FPIC of local communities on public development initiatives that may affect their rights, access to land, resources and livelihoods has become an IFAD operational principle through its policies on Improving Access to Land and Tenure Security (2008) and Engagement with Indigenous Peoples (2009). The principle is also included in the IFAD Policy on Environment and Natural Resource Management (2011) and in IFAD's Social, Environmental and Climate Assessment Procedures (2014).

9. **Scaling up.** Finally, LDFS is consistent with both IFAD's and GEF-IAP vision of scaling up. The definition adopted by IFAD for scaling up is: "expanding, adapting and supporting successful policies, programmes and knowledge, so that they can leverage resources and partners to deliver larger results for a greater number of rural poor in a sustainable way". LDFS interventions will focus on how successful local initiatives can sustainably leverage policy changes, additional resources and learning to bring the results to scale. LDFS intends to utilize the extensive set of lessons learned from old and existing environmental projects in order to ensure that LDFS interventions provide continuity while growing in scale.

Appendix 11 B: SECAP Review Note

I. Major landscape characteristics and issues

A. Socio-cultural context

129. Tanzania's rural context is dominated by the agricultural sector, which employs 62% of the labour force contributing to some 23% of the national GDP[162]. Growth in the agricultural sector is at 3.2% per year, lagging behind the overall GDP growth of 6-7%. Dominant crops are coffee, sisal, tea, cotton, pyrethrum, cashew nuts, tobacco, cloves, maize, wheat, rice, cassava, bananas and vegetables. Livestock production comprises cattle, sheep and goats. Smallholder farmers dominate the agricultural and livestock market outputs. Tanzania is attracting high levels of Foreign Direct Investments (FDI), currently mostly for the gas sector, but the government is seeking to also attract FDI into the agriculture sector through PPP initiatives such as SAGCOT[163].

130. Tanzania's population is estimated at 45 million (2012)[164] of which 76% is below the age of 35. Extreme poverty has declined significantly over recent years (from 11.7% in 2007 to 9.7% in 2012) and there are signs that recent overall economic growth has effectively been pro-poor, yet increasing disparity between urban and rural areas[165]. While poverty levels are declining, many people are still living close to the poverty line. Over 80% of the poor people live in rural areas, which have experienced a movement out of agriculture over recent years. The proportion of households whose main source of income is agriculture declined from 53% in 2007 to 39% in 2012, as many young people migrate to towns and cities for work. This trend, influence by high fertility rates and increasing pressure on land, is regarded as a positive development in terms of overall economic transformation, and even in terms of agricultural productivity as it lowers the risk of increasingly small and uncompetitive farm plots.

Project District	**Kondoa**	**Mkalama**	**Nzega**	**Magu**	**Micheweni**
Region	*Dodoma*	*Singida*	*Tabora*	*Mwanza*	*Zanzibar*
Population living below poverty line (%)	32	49	40	43	75
Food insecurity level (%)	25	32	27	30	34
Malnutrition level (%)	42	34	32	34	34
Percentage of workforce in agriculture (%)	74	78	75	76	75

Table 26: Socio-economic characteristics of project districts, as provided by the VPO (2016)

B. Natural resources and climate

131. Tanzania encompasses a variety of ecosystems, which can be categorized as (i) coastal areas; (ii) western plateau; (iii) highlands, and (iv) semi-arid areas. The project districts are located in the semi-arid areas (Kondoa, Mkalama, Nzega, Magu) and the coastal areas (Micheweni located on the island of Pemba) of Tanzania. Climatic conditions are tropical, where the project's semi-arid target areas receive between 450 – 700 mm of rain per year in a single wet season. The table below presents an overview of the key climate, land degradation and vegetation cover characteristics of each district.

[162]UNECA Country Profile 2015, http://www.uneca.org/sites/default/files/uploaded-documents/CoM/com2016/Country-Profiles/tanzaniacountyprofile2015_eng_final.pdf
[163]See http://www.sagcot.com/
[164]Tanzania Population and Housing Census 2012
[165]World Bank (2015) Tanzania Poverty Assessment.

Project District	**Kondoa**	**Mkalama**	**Nzega**	**Magu**	**Micheweni**
Region	*Dodoma*	*Singida*	*Tabora*	*Mwanza*	*Zanzibar*
Annual precipitation (mm)	500	450	700	700	900
Timing of wet season(s)	Dec-Apr	Nov-Apr	Nov-Apr	Oct-May	Apr-Jun Sep-Oct
Temperature dry season (°C)	32	30	31	31	34
Temperature wet season (°C)	18	28	29	28	26
Land degraded (%)	71	68	65	67	46
Vegetation cover (%)	20	10	15	17	24

Natural resources and climate characteristics of project districts, as provided by the VPO (2016)

132. The target districts in semi-arid areas are experiencing similar issues regarding their natural resource base and climate change impacts. Lands are highly degraded (65-71% of total land) and the productive land is becoming increasingly scarce. Invasive species such as sleeper weed (*Lantana camara*) and morning glory (*ipomoea spp*.) are out-competing other, more palatable vegetation. Droughts are a recurrent phenomenon. Farmers perceive increasing temperatures166, which is confirmed by data from the meteorological services stating a country-wide average temperature increase of 0.23 °C per decade since 1960167. Total annual rainfall over the same period has decreased by 3.3% per decade. Farmers are also reporting a delayed onset and increased intensity of the wet season. These changes and the generally perceived unpredictability of rainfall events cause increased risk of crop failure, amongst others due to poor seed germination and washing away of seeds or crops. Similarly, livestock pastures are decreasing in size and the risk of diseases and parasites is increasing168.

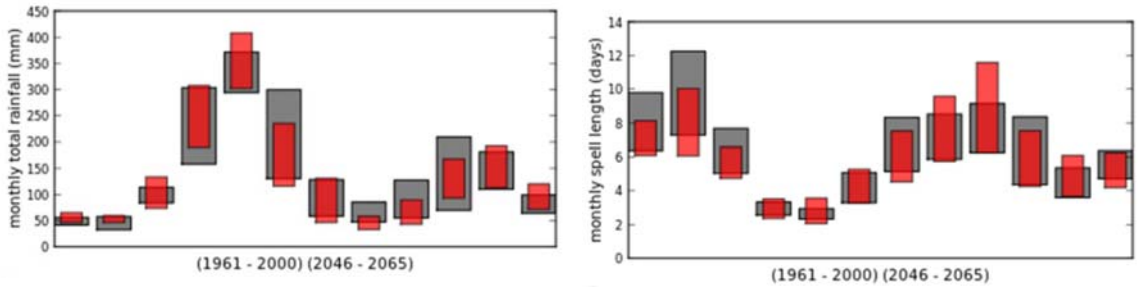
133. Climate change forecasts states that temperatures will increase by 1.0 – 2.7°C by the 2060s. Total annual rainfall on the other hand is expected to increase again in the future, however this will be for a large part attributable to increases in intensity of the wet season. Together, the increasing temperatures and higher-intensity rain events would lead to increased drought and flood risks for the target areas.

134. The coastal district of Micheweni, located on the island of Pemba, has its particular issues regarding natural resources availability and management, and the impacts of climate change. Coastal erosion, destruction of mangrove forests, excessive sand mining and saltwater intrusion are amongst the key concerns of the rural population. While annual rainfall on the island is relatively high at 900 mm/year, improved water use efficiency and eventual shift to less-water consuming crops will be essential to sustain agriculture on the island without depleting freshwater aquifers. Satellite observations show an annual sea-level rise of 3-5 mm/yr, which could increase up to 10 mm / yr according to climate models.

[166]Various research papers, such as Mary and Majule (2009), http://r4d.dfid.gov.uk/PDF/Outputs/ClimateChange/Majule-and-Mary.pdf
[167] UNDP Climate Change Country Profile for Tanzania, http://www.geog.ox.ac.uk/research/climate/projects/undp-cp/UNDP_reports/Tanzania/Tanzania.lowres.report.pdf
[168]Shayo, C. (2013). Forests, Rangelands and Climate Change Adaptation in Tanzania. http://www.fao.org/forestry/38073-0df56be385eb9095f0408259507d7fee9.pdf

Figure 78: Downscaled climate data169 for Pemba showing monthly total rainfall (left) and monthly dry spell length (right).

In grey the current situation, in red the modelled expectations for the 2050s.



C. Key Issues

135. The following issues are considered to be of key importance to the proposed project across the various project districts:

- **Unsustainable agricultural production and livestock management practices.** Underlying factors are poverty rates, increasing population pressure and cultural beliefs (e.g. in the need for bushfires);
- **Land degradation and subsequent loss of productive areas.** Unsustainable management practices contribute to a loss of cultivable land and grazing land;
- **Increasingly unreliable rainfall patterns.** The onset of wet seasons is reportedly becoming more variable, and droughts are intensifying;
- **Scarcity of water and energy sources.** Women in particular spend high amounts of time fetching water and firewood for domestic use;
- **Limited capacity for environmental management.** Lack of knowledge and practical skills amongst government staff and farmers hampers the introduction of more environmentally friendly practices.

136. For Micheweni, additional specific issues of importance are saltwater intrusion and sea-level rise, as well as unsustainable sand mining practices.

[169]The Economics of Climate Change in Zanzibar technical report, using data from University of Cape Town. http://www.economics-of-cc-in-zanzibar.org/images/Climate_Change_Projections_for_Zanzibar_vs_3.pdf

II. Potential project's social, environmental, and climate change impacts and risks

A. Key potential impacts

137. The proposed project has the following expected positive social and environmental impacts: (i) **Reduction in food insecurity and malnutrition;** (ii) **Increased household resilience to climate variability and change;** (iii) **Reduced land degradation prevalence.**

138. The proposed project has the following social and environmental risks and mitigation measures:

#	Risk	Description	Impact	Likelihood	Mitigation measures
1	Increased conflict over water resources	The project's interventions to increase water availability may cause conflict amongst potential water users and downstream users	Medium	Medium	The landscape approach to land use planning with joint village LUPs will support communities upstream and downstream to prevent conflicts over shared resources. In parallel to the PLUPs and as part of the landscape approach, a conflict sensitive approach will be promoted to ensure benefits the project's interventions on water resources management.
2	Disturbance due to construction	Small-scale construction activities for charco dams may cause noise and air pollution, construction waste may be left behind	Low	Medium	The firm hired to carry on construction activities will be required to demonstrate environmental and social responsibility.
3	Unsafe water supply	Water in charco dams, used for domestic purposes, may be contaminated by livestock	Medium	Low	Training through FFS will provide knowledge on access and use regulations to avoid livestock causing degradation of the dam and surrounding grazing areas.
4	Climate shocks and regional economic shocks could impact food supply	Climate shocks may interrupt project's activities. Regional economic shocks may impact food prices, leading to more food insecurity.	Medium	Medium	The project will propose technologies for rapid uptake that will enable smallholder farmers to increase their food production quickly for visible impact and as reserves in case of climate shocks.
5	Lack of incentives for farmers to adopt sustainable practices introduced by the project	The current system of incentives may be insufficient to ensure continued long-term stewardship of natural resources; population increases may jeopardize sustainability of management systems.	Low	Low	The project expects to put in place improved incentive systems, such as creation of small enterprises and producer groups, FFS, collaborative management of agro-pastoral spaces, farmer-based extension, as well as landscape based land use planning.
6	Lack of institutional capacity to upscale and replicate successful interventions from the project	There is a risk that local government authorities do not have the capacity to maintain the developed institutional mechanisms beyond the duration of the project	Medium	Medium	The project will strengthen district and village/ward level capacities at institutional and individual levels. Repeated trainings will ensure that knowledge remains within the institutions even if staff departs. Consideration will also be given to assisting land use planning committees in identifying lasting sources of financing for priorities identified during the planning process.
7	Social tensions and conflicts due to income increases	There is a risk that increases in income could create social conflicts and rivalries within and across villages	Low	Low	The project's three-tiered targeting strategy will ensure that all social groups are representing and benefit from the project, allowing for upward mobility and for the creation of wealth across the community.

B. Climate change and adaptation

139. The proposed project interventions are conceived against the background of a changing climate and the need for increased resilience. Through the village land use planning exercise, communities will have the opportunity to plan for the future and identify areas of attention related to climate change impacts, such as flood risks but also the need for managing livestock and changing agronomic practices. The promotion of sustainable land management practices will assist to increase in-situ water retention, whereas the proposed sand dams will allow water harvesting for multiple uses.

III. Environmental and social category

140. The project's potential negative environmental and social impacts, as listed in section II-A, are limited, site-specific and can be readily mitigated through measures already identified in the project design document. Therefore, the project is classified as **Category B**. Specific activities, especially those related to water resources development (such as *charco* dams, small dams less than 5 meters high and with low storage volumes) will need to follow the impact assessment guidelines of the Government of Tanzania as prescribed in the 2004 Environmental Management Act, EIA and Audit Regulations[170]. For those activities, the Project will need to ensure Project Briefs are provided to the National Environmental Management Council (NEMC) which will subsequently decide on the need for, and scope of, an Environmental Impact Assessment (EIA) and Environmental Impact Statement (EIS).

IV. Climate risk category

141. The climate change risks faced by the Project in achieving its objectives are assessed as **Moderate**. The main risks relate to increasing incidence of floods and droughts, and increasing salt-water intrusion as a result of sea-level rise for Pemba. While the project is designed to enable farmers to adapt to these climatic trends, farmers may still experience increased levels of vulnerability.

V. Recommended features[171] of project design and implementation

A. Mitigation measures

142. The project design includes adequate measures to mitigate the potential negative social and environmental impacts listed in section II-A. The project's participatory planning approach will reduce the risk of conflict over water resources as a result of development activities, through a conflict sensitive approach, which will include consultations and participatory conflict analysis on potential conflict-generating issues in each district.[172] The planning approach will be complemented by stakeholder consultations as part of the preparation of environmental screening reports and, where required, environmental impact assessments. The development of water resources (e.g. charco dams) will need to follow appropriate technical guidelines such as the FAO manual on small earth dams[173], the WOCAT guidelines on water harvesting[174] and the DANIDA handbook on small dams[175]. Details on the procedures to be followed will be part of the Project Implementation Manual (PIM) to be completed before the start of the project.

143. The local impacts of climate change will be considered as part of the inter-village NRM committee training, where adaptation measures will be identified. These measures will effectively

[170] Accessible at http://www.tic.co.tz/media/Environmental%20Audit%20Regulations%202005.pdf
[171] Guidelines as to what constitutes ENRM Core Principles and Best-Practice Statement can be found in IFAD 'Environment and Natural Resource Management Policy' (2011)
[172] Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict
[173] http://www.fao.org/docrep/012/i1531e/i1531e.pdf
[174] https://www.wocat.net/fileadmin/user_upload/documents/Books/WaterHarvesting_lowresolution.pdf
[175] http://www.samsamwater.com/library/Book4_Water_from_Small_Dams.pdf

reduce the exposure of farmers to the impacts of climate change and increase the buffer capacity of the environment in terms of storing water and reducing run-off and erosion.

B. Multi-benefit approaches

144. The project design is based on multi-benefit approaches, combining local and global environmental benefits with improved food security and income. The introduction of climate-smart agriculture will not only guarantee production and income resistant to the impacts of climate change, it will also reduce land degradation and thereby ensure landscape health in the longer term.

C. Incentives for good practices

145. Incentives for the adoption of good practices will comprise of the provision of training on climate-smart agriculture, the establishment of community tree nurseries for seedling production, the provision of water conservation technologies and the subsidization of alternative energy technologies such as improved cook stoves, biogas plants, and solar PV.

D. Participatory processes

146. The project is founded on the idea of inter-village NRM committees as a forum for participatory planning and management of shared natural resources. Committee members will be trained on how to lead participatory processes in an inclusive manner, to understand the trade-offs between different uses of natural resource and the related potential conflicts in terms of access by different stakeholders, through the landscape approach including a conflict sensitive approach with conflict analysis conducted as part of the participatory planning and management of shared natural resources at the landscape level.[176] The actual planning process will be carried out with the support of the project and will include seeking free, prior and informed consent from those affected by the proposed interventions. The Project will thereby safeguard the inclusion of vulnerable groups such as women-headed households, pastoralists and hunter-gatherers as described in Appendix 2.

VI. Institutional analysis

A. Institutional framework

147. The project will be led by the Vice President's Office, which is mandated with environmental management. The Division of Environment is responsible for the formulation of environment-related plans and strategies, and is the institutional parent of the NEMC. The Directorate of Environmental Impact Assessment is responsible for the environmental impact assessment process, including reviewing ESIA documents, monitoring implementation and compliance, and building capacity of stakeholders on ESIA issues. Subsequently, each line ministry has its own Environmental section headed by a Sectoral Environmental Coordinator which is responsible for mainstreaming environmental considerations into the specific sector.

148. For this project, implementation will be shared between the VPO at national level, district governments and line ministries on an on-demand basis. It will be important for the project management unit to liaise with the environment section of the line ministries, especially the Ministry of Agriculture, when implementing ESIA-related activities and regarding capacity building on environmental management.

B. Capacity building

149. Capacity building is a core element of this project and will be focused on the inter-village NRM committees and farmers through Farmer Field Schools. They will be trained in aspects of participatory

[176] Water and conflict: Making water delivery conflict-sensitive in Uganda, CECORE, REDROC, Saferworld, Yodeo, August 2008, http://www.saferworld.org.uk/resources/view-resource/355-water-and-conflict

planning of natural resources use and management, as well as on technical topics related to climate-smart agriculture. Capacity building of government staff will focus on monitoring, assessment and evaluation with the introduction of specific tools (see Appendix 4).

VII. Monitoring and Evaluation

150. The project has a strong component on Monitoring and Assessment, building the capacity of government staff at different levels to monitor implementation and assess the local and global environmental benefits derived from the project. New tools such as the GEF tracking tool, the climate resilience scorecard and the Land Degradation Surveillance Framework will be introduced to improve monitoring practices and benefit from technological advances.

VIII. Further information required to complete screening

151. Screening of individual activities that might require an ESIA will be done during the project implementation. Budget for such studies is included in the design budget for water resources development.

IX. Record of consultations

152. During project implementation, further consultations will be held before activities are implemented, both through the participatory land use planning exercises as well as through the preparation of environmental impact assessments, where needed.

Appendix 12: References

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