

Document of
The International Fund for Agricultural Development
For Official Use Only



REPUBLIC OF MOZAMBIQUE

**PRO-POOR VALUE CHAIN DEVELOPMENT PROJECT
IN THE MAPUTO AND LIMPOPO CORRIDORS
(PROSUL)**

PROJECT DESIGN REPORT

DRAFT

Main Report

Africa II Division
Programme Management Department

Confidential
REPORT No.
5 August 2012

This document has a restricted distribution and may be used by recipients only in the performance of their official duties. Its contents may not otherwise be disclosed without the authorization of the International Fund for Agricultural Development (IFAD).

TABLE OF CONTENTS

CURRENCY EQUIVALENTS	III
WEIGHTS AND MEASURES	III
FISCAL YEAR	III
ABBREVIATIONS AND ACRONYMS	IV
MAPS	VI
EXECUTIVE SUMMARY	VIII
A. Summary and Objectives	viii
B. Components	viii
C. Background and rationale	ix
D. Rural context, geographic area of intervention and target groups	x
E. Key Benefits	x
F. Implementation arrangements	xi
G. Costs and financing	xi
H. Risks	xi
I. Environment	xii
J. Knowledge management, innovation and scaling up	xii
LOGICAL FRAMEWORK	XIII
I. STRATEGIC CONTEXT AND RATIONALE	1
A. Country and rural development	1
B. Rationale	3
II. PROJECT DESCRIPTION	5
A. Approach	5
B. Project area and target group	8
C. Project development objective	11
D. Components and outcomes	11
E. Lessons learnt and compliance with IFAD policies	24
III. PROJECT IMPLEMENTATION	26
A. Organisational framework	26
B. Project oversight	29
C. Planning, monitoring and learning	30
D. Financial management, procurement and governance	31
E. Supervision	32
F. Risk identification and mitigation	33
IV. PROJECT COSTS, FINANCING AND BENEFITS	33
A. Project costs	33
B. Project Financing	35
C. Summary benefit analysis	35
D. Sustainability	36

ANNEXES

Annex 1 – Country and Rural Context Background

Annex 2 - Poverty, Targeting and Gender

Attachment 1 – Assets, Resources, Livelihoods Strategies and Priorities

Attachment 2 – Producer Constraints and Priorities in the PROSUL Value Chains

Attachment 3 – Main Documents Consulted

Attachment 4 – District Level Extension Capacity

Annex 3 – Country Performance and Lessons Learnt

Annex 4 –Detailed Project Description

Section 1 – Horticulture Value Chain Development

Section 2 – Cassava Value Chain Development

Section 3 – Red Meat Value Chain Development

Section 4 – Financial Services

Section 5 – Service Hubs

Section 6 – Outgrower schemes

Section 7 - Farmer Organisations and Extension

Section 8 – Land Tenure Security

Attachment 1 – Horticulture: Detailed Description of Irrigation Sub-Component

Attachment 2 – Draft Terms of Reference for Scoping Studies

Attachment 3 – Cassava: Multiplication of Cassava Cuttings

Attachment 4 – Financial Services and Business Models

Attachment 5 – Draft Terms of Reference for Hub Staff

Attachment 6 –Land Tenure Security

Annex 5 - Climate Change Adaptation Approach

Attachment 1 – Pesticide usage/guidelines for various horticultural crops in Mozambique

Attachment 2 – Trilateral Cooperation on Food Security (U.S.-Brazil-Mozambique)

Attachment 3 – Guidelines for a Basic Meteorological Station

Attachment 4 – Environmental Impacts of Cassava Processing

Attachment 5 – Institutional Capacity Needs for Mainstreaming Climate Changes

Attachment 6 – ASAP Results Framework

Annex 6 - Implementation and Financial Arrangements

Attachment 1 – Staff at CEPAGRI Delegation for the Southern Provinces

Attachment 2 – PROSUL Organisational Chart

Attachment 3 – Draft TOR for PMT positions

Attachment 4 – Draft TOR for Lead Service Providers

Attachment 5 – PROSUL Flow of Funds

Attachment 6 - Procurement

Attachment 7 – Draft 18-month procurement plan

Attachment 8 – PROSUL start-up activities

Attachment 9 - Code of Practices for Project Management in Mozambique

Attachment 10 - Outline of PIM

Attachment 11- PROSUL District Phasing

Annex 7 - Project Cost and Financing

Attachment 1 – Summary Cost Tables

Attachment 2 – Detailed Cost Tables

Annex 8 - Economic and Financial Analysis

Attachment 1 – Financial Models

Attachment 2 – Economic Analysis Calculation

Annex 9 – Compliance with IFAD Policies

Annex 10 - Environmental and Social Review Note

Annex 11 – Knowledge Management and M&E

Annex 12 – Contents of the Project Life File

CURRENCY EQUIVALENTS

Currency Unit	=	MZM
USD 1.00	=	MZM 28

WEIGHTS AND MEASURES

International metric system

FISCAL YEAR

1 January to 31 December

ABBREVIATIONS AND ACRONYMS

AGRA	Alliance for a Green Revolution in Africa
AMPIA	Association of Agricultural Input Providers of Mozambique
AMPCM	<i>Associação Mozambicana para Promoção de Cooperativas Modernas</i> Mozambican Association for the Promotion of Modern Cooperatives
AfDB	African Development Bank
ANE	<i>Autoridade Nacional das Estradas</i> National Road Authority
ASAP	Adaptation for Smallholder Agriculture Programme
AWPB	Annual Work Plan and Budget
BAGC	Beira Agricultural Growth Corridor
CAADP	Comprehensive Africa Agricultural Development Programme
CEPAGRI	<i>Centro de Promoção da Agricultura</i> Centre for the Promotion of Agriculture
COSOP	Country Strategic Opportunities Programme
CPE	Country Programme Evaluation
CTA	<i>Confederação das Associações Económicas de Moçambique</i> Confederation of Business Associations of Mozambique
CUT	<i>Conta Unica do Tesouro</i> Single Treasury Account
DFID	Department for International Development (of the UK) <i>Direcção Nacional de Extensão Agrária</i>
DNEA	National Directorate for Agriculture Extension <i>Direcção Nacional de Serviços Agrários</i>
DNSA	National Directorate for Agriculture Services <i>Direcção Nacional de Terras e Florestas</i>
DNTF	National Directorate for Land and Forests <i>Direcção Nacional de Serviços de Pecuaria</i>
DNSV	National Directorate for Livestock Services <i>Direcção provincial da Agricultura</i>
DPA	Provincial Directorate for Agriculture
DUAT	<i>Direito de Uso e Aproveitamento da Terra</i> Right of Use and Enjoyment of Land
FAO	Food and Agriculture Organisation of the United Nations
FARE	Fund for the Support of Economic Rehabilitation
FDA	<i>Fundo de Desenvolvimento da Agricultura</i> Agriculture Development Fund
FFS	Farmer Field Schools
FO	Farmer Organisations
GDP	Gross Domestic Product
IIAM	<i>Instituto de Investigação Agrária de Moçambique</i> Institute for Agriculture Research of Mozambique
INGC	<i>Instituto Nacional de Gestão de Calamidades</i> National Disasters Management Institute
ISM	Implementation Support Mission
IP	Innovation Platform
IT	Information and Telecommunication
ITC	<i>Iniciativa para Terras Comunitárias</i>
IsDB	Islamic Development Bank
KM	Knowledge Management
LLC	Limited Liability Company
LPO	Livestock Producers' Organisations

LSP	Lead Service Provider
LSTP	Land Tenure Service Provider
LTA	Land Tenure Advisor
M&E	Monitoring and Evaluation
MFI	Micro Finance Institution
MICOA	<i>Ministério da Coordenação da Acção Ambiental</i> Ministry for the Coordination of Environmental Affairs
MINAG	Ministry of Agriculture
MIS	Management Information System
MTO	Meat Traders' Organisation
MOU	Memorandum of Understanding
MZM	Metical
NAPA	National Adaptation Programme of Action
NDAS	National Directorate for Agriculture Services
NRM	Natural Resource Management
O&M	Operation and Maintenance
PAMA	<i>Programa de Apoio aos Mercados Agrícolas</i> Programme in Support of Agriculture Markets
PARP	Poverty Reduction Action Plan
PEDSA	<i>Plano Estratégico para o Desenvolvimento do Sector Agrário</i> Strategic Plan for Agricultural Development
PMT	Project Management Team
PNDA	<i>Programa Nacional para o Desenvolvimento do Agronegócio</i> National Programme for Agribusiness Development
PO	Producers' Organisations
PPCR	Pilot Programme for Climate Resilience
PROMER	<i>Programa de Promoção de Mercados Rurais</i> Rural Markets Promotion Programme
R&D	Research and Development
RIMS	Results and Impact Management System
SDAE	<i>Serviço Distrital para Actividades Económicas</i> District Service for Economic Activities
SFA	Subsidiary Financing Agreement
SIDA	Swedish International Development Agency
SISTAFE	<i>Sistema de Administração Financeira do Estado</i>
SME	Small and Medium Enterprise
SNV	Netherlands Development Organisation
SPA	<i>Serviço Provincial da Agricultura</i> Provincial Service for Agriculture
SPGC	<i>Serviço Provincial de Geografia e Cadastro</i> Provincial Service for Geography and Cadastre
SPPP	<i>Serviço Provincial de Promoção da Pecuária</i> Provincial Service for Livestock Promotion
UNAC	<i>União Nacional dos Camponeses</i> National Farmers' Union
UNCDF	United Nations Capital Development Fund
USAID	United States Agency for International Development
USD	United States Dollar
VC	Value Chain
VC DAP	Value Chain Development Action Plan
VCP	Value Chain Platform
WA	Withdrawal Application
WUA	Water Users' Association

THE INTERNATIONAL FUND FOR AGRICULTURAL DEVELOPMENT

MOZAMBIQUE

PRO-POOR VALUE CHAIN DEVELOPMENT PROJECT IN THE MAPUTO AND LIMPOPO CORRIDORS (PROSUL)

EXECUTIVE SUMMARY

A. Summary and Objectives

1. The project involves pro-poor and climate resilient improvements in three value chains: irrigated horticulture, cassava and red meat. It will work in the trade corridors of the climate vulnerable southern Provinces of Gaza, Inhambane and Maputo, an area that has been largely neglected by development interventions yet is characterised by concrete potential in the targeted value chains. The project will support smallholder production, address *key market and biophysical constraints, ensure sustainable access by smallholders to essential services and create a more favourable business environment*. It will reach 20,350 beneficiary households, mostly economically active poor who are already involved in value chain production. It will be linked to the IFAD-supported PRONEA Support Project (PSP) for extension support and the Rural Markets Promotion Programme (PROMER) for value chain development in other parts of the country.

2. The project goal is to establish improved and climate-resilient livelihoods of small farmers in selected districts of the Maputo and Limpopo corridors. Its development objective is to achieve sustainable increased returns to smallholder farmers from increased production volumes and quality in the targeted value chains, improved market linkages, efficient farmer organisation and higher farmers' share over the final added value.

B. Components

3. **Component 1: Horticulture.** The component aims at increased sustainable income for farmers producing irrigated vegetables through increased productivity, volumes and quality of vegetables reaching both traditional and modern market segments. It will rehabilitate and improve some 2,100 ha farmed by 3,800 smallholders, develop institutional and marketing capacities for another 1,000 smallholders farming a rehabilitated 900 ha irrigation scheme, develop and promote more climate resilient practices that allow the efficient and sustainable production of selected crops to occur in both the traditional dry seasons and the wet season with significant reductions in the use of agrochemicals, finance 200 small greenhouses to help farmers produce in the hot season, establish water user associations (WUAs) and 7 service hubs that provide basic services such as storage and packaging, and strengthen market linkages.

4. **Component 2: Cassava.** The component will respond to new marketing opportunities for cassava-based products by establishing proof-of-concept business models for the profitable and climate-resilient production and marketing of cassava, thus providing increased sustainable income for farmers. It will reach some 8,000 farmers through outgrower schemes and service hubs, in a phased approach. The project will support the multiplication of drought-resistant planting materials, develop and promote climate resilient production practices, establish service hubs that will provide inputs and produce cassava chips and flour, and build market linkages.

5. **Component 3: Red Meat.** For this component, the increased sustainable income for cattle, goat and sheep breeders will be generated by improved climate smart production and better organised markets. It will reach some 5,600 smallholder ruminant producers with activities that foster

better production and off-take by empowering small-scale livestock producers to form organisations producing quality ruminants based on essential services and jointly managed water sources that will increase resilience to drought. It will also develop sustainable market access and better prices by organising cattle fairs, creating Meat Traders' Organisations and developing contracting and outgrowers schemes, and setting up a new and low-carbon slaughterhouse near Maputo town. It will support the preparation and financing of Community Based Natural Resource Management Plans to improve the management of pasture land and to decide on strategic location for project investments. Land tenure support will lead to better community management of grazing areas.

6. **Component 4: Financial services.** The objective of the component is to ensure the access of value chain stakeholders to adequate financial services at an affordable cost by sustainable MFIs using innovative delivery mechanisms to increase their outreach. There is currently no bank or microfinance institution that is in a position to provide the whole range of required financial instruments on its own resources and at an affordable rate. Project funds will be extended to an investment fund, which will on-lend them to microfinance institutions (MFIs), allowing these to provide the range of financial services required. To make sure that they can do this at an affordable interest rate for value chain stakeholders, the investment fund will take an equity position in the share capital of selected MFIs, which will open the possibility to also make a long-term deposit in their shareholders' account.

7. **Component 5: Institutional Support and Project Management.** The component aims at strengthening CEPAGRI so that it can deliver project outcomes and outputs according to plans, and build capacities for innovative business models. This includes capacity-building to support their participation in national climate policy formulation and development programming, the build-up of the Project Learning System (PLS), facilitating Regional Value Chain Platforms and mainstreaming gender and climate change adaptation in policy support for the three value chains. It also includes measures to strengthen land rights of the project's target groups and to improve the management of land use by farmer organisations and communities.

8. **Climate change.** IFAD's new Adaptation for Smallholder Agriculture Programme (ASAP) was established in 2012 (see <http://www.ifad.org/climate/asap>). A USD 4.9 million grant from this programme will contribute to the Project financing to make the three value chains resilient to the projected impacts of climate change – in particular increased rainfall variability and risks of drought and flooding, especially in the south and central regions of the country. ASAP-funded activities are fully integrated throughout PROSUL, including: (i) project baseline and impact surveys; (ii) capacity-building for the Ministry of Agriculture in climate policy formulation and development programming; (iii) community-based natural resource management plans; (iv) private-sector uptake of climate resilient agriculture techniques; (v) strengthening local meteorological stations; (vi) improving water management approaches and infrastructure, and (vii) introducing climate resilient small-scale infrastructure; and (viii) including climate resilience in the policy and strategic fora/documents such as the Regional Value Chain Platforms and Value Chain Development Action Plans.

9. **Gender.** The project will ensure inclusion and gender equity in the access to its services by targeting and gender studies, piloting the implementation of the Gender Action Learning System (GALS), a participatory approach aiming at ensuring women and poor inclusion in value chains, the participatory establishment of a targeting and gender mainstreaming strategy and action plan for each of the value chains, and the reflection of gender aspects in the Annual Value Chain Development Action Plans and the Project Learning System.

C. Background and rationale

10. Despite sustained high annual growth in Mozambique, the absolute poverty rate remains high at 54.7% of the population. This is to a large extent based on the predominant agricultural

livelihood base in rural areas and the low growth of agricultural productivity, and it is exacerbated by climatic shocks and price fluctuations. This is particularly pronounced in the south of the country where frequent droughts occur and temperatures are rising. However, real business opportunities exist in the three southern provinces in response to the market opportunities that exist in the greater Maputo area, especially for vegetables and meat. Furthermore, new industrial interest in semi-processed cassava products for baking and brewing create opportunities of converting cassava from a food security staple to a climate-proof cash crop. The project thus focuses on these three value chains in applying its inclusive approach, with a special emphasis on climate proof investments to ensure sustainability.

11. The proposed interventions are fully aligned to government policies, especially the Poverty Reduction Action Plan (PARP), the Strategic Plan for Agricultural Development (PEDSA) and the Agricultural Extension Master Plan. It supports the National Adaptation Programme of Action (NAPA) prepared by the Ministry for Environmental Coordination (MICOA), which aims to strengthen capacities to cope with the adverse effects of climate change, including farmers' capacities to deal with climate change by reducing crop and livestock losses in drought-prone regions, reducing soil degradation and promoting diversified commercially-oriented activities. It fits perfectly to implement the draft National Plan for Agribusiness Development (PNDA). The project contributes to all three strategic objectives of the 2011 COSOP, and is also fully consistent with IFAD's Climate Change Strategy, Environment and Natural Resource Management Policy, Rural Finance Policy, Rural Enterprise Policy, Private Sector Development and Partnership Strategy. IFAD's financial contribution to the project will dovetail loan funds (USD 16.3 million each from both IFAD and the Spanish Trust Fund) with IFAD grant funds for institution building, targeting and technical assistance (USD 1.5 million) and the first ASAP grant (USD 4.9 million), and technical in providing sound implementation support to CEPAGRI, a government agency with little project experience.

D. Rural context, geographic area of intervention and target groups

12. The three southern provinces (excluding Maputo city) are home to 4.3 million people, 21% of the country's population. Smallholders farm 90% of the cultivated area, on plots averaging 1.6 ha in Maputo to 2.4 ha in Inhambane. In Gaza Province, livestock is the main basis for rural livelihoods. The region is particularly vulnerable to climate change, being mostly arid or semi-arid, with a high vulnerability to drought and increasing temperatures. The irrigation potential is high, but not much of it is used and only 30% of the area of the irrigation schemes is operational. Road and rail links are poor, and the focus districts for all value chains were selected with relative logistical advantages in mind.

13. The *main target group* consists of the emergent smallholder farmers who are already involved in value chain production (existing cassava, horticulture and livestock producers). A *secondary target group* includes persons who have the potential to become drivers of change (commercial farmers, traders and private investors interested in financing joint ventures with smallholders), and also livestock breeders outside the LPOs and staff of the project-supported business ventures. PROSUL will work directly with a population of around 20,350 benefitting households, of which about 18,400 farming households.

E. Key Benefits

- An additional area of about 2,100 ha of irrigated land is brought into use
- 4,800 smallholder irrigation farmers (60% women) have access to horticultural markets
- 200 greenhouses operational benefitting around 200 farmers (50% women) (ASAP-funded)
- At least 8,000 farmers (50% women) accessing support services through outgrower schemes and service hubs

- 50% of participating households adopt mixed cropping practices to ensure food security (ASAP-funded)
- At least 5,600 breeders (50% women) accessing animal health services (ASAP-funded)
- 25% increased off-take of goats and beef cattle (ASAP-funded)
- At least 75% of participating farmers (50% women) access financial services

F. Implementation arrangements

14. PROSUL will be implemented by a Programme Management Team (PMT) hosted by the Centre for the Promotion of Agriculture (CEPAGRI). This builds on CEPAGRI's mandate and the finding of the recent Country Programme Evaluation that project facilitation units have proven to be the most effective option for project implementation in Mozambique, provided linkages are established with the hosting institution to contribute to institutional building and secure sustainability.

15. The implementation of components 1 to 3 will be carried out by three specialised Lead Service Providers (LSPs). The implementation of the investment fund of Component 4 will be the responsibility of the Beira Agricultural Growth Corridor (BAGC) Catalytic Fund under a Subsidiary Financing Agreement and an MOU to detail the role and responsibilities of the Catalytic Fund and the PMT.

16. Project oversight will be carried out by a Project Steering Committee chaired by CEPAGRI, and three Regional Value Chain Platforms (VCPs). The latter will discuss project achievements and issues, provide overall project guidance and identify issues to be addressed at policy level. Based on this overall dialogue, VCPs will also be responsible for approving component APWBs prior to submission to the Project Steering Committee.

G. Costs and financing

17. The seven-year project will cost USD 44.95 million, including USD 1.67 million in physical and price contingencies (4% of base costs). From IFAD, it will be financed by: an IFAD loan (USD 16.3 million; 37% of total project costs); an IFAD grant (USD 1.5 million; 3%) for institution building, targeting and technical assistance; IFAD's Spanish Trust Fund (USD 16.3 million; 37%); and the first ASAP grant (USD 4.9 million; 11%) to support the integration of climate-resilience across PROSUL. External cofinancing will be provided by the UN Capital Development Fund (USD 140 000; 0.3%). The Government of Mozambique will contribute 6% of total project costs (USD 2.5 million) in foregone tax revenues, while local private investors and beneficiaries will contribute with own resources USD 1.9 million and USD 1.4 million, respectively.

H. Risks

18. The two key risks and mitigation measures are:

- a) Drought. This risk will be mitigated by promoting and multiplying drought tolerant and disease resistant cassava and vegetable varieties and promoting climate-resilient grazing and feeding, promoting climate-resilient production techniques, and supporting irrigation, low-cost greenhouses and access to water facilities for livestock.
- b) Lack of financial capacity and interest on behalf of private sector to invest in processing. This risk will be mitigated by providing private investors with matching grants to support investment in innovative and riskier activity, and developing service hubs co-owned by farmers.

19. Other risks and mitigation measures are discussed in the design report.

I. Environment

20. From an environmental perspective, the project activities aim at making the present farming systems more sustainable than they are today, by gradually including new and improved climate resilient plant material and crop/animal management practices. For irrigation interventions, environmental impact assessments will be carried out as required by national laws. From Agro-processing, limited negative impact may be expected from liquid and solid waste from the slaughterhouse, and waste water from cassava processing. The former will be mitigated by the project supported biogas plant for the slaughterhouse, and the latter will be utilised and disposed of without it contaminating any surface water.

21. The project has been classified in Category B as the potential negative environmental impact of the project is expected to be of low significance and sensitivity. In fact, in view of the strong focus on climate-smart investments funded by ASAP, the project is expected to have many positive impacts on the environment and beneficiaries' ability to cope with climate change.

J. Knowledge management, innovation and scaling up

22. A Project Learning System (PLS) integrating planning, M&E and knowledge management (KM) will be developed to steer project implementation, support economic decisions and share knowledge. The PLS will be open (that is, not restricted to project staff), participatory, growing, focused on analysis and learning connected to CEPAGRI's information systems and supporting accountability to project stakeholders. Every year, innovation areas in which project stakeholders intend to detect good practices and to develop an exchange of knowledge will be identified by the VCPs and included in the annual M&E and KM plan. Moreover, Learning Routes will be organised in areas in which this tool will be suitable to respond to the learning needs. Through ASAP support, baseline and impact studies will take into account various aspects of climate resilience. Particular attention will be given to lessons generated from the Project on how to integrate climate resilience into a value-chains focused project. There will be close interaction between the project KM system and international efforts by IFAD and partners aligned to ASAP to build knowledge on climate resilient smallholder agriculture. This will provide many lessons for scale-up, which is important given the potential to combine the priorities of value-chain development and climate-resilience across the IFAD-supported portfolio and beyond.

LOGICAL FRAMEWORK

Narrative summary	Key Indicators and Targets by June 2019	Means of Verification	Assumptions
GOAL AND DEVELOPMENT OBJECTIVE			
GOAL: Improved and climate-resilient livelihoods of smallholder farmers in selected districts of the Maputo and Limpopo corridors.	<ul style="list-style-type: none"> • Increased asset index for 13,700 participating households (RIMS) • Reduced child malnutrition (RIMS) • 60,000 poor smallholder household members whose climate resilience has increased due to ASAP (ASAP) 	Project baseline & impact surveys, reality checked against national statistics	<ul style="list-style-type: none"> • Favourable economic environment
DEVELOPMENT OBJECTIVE: Sustainable increased returns to smallholder farmers from increased production volumes and quality in target value chains, improved market linkages, efficient farmer organisation and higher farmers' share over the final added value.	<ul style="list-style-type: none"> • % of final price accruing to small-scale producers in the three value chains • 20,350 households (50% women) receiving project services (RIMS 1.2.5) • Number of farmer organisations extending productions support and marketing service to members (COSOP) 	<ul style="list-style-type: none"> • Project surveys • Service hubs' reports • Farmers' organisations statistics • Value Chain Platform reports 	<ul style="list-style-type: none"> • Continued government commitment to improve returns to farmers in agricultural value chains
OUTCOMES			
OUTCOME 1: Increased sustainable income for smallholder farmers producing irrigated vegetables in project areas through increased productivity, volumes and quality of vegetables reaching both traditional and modern market segments.	<ul style="list-style-type: none"> • 1,305 ha improved and 796 ha rehabilitated irrigated schemes operational (19 schemes) • 4,800 farmers (50% women) accessing support services (RIMS 1.2.5, COSOP) through 7 service hubs (20 schemes) • 3,840 farmers (50% women) adopting recommended climate-resilient technologies (RIMS 2.2.2, COSOP and ASAP) (20 schemes) • Annual volume of produce sales by hubs (COSOP) • All WUAs granted DUATs and with documented rules for regulating 	<ul style="list-style-type: none"> • DNSA and INIR • LSP M&E system • Project surveys • Service hubs' reports • Farmers' organisations statistics • Value Chain Platform reports 	<ul style="list-style-type: none"> • Private investors interested in investing in outgrower schemes/hubs along conditions proposed by IFAD

	members' parcel access and use		
<p>OUTCOME 2: Increased sustainable income for smallholder farmers in project areas from improved cassava production, based on proof-of-concept business models for the profitable production and marketing of cassava-based products.</p>	<ul style="list-style-type: none"> 8,000 farmers (50% women) accessing support services (RIMS 1.2.5 and COSOP) through outgrower schemes and service hubs 4,800 farmers (50% women) adopting recommended technologies (RIMS 2.2.2, COSOP) Average cassava yield by participating households increased from 6.5 t/ha to 11.0 t/ha (+70%) Annual volume of cassava purchased by processing units (COSOP) Increase by 2,880 ha of land managed under best practices (ASAP) 	<ul style="list-style-type: none"> Project surveys LSP M&E system Service hubs' reports Farmers' organisations statistics 	<ul style="list-style-type: none"> Private investors interested in investing in processing units, outgrower schemes and hubs along conditions proposed by IFAD
<p>OUTCOME 3: Increased sustainable income for small-scale cattle, goat and sheep breeders in project areas through improved production and better organised markets</p>	<ul style="list-style-type: none"> 5,600 herders (50% women) accessing animal health services (RIMS 1.2.5 and COSOP) 3,360 herders (50% women) adopting recommended technologies (RIMS 2.2.2 and COSOP) Off-take rate of livestock (increased from current 5% to 10%) Annual number of animals sold by LPOs by project year 3 (separate for cattle and shoats) # increase in hectares of land managed under best practices (ASAP) 	<ul style="list-style-type: none"> Project surveys LSP M&E system Farmers' organisations statistics Value Chain Platform reports 	<ul style="list-style-type: none"> Private investors interested in investing in slaughterhouse at PROSUL conditions Prospect of higher and regular income induces herders to develop commercially-oriented herd management
<p>OUTCOME 4: Selected value chain stakeholders have a timely and adequate access to a diversified range of affordable financial products, through existing or to be created financial and non-financial service providers</p>	<ul style="list-style-type: none"> Number of rural clients (50% women) receiving a loan (COSOP) At least 75% of participating farmers (50% women) access financial services (by type of client, service, financial/non-financial service provider), loan portfolio 	<ul style="list-style-type: none"> Catalytic Fund and MFIs M&E systems 	<ul style="list-style-type: none"> MFIs are interested in extending services in rural areas along conditions affordable for agricultural

	<ul style="list-style-type: none"> • Portfolio at risk of MFI loans to participating farmers • Number and volume of working capital loans extended by microfinance institutions to SMEs and repayment rate, by year • Average interest rates charged to project-supported SMEs, farmers' organizations and farmers; • Dividends earned by the Catalytic Fund from MFIs and SMEs (by type) and return on investment; • Yearly amount of PROSUL equity held by Catalytic Fund in SMEs • Number of staff of MFIs/SMEs trained in financial and management subjects (RIMS) (50% women) 		activities
<p>OUTCOME 5: CEPAGRI, and specifically its delegation for the southern provinces, has and uses systems and tools for supporting inclusive value chain development and for promoting new business models</p>	<ul style="list-style-type: none"> • Systems and tools for planning and budgeting public support to value chains and for monitoring value chain performance are operational and implemented • Linkages with relevant institutions (particularly MICOA and INGC) and with the Strategic Programme for Climate Resilience co-financed by the World Bank and AfDB established and maintained (ASAP) • 10 CEPAGRI and project staff received training and exposure to issues related to the broader national and regional climate agenda (ASAP) 	<ul style="list-style-type: none"> • Project reports and publications 	

REPUBLIC OF MOZAMBIQUE

PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO CORRIDORS (PROSUL)

PROJECT DESIGN REPORT

I. STRATEGIC CONTEXT AND RATIONALE

A. Country and rural development

1. Over the last two decades, Mozambique has been experiencing an average annual growth rate above 7%, sustained by macroeconomic liberalisation, market-based reforms, massive public investment in infrastructure and large flows of foreign direct investment. However, according to the most recent household survey (2008/09), 54.7% of the population still live in absolute poverty, with no improvement since 2002/03 (54.1%). This is mostly explained by three factors: the low growth of agricultural productivity, which has a direct impact on the income of the 70% of the population that lives on agriculture; the vulnerability of the agricultural sector to climatic shocks, periodic droughts and floods, and rising temperatures; and the declining terms of trade due to sharp increases in international food and fuel prices. Poverty levels in rural and urban areas were respectively 56.9% and 49.6% in 2009. Poverty remains a predominately rural phenomenon with more than 70% of poor households located in rural areas and an even higher proportion dependent on agriculture for survival. While the poverty rate for the southern region as a whole has been declining from 66.5% in 2002/2003 to 56.9% in 2008/2009, the province of Maputo has remained the second poorest of the country, and it is immediately followed by Gaza and Inhambane.

2. **Agriculture.** Although agriculture contributes only 23% to GDP and represents just 20% of total exports, it is the main source of income for more than 70% of the population, provides employment for 80% of the total workforce and generates 80% of the income of rural households. The sector grew by an average annual 7.9% between 2003 and 2008, with much of the growth due to the expansion of the cultivated area and to favourable rainfall, while yields stagnated at levels between 30% and 60% of their potential. Smallholders represent the greater part of the country's farming sector, constituting more than 98% of the total number of farmers and accounting for 95% of the national agricultural production and for about 90% of the total land under use. Low availability of modern inputs, lack of appropriate climate resilient technologies and limited access to finance and other support services are the main determinants of low yields and low returns. Most smallholders still operate close to subsistence level and less than 20% of them regularly sell their products.

3. **Food security.** Between 2005 and 2009, the quantity of marketed agricultural products was multiplied by 2.4, with important increases for both staple food products and export crops. The number and diversity of market agents are increasing, from farmers' associations through to small/medium-sized traders, larger trading companies and agri-business, some of which provide support services to small farmers. However, despite these encouraging trends, Mozambique continues to experience food insecurity at the national and household levels, frequently exacerbated by extreme climatic events. Except for maize and cassava, the country is a net importer of food staples and less than 25% of smallholder families are able to cover their food needs throughout the year. Yet with an annual 4% growth, the urban population is expected to generate increasing demand for agricultural products. Meeting the growing domestic demand for food products and reducing the country's dependence on imports will require the competitiveness of domestic products to be developed, with an emphasis on reducing transaction costs and improving smallholders' access to production and business development services.

4. **Climate change.** The vagaries of current and future climate change represent important challenges. Rainfall variability, the risk of flooding and temperature increases are expected to grow, especially in the south and central regions of the country. Recent studies by the Institute for Disaster Management (INGC) and the *Instituto de Investigação Agrária de Moçambique* (IIAM) on land use

capability suggest that within ten years the impact of climate change will be increasingly felt within the Limpopo Corridor, particularly the lowering of soil moisture content prior to the onset of the rains¹. Adaptation measures are needed to build smallholder resilience to climate variability, and major investments are required to develop irrigation (only 50,000 ha of a potential of 3.3 million ha are irrigated, of which only about 30% are operational), water conservation techniques and drought-tolerant germplasm.

5. **Rural institutions.** Only about 10% of rural households are members of a *farmers' organisation*. Most farmer organisations deal with problems of poor management, limited focus on service provision, lack of knowledge with regard to post-harvest and marketing aspects, and lack of negotiation skills to develop partnerships. *Extension services* are available to less than 10% of farmers. District-based public extension lacks staff and financial resources and is centred on the production of food crops, leaving out critical elements such as cash crops, marketing, management and farmers' organisation. In line with the Agricultural Extension Master Plan (2007-2016), which supports a pluralist approach building on public, private and associative service providers (and is supported by IFAD-financed National Agricultural Extension Programme - PRONEA), new actors are gradually providing advisory services to farmers, including input suppliers, farmers' associations/unions, larger farmers and private service providers. Furthermore, and in accordance with the National Plan for Agribusiness Development (see below), both the ministry of Agriculture (MINAG) and the national Farmers' Union (UNAC) are planning to develop agriculture service centres to provide advisory services, inputs and mechanisation to smallholders. *Improved inputs* are rarely used because of their cost, climatic risk and the limited outreach of input dealers. *Post-harvest* management and handling are minimal and losses are exacerbated by climatic extremes. Lack of knowledge on quality requirements and product preparation, of adequate infrastructure (cool storage for vegetables, water points, pens and loading ramps for cattle, veterinary centers, well maintained slaughterhouses) and of appropriate transport affect overall quality of products as well as farmers' capacity to add value to their produce. *Financial services* are available to only 4.3% of the population. Financial institutions have limited outreach in the rural areas, charge unaffordable interest rates and require collaterals and other conditions that de facto exclude smallholders from accessing credit. Neither commercial banks nor MFIs offer long-term financing for costly equipment such as tractors or processing units.

6. **MINAG.** Main functions of the Ministry of Agriculture include the analysis, formulation and monitoring of sectoral policies, as well as the provision of extension and research services (the latter through IIAM. At the district level, District Services for Economic Activities (SDAEs) are responsible for the planning, coordination and monitoring of local services in support of economic activities, including agriculture. The Centre for the Promotion of Agriculture (CEPAGRI) is a public institution placed under MINAG's authority that is responsible for promoting commercial agriculture and agro-industry. A delegation was open in March 2011 in Xai-Xai (Gaza) to cover the three southern provinces. It is staffed by a small team of junior professionals with limited experience, who are responsible for promoting and monitoring investment opportunities and for developing projects in support to private investment.

7. **Policies for rural growth.** The *Poverty Reduction Action Plan* (PARP - 2011-2014) aims at reducing the incidence of poverty from 54.7% in 2009 to 42% in 2014, by promoting pro-poor, inclusive growth. PARP's first objective is to increase agricultural production, primarily by boosting the productivity of the family sector. This is to be achieved by improving access to production factors, facilitating market access and improving the sustainable management of natural resources. These priorities are developed in the *Strategic Plan for Agricultural Development* (PEDSA - 2011-2020), whose goal is to convert subsistence farming into a market-oriented agriculture ensuring food security and securing farmers' income, along an annual 7% agricultural growth. PEDSA's strategy is based on

¹ INGC (2009). *Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique*. [van Logchem B and Brito R (ed.)]. INGC, Mozambique

the promotion of a value chain approach and on the development of partnerships between the public sector and private actors. PEDSA targets interventions along six corridors offering production potential and market access, including Maputo and Limpopo corridors in the southern region. Cassava, vegetables and livestock are among the commodities to receive priority public funding. Finally, a draft *National Plan for Agribusiness Development* (PNDA - 2011-2020) has been recently prepared by CEPAGRI, which aims at increasing the competitiveness and added value of agriculture products, by strengthening public-private partnerships and resource mobilisation for the development of priority agribusiness initiatives, including farmers' cooperatives offering a range of services on a profitable basis, outgrower schemes involving small and medium farmers, and agribusiness service centres.

8. **CAADP.** The Comprehensive Africa Agricultural Development Programme (CAADP) Compact has been signed in December 2011, including by IFAD. Key priorities are: (i) to expand sustainable land management and irrigation; (ii) to increase market access through infrastructure improvement; (iii) to improve food *availability* and productivity; and (iv) to promote agricultural research and enhanced adoption of technologies. The government of Mozambique committed itself to increase agricultural investment through public expenditure from the current 5.6% to 10%. NEPAD is also currently managing an exercise to increase investment in climate change, which will include Mozambique and therefore offer potential to engage further.

B. Rationale

9. **National policies.** PEDSA aims at gradually integrating agricultural producers into competitive value chains along inclusive and equitable approaches, giving priority to crops and meat production for the domestic market. PROSUL will support small farmers in the southern provinces so that they can achieve such an objective, by focusing on two of PEDSA's strategic pillars, which are to improve access to services to increase farmers' productivity, and to promote agribusiness entrepreneurs and linkages with smallholder producers. The National Adaptation Programme of Action (NAPA) prepared by the ministry for Environmental Coordination (MICOA) aims at strengthening national capacities to cope with the adverse effects of climate change. Long-term expected results include the strengthening of farmers' capacities to deal with climate change by reducing crop and livestock losses in drought-prone regions, reducing soil degradation and promoting diversified commercially oriented activities. PROSUL is also in line with PNDA and will support some of the priority initiatives aiming at developing a more productive, climate resilient and competitive agriculture, including agribusiness service centres and adequate instruments to finance value chain development. The project target value chains are part of the strategic products promoted by PNDA, and PROSUL also builds on the Cassava Development Strategy (2008-2012), the Livestock National Strategy (2009-2015), as well as preliminary draft orientations available for the forthcoming Horticulture Strategy.

10. **Southern corridors.** A number of donors, including IFAD, are already involved in promoting market-oriented agriculture, but they mostly focus on the northern and central provinces, leaving the south largely uncovered. Yet although they are characterised by higher climatic risks, the southern provinces have diverse agro-ecologic potential, stable temperature throughout the year and ample available land and they benefit from proximity to major domestic and regional markets. The southern region hosts two of the six corridors where PEDSA intends to concentrate priority value chain development, i.e. the Limpopo and Maputo corridors. Furthermore, the last poverty assessment showed that, after the central province of Zambezia, southern provinces are the poorest of the country.

11. **Target value chains².** Horticulture, ruminants and cassava are among the priority commodities supported by PEDSA in the Limpopo and Maputo corridors. *Horticulture* benefits from good agro-ecological conditions enabling production throughout the year, close markets in Maputo City and availability of irrigated schemes. The lack of skills, poor maintenance of irrigated schemes, lack of access to finance, absence of cold storage and poor organisation of the value chain hamper production

² Detailed analysis available in Working Paper – Value chains analysis in Project Life File.

development. *Cassava* is widely farmed by smallholders in the three southern provinces. Consumed mostly fresh, it plays a crucial role in food security. High produce perishability and the lack of processing facilities hamper both production development and market development. *Goats and cattle* production are well adapted to the southern (semi) arid zones and ample land is available for grazing, if well managed. While ruminants represent a significant economic potential for poorer households, they are poorly tended, have high mortality rates, poor productivity and a reduced off-take, due to a low access to veterinary assistance and inputs, particularly during periods of drought, and little incentive to sell on poorly organised markets.

12. The selection of the target value chains was made in August 2011 by a Project Design Reference Group composed of public and private stakeholders³, based on a preliminary analysis of a range of important commodities in the south made by the Royal Tropical Institute (KIT) of the Netherlands.⁴ The same institute then made a detailed analysis of the three value-chains selected.⁵ A stakeholder workshop was organised by CEPAGRI in October 2011, to discuss the results of value chain analysis and to provide recommendations to the design mission. The three value chains face similar challenges, which are related to low and irregular volumes and quality of produce, due in part to climatic extremes, poor access to financial and non-financial services, weak farmers' organisations and limited and unrewarding access to markets. They are largely unorganised and, until recently, have received little support from government and donors. The main reasons justifying the selection of the three value chains are as follows:

- *relevance to smallholders*: they play a significant role in the livelihood and risk management strategies of the poor and they have relatively low thresholds for smallholders to enter and develop market linkages. *Cassava* is farmed by 80% of producers on plots from 0.2 ha and up and is a major staple food crop throughout the southern region. *Vegetable* production is also well developed among smallholders and the yet untapped irrigation potential offers good opportunities for vulnerable households to gain access to profit-making activities on surfaces as small as 0.5 ha. *Ruminants* constitute the main income-generating activity in the arid areas of the southern region. Each of the value chains has three potential end-uses (direct consumption, traditional markets, higher end/contract markets) and contributes to food security, which further supports the entry of poorer groups ;
- *potential for production growth*: the rehabilitation and expansion of existing irrigation infrastructure, together with the introduction of sustainable operation and maintenance systems would provide ample ground to boost *vegetable production* (increased yields by an estimated 40%), which can be further enhanced with the adoption of improved seeds and practices allowing year-round production with the introduction of low-cost greenhouses. The adoption of new high-yield *cassava* varieties specifically for the southern region, together with appropriate climate resilient technical packages, would enable farmers to raise productivity from less than 5 up to above 12 t/ha. Improving animal health would decrease the high mortality rates of *ruminants* (reaching 40% for goats), and the development of market-oriented breeding and fattening schemes would further increase productivity;
- *market potential*: rising population and income growth in southern cities, and particularly in capital city Maputo and suburban area Matola, generate expanding demand for *vegetables*, which is currently largely covered by South African imports (from 50% to 75% of the market depending on season). Mozambican products however have lower labour and transport costs and could

³ The Design Reference Group was composed of representatives of MINAG (national and provincial levels) including CEPAGRI, the Ministry of Planning and Development, the Ministry of Finance, the Ministry of Commerce, IIAM, UNAC (national and provincial levels), the Confederation of Business Associations of Mozambique and the National Association of Micro-Finance Institutions.

⁴ "Value chain selection and analyses for Projecto Sul, Mozambique - Working document phase 1: Selection of three value chains", available in the Project Life File.

⁵ "Value chain selection and analyses for Projecto Sul, Mozambique - Analyses of vegetables, livestock and cassava value chains in Southern Mozambique", available in the Project Life File.

further increase competitiveness through higher yields and year round production. Additionally, next to traditional wet markets, which currently absorb over 75% of the production, several developing supermarket chains are providing new market outlets. Only 5% of the *cassava* production is currently traded, because of the high perishability of fresh cassava and the limited number of processing units. However positive indications with regard to market potential (animal feed industry, production of cassava-based ethanol, wheat substitution in bread production and barley substitution in brewery), and strong government support, all point to robust opportunities to transform cassava from a mostly rural staple food to a new source of cash for smallholders. *Ruminant meat* production and meat consumption are following a raising trend, also partially covered by imports, which is fuelled by urban population and income growth, and which could benefit small livestock breeders in the south if current unorganised markets would evolve towards more formal markets rewarding quality and optimising transaction costs;

- *partnerships with private investors*: in the three value chains, there are opportunities to develop partnerships with private stakeholders (commercial farmers, processors and traders) that can benefit smallholders, not only through contractual marketing arrangements, but also through outgrower schemes facilitating access to inputs and financial services.

13. **Pro-poor value chain development.** Based on the above features, there is ample scope for supporting the development of pro-poor and climate resilient value chains in the most disadvantaged provinces of the country, which could offer smallholders sustainable and equitable income. This would involve: (i) supporting innovative business models, whereby small farmers would develop sustainable and equitable linkages with other value chain stakeholders (commercial farmers, processors and traders) to access remunerative markets and affordable support services, and (ii) supporting small farmers to successfully engage into such business models, by assisting farmers' organisations to evolve into reliable, business-minded organisations that can facilitate members' access to services, fulfil contractual obligations and negotiate higher and fairer prices with commercial partners.

14. **IFAD and other programmes.** PROSUL will contribute to all three objectives of IFAD's Country Strategic Opportunities Programme (COSOP), i.e. to (i) increase the access of small producers to production factors, technologies and resources; (ii) increase their access and participation to markets that can bring them equitable shares of profit; and (iii) increase the availability of and access to appropriate and sustainable financial services in the rural areas. It will develop linkages with other IFAD-financed projects, and particularly with: (i) the PRONEA Support Project (PSP), to identify and deliver most appropriate extension approaches for disseminating innovative technical packages, and to provide assistance in the organisation of Farmer Field Schools (FFS); (ii) the Rural Markets Promotion Programme (PROMER), to exchange knowledge on value chain development in other parts of the country, and (iii) ImGoats, an IFAD grant project developing innovative approaches to promote goat production and marketing. Synergies will also be developed with DFID (investment fund), USAID and Brazil (action research in horticulture), AfDB (water supply in support to livestock raising), the Netherlands (agribusiness education and agriculture business centre), InfoDev/World Bank (SME incubation centres) and with the European Union (local development in the southern provinces).

II. PROJECT DESCRIPTION

A. Approach

15. **Value chain approach.** In the three target value chains, PROSUL will address key production, processing and marketing constraints, with a view to improve farmers' ability to deliver the qualities and quantities required to respond to market opportunities without jeopardizing household food security, build their profit and strengthen their position in the value chain governance. This will involve: (i) *supporting farmers to increase their production sustainably* both in volume and in quality, based on improved germplasm, improved animal health and appropriate climate smart technical packages; (ii) *addressing key market constraints* (storage for horticulture, environmentally friendly processing for cassava, quality incentives and traders' working capital for livestock) *and promoting*

market linkages between smallholders and market agents through equitable arrangements that could secure stable and equitable profits to smallholders; (iii) *ensuring sustainable access by smallholders to the services* they need to boost production, including inputs, agricultural equipment, technical services and financial services; and (iv) *promoting key interventions to develop a more favourable business environment* in the value chain, including research, the establishment of standards resulting in higher prices for all producers, market exploration and promotion, the development of value chain platforms and the promotion of policy dialogue around key issues identified during implementation. Value Chain Development Actions Plans (VC DAPs) will be prepared every year in collaboration with Regional Value Chain Platforms and with district-based multi-stakeholder platforms (Innovation Platforms).

16. Climate-resilience focused approach. Higher temperatures and drought already constitute major factors of vulnerability and are expected to further increase in the southern region. This requires particular attention to be given to helping farmers manage increased and new risks that both threaten their livelihoods and often discourage them from investing in modern inputs and equipment. IFAD's new Adaptation for Smallholder Agriculture Programme (ASAP) was established in 2012 (see <http://www.ifad.org/climate/asap/>). Grant financing from this programme will contribute to make the three PROSUL value chains resilient to the projected impacts of climate change – in particular increased rainfall variability and risks of drought and flooding, especially in the south and central regions of the country. ASAP-funded activities are fully integrated throughout PROSUL. The activities, described in various sections of this report including in Annex 5, include:

- project baseline and impact surveys that take into account various aspects of climate resilience,
- capacity-building to support the participation of the commercial section of the Ministry of Agriculture in climate policy formulation and development programming,
- participatory formulation and implementation of community-based natural resource management plans,
- private-sector uptake of sustainable agriculture techniques that contribute to climate resilience, such as intensified cassava production systems that include mixed cropping,
- strengthening local meteorological stations,
- improving water management approaches and infrastructure, and
- introducing climate resilient small-scale infrastructure such as low-cost greenhouses to help farmers produce in hot season.
- including climate resilience in policy and strategic fora/documents such as the Regional Value Chain Platforms and Value Chain Development Action Plans

17. Private-sector driven approach. To ensure sustainability and facilitate replication, the project approach is largely private-sector driven. It builds on a range of business ventures that are designed to secure smallholders' continued access to markets and services even beyond project completion, by ensuring not only cost recovery but also profit generation. Studies and interviews carried out during project design demonstrated that the range of business ventures proposed in the three value chains are profitable (see models in Annex 4, Attachment IV) and raise significant interest from a range of diversified potential investors. Through further information and active exploration, the project will mobilise private investors from the southern regions, including Maputo, to enter into joint ventures with smallholder to facilitate access to services and to markets. The financing of such joint ventures will be based on a mix of instruments combining private investment as well as equity financing and debt financing, which the project will channel through a local investment fund and partnering microfinance institutions. Such a setting will generate new resources for further investment in the target value chains and will be available to further support replication efforts beyond PROSUL scope.

18. Market linkages. PROSUL will promote the development of smallholders' market linkages with domestic markets, because they have lesser quality requirements that are more easily met by smallholders and because they hold sufficient untapped potential to absorb increased production. The project will: (i) *identify agribusiness* interested in engaging with smallholders, including commercial farmers, traders, industries, supermarkets and institutional buyers; (ii) *facilitate the negotiation* of mutually beneficial agreements, including through outgrower schemes that would not only facilitate

access to market but also channel inputs and technical assistance; and (iii) *provide support packages* to strengthen the capacity of both farmers and agribusiness firms to enter into this kind of arrangement, including access to working capital and investment credit for market agents.

19. **Access to services.** PROSUL will build linkages between smallholders and existing service providers, either directly or through equitable outgrowers' arrangements. While building on existing value chain players (and providing them with targeted support to facilitate their engagement with smallholders) would be the preferred course of action, it is recognised that, given the incipient development of either value chain, such arrangements would still leave out a consistent portion of the target areas and population. In such areas, the project will: (i) *promote the establishment of privately-run service providing facilities*, including service hubs, which will provide key financial and non-financial services to smallholders; (ii) *promote innovative financial instruments* to support smallholder inclusion into value chain development, especially for the financing of start-up ventures associating private sector and smallholders. Service hubs in particular will be run as limited liability companies, with equitable ownership arrangements associating farmers' organisations and private sector investors, and with professional management modalities geared towards full cost-recovery and profit generation to ensure sustainability

20. **Promoting the sustainability of FOs.** The strengthening of farmers' organisations (FOs) will be pivotal to ensure that farmers can have inclusive, sustainable access to adequate support services and can market their production at a remunerative price while at the same time sharing knowledge on how to manage climatic risks. The project will provide support to the emergence of commercially-oriented FOs that could fulfil their responsibilities as business partners, increase their technical, managerial, organisational and negotiation skills, and achieve profitability and financial autonomy. Building the capacities of FOs is a process that takes time and that requires continued assistance, whereas once a project comes to an end, because of flailing extension services, FOs have no longer access to advisory services and often lose any progress achieved during project life. To reverse this very common trend, continued access to responsive technical advisory services and coaching in particular must be secured overtime. This will be achieved through the service hubs, which will include a technical advisor paid through the proceeds of other, profit making hub services. At least 30% of the service hubs equity will be owned by FOs, which will give them an important stake to ensure that services are responsive and adapted to their requirements. However hubs will be run by professional managers, thereby relieving FOs from a responsibility that falls beyond their capacities and scope. These arrangements⁶ will be complemented by PROSUL-financed tailor-made capacity building packages to: (i) *promoting the transformation of current weak associations* into well managed, inclusive organisations; (ii) *developing their capacities* to act as shareholders of service hubs and to participate in the monitoring of hubs' performance and management; (iii) *helping them to become inclusive organisations*, with women occupying at least 40% in decision-making structures to ensure responsiveness to female farmers; and (iii) *promoting water users' associations* ensuring sustainable operation and maintenance of irrigation schemes.

21. **Increase returns to farmers.** PROSUL will support farmers and their organisations so that they can reap a higher and fairer share of the final market price by: (i) *increasing productivity* and reducing animal mortality; (ii) *reducing production costs* through the promotion of climate resilient and climate smart practices; (iii) *increasing added value* through improved production and processing quality; (iv) *targeting more remunerative markets*; and (v) *strengthening farmers' ability to negotiate* with value chain stakeholders. Service hubs, partly owned by farmers, will not only give them access to a large range of services enabling improved production and market linkages and therefore better prices, but will also generate additional returns to farmers through dividends on equity shares. In the livestock value chain, the latter will be achieved through a new partly-farmers' owned slaughterhouse.

⁶ In the livestock value chain arrangements are slightly different because no service hubs are planned. Technical advisory and coaching services are provided by staff that is assigned by the Lead Service Provider in a first stage, but can later on be paid through proceeds generated by the new, partly farmers' owned slaughterhouse.

22. **Innovative business models.** The implementation of the mechanisms described above will lead to the development of a set of innovative climate resilient business models. Related instruments (including policy instruments, guidelines and management information system) will be developed together with CEPAGRI and the capacities of CEPAGRI staff, particularly in the Southern Delegation, so that the agency can take the lead in further promoting a dynamic and climate resilient smallholder sector in the three target chains that hold highest potential for the southern provinces. Dividends generated by the shares held by participating financing institutions in project-supported businesses and repayments from debt financing will generate new resources that will be available to finance new ventures. In this context, monitoring and knowledge management will therefore have an important role to play to assess, compare improve performance, to learn from experience, and to disseminate good practices.

B. Project area and target group

23. **The southern region.** The three southern provinces - Gaza, Inhambane and Maputo – are home to 4.3 million people (excluding Maputo city), who constitute 21% of the total country’s population. The southern region is highly vulnerable to climate change, being mostly arid or semi-arid, with scarce and irregular rainfall averaging 500 to 600 mm per year and high vulnerability to drought. A relatively dense network of rivers crossing from West to East provides ample potential for irrigation. Only 9% of small farmers use some form of irrigation, and of the 75,000 ha with irrigation equipment, only 30% are currently operational, because of poor maintenance as well as weak ownership and management structures. Extensive agriculture and animal husbandry constitute a primary or secondary source of income for about 70% of the population, but proximity to South Africa and to Maputo city provides for a wider set of economic opportunities, including wage labour, trade and remittances.

24. **Project area.** PROSUL will be implemented across the Limpopo and Maputo corridors, with a focus on priority production areas in 19 districts of the provinces of Gaza, Inhambane and Maputo, as indicated by Table 1.

Table 1 – PROSUL Focus Districts

Provinces/districts	Horticulture value chain	Cassava value chain	Red meat value chain
Gaza Province			
1. Chicualacuala			X
2. Chibuto	X		
3. Chokwe	X		X
4. Guijá	X		X
5. Mabalane			X
6. Manjakaze	X	X	
7. Massingir			X
8. Xai Xai	X		
Inhambane Province			
9. Inharrime		X	
10 Jangamo		X	
11. Massinga		X	
12. Morrumbene		X	
13. Zavala		X	
Maputo Province			
14. Boane	X		
15. Manhica			X
16. Magude			X
17. Marracuene	X		
18. Moamba	X		
19. Namaacha	X		

25. These focus districts were selected based on an initial list of 27 districts proposed by MINAG reflecting the following selection criteria: (i) density of small scale producers; (ii) agro-ecological and

economic potential; (iii) poverty incidence; (iv) target commodity already making an important contribution to household income and food security and representing the best option the poor have for market participation; (v) geographical concentration and ease of access to facilitate logistics and to maximise impact; (vi) complementarity with PRONEA, the ImGoats project and other donor-financed interventions; (vii) PNDA priority districts.

26. For the Horticulture component, the final selection of districts is based on a list of irrigation schemes proposed by the National Directorate for Agriculture Services (DNSA). The application of the following criteria led to the selection of 19 irrigation schemes, which in turn correspond to the eight districts mentioned in Table 1: (i) importance of current cultivated area; (ii) majority of smallholders; (iii) accessibility; (iv) performance of WUA (privileging better performing ones); (v) acceptable technical complexity; (vi) cost; and (vii) potential for expansion. The final selection corresponds to a total of 2,101 ha in small-scale schemes. Furthermore, the project also targets 900 ha in a larger irrigation scheme, the Baixo Limpopo Regadio, where the rehabilitation has already been undertaken by AfDB and development activities can start immediately.

27. The Cassava component focuses on five districts in the province of Inhambane and one district in the province of Gaza. The six districts were selected because they concentrate the largest number of both small and medium farms producing cassava in the Southern provinces and because they are all located along the main road leading to Maputo, thereby facilitating market access.

28. For the Red Meat component, the selection is composed of seven districts constituting a ‘meat corridor’ running from Chicualacuala district down to Maputo, which is the main market. Northern, semi-arid districts of Gaza (Chicualacuala and Mabalane) are among the poorest districts in the south, where livestock is the main source of income for vulnerable households and in particular women.

29. **Rural livelihoods in the South.** Smallholders farm 90% of the cultivated area, on plots averaging 1.6 ha in Maputo to 2.4 ha in Inhambane. They mostly produce for family consumption, with low yields and modest returns. Main crops are maize, cowpea, groundnuts and cassava, with rice, vegetables and sugar cane in the valleys and, along with fruit trees, on irrigated land. Erratic rainfall, drought, high temperatures and reliance on rain-fed land constitute one of the main obstacles to greater productivity – climate change will play a role in exacerbating existing vulnerabilities to such risks. Additionally, and as for the rest of the country, low use of inputs (improved germplasm, pesticides, manure, animal drugs, feed) and mechanisation, lack of post-harvest infrastructure, poor state of roads, reduced access to market and pricing information, and lack of adequate financial services further constrain potential income. Livestock ownership is higher in the southern region than in other parts of Mozambique: inland Maputo, Gaza and the west of Inhambane have large areas of rangeland on which smallholders traditionally raise goats and, to a lesser extent, cattle. Livestock plays multiple roles in household livelihood strategies: draught power (because of the greater cattle density, the southern provinces have the largest proportion of farms using animal traction), manure, cash buffer, food and greater capacity to take part in social activities. Women constitute around 57% of the population in the southern regions and they head more than a third of households. Despite such prominent position, women have higher poverty levels, lower literacy, lower access to land and services and their mobility is severely restricted. This is true for the livestock value chains, for vegetable production and marketing, and for the cassava value chain. Female-headed households are significantly disadvantaged in their participation in and their earnings from crop markets.

30. **Target groups.** The *main target group* will consist of the economically active poor who are already involved in value chain production (existing cassava, horticulture and livestock producers) and are able to produce a surplus, but who are caught in a cash trap whereby their failure to improve productivity and access markets prevents them from accessing higher returns. The primary objective for their entry into each of the value chains is to generate income for increased food security and to meet basic household needs of health, education and shelter. *Women* will constitute a direct target group in each value chain because of the clear evidence that, whilst they constitute the majority of the population and female-headed households are amongst the poorest, their access to the value chain and capacity to generate income is curtailed by traditional gender roles that will undermine their participation unless gender is mainstreamed into the project.

31. The *secondary target group* will include (i) (emergent) commercial farmers, i.e. medium and large farmers, mainly geared to commercial production and who have stable linkages to markets; (ii) traders, and in particular meat traders who will get better organised with project support; (iii) private investors interested in financing joint ventures with smallholders; (iii) livestock breeders who will not be part of the LPOs supported by the project but who will nevertheless be able to market their production at the new slaughterhouse; and (iv) staff hired to operate the various business ventures supported by the project. The first two sub-groups can be important drivers of change, because they have a commercial interest in the development of the smallholder sector to meet market demand, and they can be an effective channel for facilitating smallholders' access both to markets and services.

32. Furthermore, project investments will impact a large range of *indirect beneficiaries* in the project area, who will benefit from: (i) improved access to services through the service hubs, which will serve a larger population than those farmers' organisations supported by the project, particularly with regard to inputs and financial services; and (ii) improved access to credit through the additional resources generated through loan repayments. Indirect beneficiaries will also include poorer households who lack the assets necessary to participate directly in the project activities, but who will benefit from labour opportunities generated by increased agricultural. Finally the project is expected to have a wider, out of the project area impact through its contribution to the development of innovative and climate-resilient business models that could boost the development of the target value chains in the southern provinces in the face of growing climatic risks. In this respect the investment fund supported by the project as will be explained below, would play a key role as, even in the absence of additional funding, it would allow investments in new business ventures using the repayment of resources initially allocated by the project.

33. **Inclusive strategy.** The target value chains respond to a range of self-targeting features: (i) cassava is farmed by poor and extremely poor, and constitutes a key food security crop in the south; (ii) horticulture provides quick returns even from small plots and generates labour demand; and (iii) livestock is a cornerstone of the livelihood strategies pursued in very poor semi-arid areas. They were selected because they already play an important role in the livelihood, food security and risk management strategies of the poor and therefore offer an opportunity for relatively low risk diversification into generating income from agriculture. Whilst the value chains also include non-poor producers, in particular horticulture and livestock, the fact that they each have different livelihood functions (food security, cash income or buffer) and markets (traditional and modern) reduces the risk of elite capture.

34. However the self-targeting aspects of the project need to be supplemented by operational measures to ensure that project services respond to the priorities and capacities of poorer groups and of women, and that inclusion and gender equity are mainstreamed in all aspects of project implementation. Main measures (details in Annex 2) include:

- *targeting and gender studies.* Targeting and gender studies will be carried out at project onset to further detail the main characteristics of male and female producers of different poverty levels; and (ii) identify opportunities and measures required to promote the inclusion of the various groups in the three value chains and to mainstream gender and inclusion issues into project activities.
- *GALS.* The gender study will also pilot the implementation of the Gender Action Learning System (GALS), a participatory approach aiming at ensuring women and poor inclusion in value chains. Learning from the pilot will be used to include GALS as the main approach to build social inclusion and ensuring that participation, project activities and decision-making are more equally distributed across social levels and across gender. Furthermore, a Learning Route on GALS will be organised for PROSUL stakeholders (see Annex 10).
- *Targeting and Gender Mainstreaming Strategy and Action Plan.* Stakeholder workshops will be organised to discuss the results of both studies and contribute to the establishment of a targeting and gender mainstreaming strategy and action plan for each of the value chains. A key

measure will be the establishment of quotas for women's access to services (minimum 50% of serviced clients) and women's participation in decision-making bodies.

- *Annual Value Chain Development Action Plans.* Every year, a Value Chain Development Action Plan (VC DAP) will be prepared by each of the Value Chain Lead Service Providers (LSPs) together with value chain stakeholders, building on multi-stakeholders' platforms to be set up with PROSUL support. They will detail actions required to improve production and develop market linkages as well as activities designed to expand women's and poorer households' inclusion.
- *Inclusive farmer organisations, service hubs and MFIs.* LSPs will assist Farmers' Organisations (FOs) to ensure that capacity assessments and development plans take into account specific constraints faced by women and by poorer smallholders and contribute to making participating FOs more inclusive and gender-balanced organisations. Similar provisions will be adopted to ensure that service hubs and MFIs are responsive to the needs of women and of poorer farmers, including through specific training.
- *Project management.* To support the development and implementation of the project inclusive strategy, the Programme Management Team (PMT) will include a Targeting and Gender Specialist, who will be responsible for ensuring that targeting and gender mainstreaming is applied throughout project activities.
- *Knowledge management and institutional support.* The Project Learning System will include the monitoring of inclusion and gender aspects, and lessons learnt (including on the interlinkages between gender and climate change) will be made available to multi-stakeholders platforms and project implementers to support regular analysis, improved performance and annual programming of related activities. Building on lessons learnt from project achievements, the Targeting and Gender Specialist will also support the mainstreaming of gender and inclusion into CEPAGRI's analytical and operational systems, including trainings and the development of guidelines and toolkits as appropriate.

35. In addition to these general measures that encompass all the value chains, specific measures will facilitate the access of women and poorer households to project benefits in each value chains and are summarized in Annex 2. Finally, the project will finance specific activities aiming at securing land rights and improving access to land by poorer people, women and youth (see below and Annex 4, Section 8) and enhancing the climate resilience of each value chain (Annex 5).

C. Project development objective

36. The project goal is to attain improved and climate-resilient livelihoods of smallholder farmers in selected districts of the Maputo and Limpopo corridors. To that end, the project development objective is to sustainably increase returns to farmers, of which at least 50% women, in the three target value chains, by promoting increased volume and quality of production, improved market linkages, efficient farmer organisations and higher farmers' share over the final added value. Main indicators are, for each value chain: (i) volume and value of annual production marketed from target areas; (ii) percentage of final price accruing to small-scale producers; and (iii) number of farmers' associations extending effective and inclusive services to members.

D. Components and outcomes

37. The project comprises five components: (i) Horticulture; (ii) Cassava; (iii) Red Meat; (iv) Financial Services; and (v) Institutional Support and Project Management.

Component 1 – Horticulture

38. **Objective and approach.** The component aims at increasing the income of smallholders growing vegetables in selected irrigated perimeters, by assisting them in intensifying vegetable

production, accessing support services to raise productivity and quality, and developing remunerative market linkages both with modern and traditional markets. The component will target small farmers with an average of 0.6 ha in and around existing irrigated schemes in seven target zones over eight districts in the provinces of Gaza and Maputo. It will be implemented through three main strategic thrusts. *First, it will promote year-round vegetable production*, thereby allowing farmers to supply markets products off the peak season and to earn higher prices. This will be achieved by: (i) financing small investments aimed at developing existing irrigation schemes; (ii) providing access to low-cost greenhouses to reduce impacts of high temperatures on production; and (iii) promoting efficient water usage and irrigation operation and management, as well as adequate seeds and farming practices that would further improve production, mitigate drought risks and improved the efficacy of agrochemical use. *Second, it will develop linkages between smallholders and other stakeholders in the value chain*, to gain better access to both market and services. This will be achieved through innovative approaches, especially for the southern provinces, including outgrower schemes and the development of professionally managed horticulture service hubs co-owned by farmers. The project will also build the capacities of farmers and other value chain stakeholders (including small collectors and traders) to engage with the markets and negotiate higher margins, based on enhanced quality and on regular supply. *Third, it will develop a favourable value chain environment*, by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation.

39. **Phasing.** The component will be implemented on 20 irrigation schemes clustered in six target zones over nine districts as indicated in Table 2. Activities will start in the schemes that have the largest areas currently in operation (Moamba, Chokwe/Guijá and Xai Xai)..

Table 2 – Horticulture target zones

Zones	Number of schemes	Area (ha)	Number of beneficiaries
Moamba (M)	2	630	1,030
Marracuene (M)	4	335	758
Namaacha/Boane (M)	3	214	342
Chokwe/Guijá (G)	4	340	615
Manjakaze (G)	3	390	711
Chibuto (G)	3	192	358
Xai Xai (G)	1	900	1,000
Total	20	3,001	4,804

40. **Expected outcome.** The expected outcome of the component is that around 4,800 farmers producing vegetables on operational, well-managed irrigated schemes in selected target zones of Maputo and Gaza provinces will raise their income through increased productivity, volumes and quality of vegetables reaching both traditional and modern market segments. Furthermore it is expected that an additional large population of farmers, including those cultivating other crops, will be serviced by the service hubs.

41. **Sub-component 1.1 – Rehabilitation and expansion of existing irrigated perimeters.** Investments in this sub-component will be implemented in accordance with the national Guidelines for Irrigation Development Investments and will include the following:

- *Design.* In each scheme, the design phase will include a feasibility study carried out in consultation with farmers, a capacity assessment and development programme of the existing WUA, and a participatory selection process for the allocation of land to new beneficiaries in expanded schemes. It will end up with an agreement defining the responsibilities of all parts, and especially of the WUA, in ensuring operation and maintenance (O&M).

- *Construction.* Civil works will be carried out by competent contractors selected through competitive bidding. Farmers in the supervision of works, through the constitution of a quality control committee within the WUA, and will provide labour.
- *O&M.* In this stage project involvement will be limited to monitoring the implementation of O&M plans, assessing possible weaknesses in scheme management and providing additional capacity building as required.
- *Strengthening of WUAs.* A participatory established, tailor-made capacity building programme will be set up for each WUA, covering (i) participatory design and supervision of work; (ii) scheme O&M and related planning; and (iii) pump operation and maintenance.
- *Institutional support.* PROSUL will provide institutional support to irrigation staff at the provincial and district level so that they can ensure the supervision of design and construction and provide support to O&M.

42. **Sub-component 1.2 – Strengthening linkages between value chain stakeholders.** Investments will include:

- *Scoping study.* A participatory scoping study will be carried out by the LSP at project inception to identify value chain stakeholders, assess their interest in participating in the project and their capacities, identify specific market opportunities and lay out business development opportunities that have potential for increasing smallholder income. Climate relevant data will be collected in an integrated study. Detailed terms of reference are in Annex 4.
- *Outgrower schemes.* PROSUL will assist commercial and small farmers to engage in outgrower schemes and forward contracting by: (i) facilitating information; (ii) providing legal and technical assistance for developing contractual arrangements; and (iii) organising study tours for buyer and farmer representatives. Details are in Annex 4, Section 6, and in Annex 5.
- *Service hubs.* Where outgrower schemes are not possible, service hubs constitute an alternative model to provide the core set of services that farmers will require to integrate value chains and retain part of the added value. A service hub will be set up in connection with each of the seven target irrigation clusters and will provide the following types of services: (i) cold and dry storage, enabling farmers to market produce a few weeks or months after peak season and to get better prices; (ii) access to inputs by including an outlet within the hub building to be leased out to an input dealer; (iii) agriculture equipment and maintenance services, by leasing out space to an equipment dealer; (iv) financial services, by including a rural finance point of services leased out to an MFI; (v) technical advisory services through the hub's technical advisor; and (vi) market linkages through the development of supply contracts with buyers and the setting up of a simple to secure price information. To ensure sustainability, service hubs will secure service provision on a commercial basis, so that not only the cost of providing services is entirely recovered, but also that a profit can be generated and either reinvested to develop activities, or distributed to owners through the payment of dividends.

Each hub will be implemented as a limited liability company (LLC), whose assets will consist of the hub's equipment and infrastructure and whose shareholders will comprise: (i) producers (either individually or through their organisations) for a minimum of 30%, and (ii) private investors (including traders, processors, collectors, exporters or any other third party). Farmers' shares will be financed by a partnering microfinance institution, which will hold the shares on farmers' behalf until such time that they can buy them by using part of their dividends. The company's management will be entrusted to a professional hub manager, who will be contracted by the company and will be accountable to the company's Board of Directors. Smallholders are therefore not expected to take charge of management functions, but they will get project support to build the capacities required to participate in the company's governance structures (see below). The hub will also be staffed with a technical advisor, an accountant and support staff. Details are in Annex 4 in Sections 4 (Financial Services) and 5 (Hubs).

- *Joint Teams of Experts.* Joint Teams, one for each hub, will offer a complementary source of technical assistance. They will be composed of one input dealer, one trader, the hub's technical advisor and a farmer promoter, and will provide training and advisory services to both farmers and small traders with regard to input supply, market opportunities, and good technical practices. The integrated setting of the joint team will further support the development of linkages between value chain players.
- *Innovation.* Innovative agriculture practices will be promoted through the following instruments: (i) PROSUL, in part using funding from ASAP, will facilitate access to financing (through Component 4) for about 200 *low-cost greenhouses*, which will enable small farmers, of which at least 50% of women, to supply markets year-round and increase the efficacy of agrochemical usage; (ii) as an incentive to introduce quality inputs, farmers operating in target irrigation schemes will benefit from a *start-up kit* on a maximum of 0.25 ha per household; (iii) *Farmers' Field Schools* will be organised for enhanced production of quality vegetables along an agribusiness orientation; and (iv) cost-effective *climate resilient packages* (including on-farm trials and demonstration plots) will be developed in conjunction with IIAM to ensure appropriate, climate-resilient crop and soil management practices.
- *Support to farmers' organisations.* The project will provide capacity building support to current farmers' organisations, so that they can progressively develop into inclusive, well managed and profitable organisations that provide services to members, are able to exert their responsibilities as shareholders of the hub and are reliable business partners meeting their contractual obligations for producing and marketing.
- *Access to markets.* In addition to market linkages developed through hubs and outgrower schemes, investments will include: (i) rehabilitation of access road to secure all-year access of trucks; and (ii) market promotion.

43. **Sub-component 1.3 – Strengthening linkages between value chain stakeholders.** Investments will include:

- *Regional Value Chain Platform.* A regional value chain multi-stakeholders' platform will be set up, in connection with the National Horticulture Group, to identify value chain bottlenecks and make decisions for improvements, including with regard to policy development and the introduction of climate-resilient approaches. It will also provide overall project guidance, facilitate the coordination of project activities, participate in the preparation of annual VC DAPs and approve Component 1 APWBs prior to submission to the Project Steering Committee;
- *Innovation Platforms.* Similarly, multi-stakeholder platforms will be established in each of the districts where PROSUL will develop activities, in connection with the hub. They will have a key role in promoting project knowledge management and in disseminating good practices.
- *Monitoring, knowledge management and communication* of the various innovative approaches and models developed through the component will translate into a set of tools to be used by CEPAGRI to replicate the approach in other areas of the province, including a monitoring and evaluation system with a database and tools for analysis, proof-of-concept business models and technical notes.

44. **Implementation arrangements.** An international Horticulture LSP contracted by the PMT through a competitive bidding process will bear overall responsibility for coordinating the implementation of Component 1, in collaboration with the PMT and CEPAGRI. Every year, a VC DAP will be prepared by the LSP together with value chain stakeholders. VC DAPs will constitute the basis for the preparation of the Annual Work Plan and Budget for the component. The procurement of contractors for irrigation studies, works and supervision will be secured by the National Institute for Irrigation (INIR). Activities related to land security will be implemented by a Land Tenure Service Provider along modalities detailed in Annex 4, Section 8 and in Annex 5.

Component 2 – Cassava

45. **Objectives and approach.** The component aims at shifting cassava from a subsistence crop to a cash crop by developing a set of business models whereby smallholders would produce increased volumes of good quality cassava and would have access to new types of markets for cassava products. A first, three-year phase will aim at developing viable business models, based on different forms of business partnerships and market outlets, primarily for cassava chips and flour. The first phase will target the districts of Inharrime (Inhambane) and Manjakaze (Gaza), and will be implemented along three major thrusts. *First, it will develop farmers' capacities to increase sustainably cassava productivity and quality*, by developing sustainable access to high yield cassava stems building on a commercially-run multiplication system, by promoting mechanization and building farmers capacities for improved, climate-resilient farming practices that will increase productivity, reduce drought risks and enhance food security. *Second, it will develop linkages between smallholders and other players in the value chains*, to promote access to developing markets and ensure smallholders' access to support services so that production can meet market requirements. *Third, it will develop a favourable value chain environment*, by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation. These will be thoroughly documented to set the basis for scaling up in the second phase.

46. By the end of the third year, a detailed review of achievements, lessons learnt and of further market prospects will be carried out in conjunction with the project mid-term review. Building on outcomes, activities will be expanded to four additional districts (Jangamo, Massinga, Morrumbene and Zavala) in the province of Inhambane, where service hubs will also be developed. In phase 1 districts, investments will be complemented with three smaller processing units per district, which would absorb increased production closer to production areas. Similar smaller units will be deployed as production increases throughout the project target area. Lessons learnt from the first phase will also help in determining a research and policy dialogue agenda to be supported in phase 2 to further develop a conducive environment for value chain development.

47. **Expected outcome.** The expected outcome of the component is that around 8,000 farmers in five districts of the province of Inhambane and one district of the province of Gaza sustainably increase their revenues out of cassava production, based on proof-of-concept innovative business models for the profitable production and marketing of cassava-based products. It is expected that an additional large population of farmers, including those cultivating other crops, will also be serviced by the hubs. and marketing of cassava-based products.

48. **Sub-component 2.1 – Strengthening linkages between value chain stakeholders.** Investments will include the following:

- *Scoping study.* A participatory scoping study will be carried out by the Cassava LSP to identify existing value chain players that would participate in business development (FOs, emerging/commercial farmers, processors, private investors) and make detailed proposals of possible business ventures to be supported by the project. Based on the above, the Cassava LSP will identify for each of the two pilot districts a mix of settings testing several options for (i) business partnerships, including two service hubs with varying forms of ownership associating smallholders and private investors, as well as forward contracts with processors or other buyers; and (ii) market outlets, for cassava-based products (chips for the animal feed industry and ethanol production, and flour for the bakery industry) but possibly also for fresh tubers to supply mobile processing units linked to the brewery industry, or other types of processors. Detailed terms of reference are in Annexes 4 and 5.
- *Service hubs.* It is not expected, in this incipient stage of value chain development, that there will be any private investors interested in setting up outgrower schemes, except maybe in the brewing sector. One service hub will therefore be established in each of the target districts and

will provide the following types of services: (i) *access to inputs*, and particularly to high-yield, drought tolerant and disease resistant planting material; (ii) *processing*: cassava hubs will include a processing unit, with an annual capacity of 7,000 t, which will produce chips and high quality flour, in accordance with prior market exploration; (iii) *equipment, financial services, technical advisory services and market linkages* will be developed along similar lines as described above for service hubs in the horticulture value chain. Similar arrangements will also be developed with regard to hubs governance structure and management. Details are in Annex 4 Sections 5 (Hubs) and 4 (Financial Services), and in Annex 5.

- *Small processing units*. Once hubs will have attained 70% of their processing capacity, financing will be made accessible through MFIs to FOs/private investors for the installation of three smaller processing units per district, which will increase processing capacity at a lower cost once the market is developed.
- *Forward contracts/outgrower schemes*. PROSUL will assist small farmers to engage into forward contracting and where possible outgrower schemes through the provision of similar support as planned in the Horticulture Component and which is detailed in Annex 4, Section 6.
- *Innovation*. Innovative agriculture practices will be promoted through the following instruments: (i) in collaboration with IIAM, the project will support the development of a commercially based system for the multiplication of *new high-yield, drought and disease-resistant cassava varieties*; (ii) as an incentive to introduce quality inputs, members of participating FOs will have access to a *start-up kit* on a maximum of 0.30 ha per household; (iii) *Farmers' Field Schools* will be organised for enhanced production of quality cassava along an agribusiness orientation; and (iv) cost-effective *climate resilient packages* will be developed in conjunction with IIAM to ensure appropriate, climate-resilient crop and soil management practices. Details are in Annex 4 Section 2 (Cassava) and in Annex 5.
- *Support to farmers' organisations*. The project will provide capacity building support to current farmers' organisations, so that they can progressively develop into inclusive, well managed and profitable organisations that provide services to members, are able to exert their responsibilities as shareholders of the hub and are reliable business partners meeting their contractual obligations for producing and marketing.
- *Access to markets*. In addition to market linkages developed through hubs and outgrower schemes, investments will include: (i) rehabilitation of access road to secure all-year access of trucks; and (ii) market promotion, in particular to advertise the use of cassava flour and cassava flour bread.

49. **Sub-component 2.2 – Value chain environment**. Investments will include the following:

- *Regional value chain platform*. A Regional Cassava Value Chain Multi-Stakeholder Platform (VCP) will be set up, which will further strengthen linkages between value chain stakeholders. The VCP will also be responsible for participating in the preparation of Value Chain Development Action Plan (see below) and for approving component APWBs prior to submission to the Project Steering Committee. Activities and implementation modalities will be developed along similar lines as those described for the Horticulture Component above.
- *Innovation Platforms*. Similarly, multi-stakeholder platforms will be established in each of the districts where PROSUL will develop activities, in connection with the hub along similar modalities as those described above for the Horticulture Component.
- *M&E, KM and communication*. The monitoring of business models performance, analysis of achievements and documentation of lessons learned and best practices with regard to both production, processing and climate resilience will bear particular importance to develop proof-of-concept business models and pave the way for the second phase. Knowledge management will translate into a set of tools to be used by CEPAGRI to replicate the approach in other areas

of the province, including a monitoring and evaluation system with a database and tools for analysis, proof-of-concept business models and technical notes.

- *Policy and legislative environment.* In the second phase, and based on the recommendations of the Cassava VCP and of the Mid-Term Review, the project will support key areas required to develop a conducive policy and legislative environment. These could include the development of quality standards and norms to promote the use of high quality cassava flour in bread production with the National Institute for Standardisation and Quality (INNOQ) and related training of value chain players.

50. **Implementation arrangements.** An international Cassava LSP contracted by the PMT through a competitive bidding process will bear overall responsibility for coordinating the implementation of Component 2, in collaboration with the PMT and CEPAGRI. Every year, a VC DAP will be prepared by the LSP together with value chain stakeholders. VC DAPs will constitute the basis for the preparation of the Annual Work Plan and Budget for the component. Activities related to land security will be implemented by a Land Tenure Service Provider along modalities explained in Annex 4, Section 8, and in Annex 5.

Component 3 – Red Meat

51. **Objective and approach.** The component aims at enabling livestock producers to take advantage of market opportunities by promoting improved rangeland, higher production and enhanced linkages between value chain stakeholders. Such an approach is expected to stimulate farmers' investment in improved productivity and herd management, to raise income and to contribute to food security. The component will be implemented through three main strategic thrusts. *First it will foster climate resilient and climate smart production practices and farmers' access to production services* by empowering small-scale livestock producers to form profitable, inclusive organisations producing quality ruminants, developing innovative models for breed improvement and improving production infrastructure and adaption capacity to drought. *Second it will develop sustainable market access and better prices* for small raisers through: (i) the organisation of cattle fairs, (ii) the creation of Meat Traders' Organisations and the development of contracting and outgrower schemes that would reward cattle productivity and quality gains, and (iii) the setting up of a new low carbon input slaughterhouse in the outskirts of Maputo. Better prices to farmers will also result from heavier, better treated animals and the development of quality standards. *Third, it will develop a favourable value chain environment*, by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation. It will also support the government in developing an enabling framework for the development of the meat industry.

52. **Expected outcome.** The expected outcome of the component is that around 3,400 small livestock producers of ruminants (of 5,600 breeders reached by the project) located in the districts of Manhiça, Magude, Chokwe, Guijá, Massingir, Mabalane and Chicualacuala in Gaza Province will raise their income through increased productivity and quality of livestock and improved market linkages. New private ventures including MTOs, Livestock Vet Stores and the slaughterhouse will benefit another 1,380 beneficiaries, including employment opportunities for women and young people. Furthermore it is estimated that at least another 10,000 beneficiaries will indirectly benefit from project activities and services, including in districts neighbouring project target districts.

53. **Sub-component 3.1 – Value chain environment.** Investments will include the following:

54. **Scoping study.** A participatory scoping study will be carried out by the Livestock LSP during the initial phase of the project to: (i) map stakeholders involved in ruminant production and trading and assess their performance, capacities and governance mechanisms so as to identify players that will participate in the project and related support; (ii) in collaboration with the International Livestock Research Institute (ILRI), assess the scale, nature and location of demand for meat products in the Southern provinces, and (iii) selecting project sites and identify the location for the construction of a slaughterhouse and meat processing facilities. Detailed terms of reference are in Annex 4.

55. **Innovation platforms.** An Innovation Platform (IP) will be set up in each participating district, building on the approach of ImGoats, an EU/IFAD funded project that is implemented by ILRI and CARE, and along similar lines as explained in Component 1.

56. **Regional value chain platform.** A Regional Value Chain Platform (VCP) will be set up with similar functions at regional level and in connection with the recently established National Livestock Forum. The VCP will also be responsible for participating in the preparation of Value Chain Development Action Plan (see below) and for approving component APWBs prior to submission to the Project Steering Committee. Activities and implementation modalities will be developed along similar lines as those described for the Horticulture Component above.

57. **Monitoring, knowledge management and communication.** In this incipient stage of value chain development, monitoring and knowledge management are key to monitor performance, analyse achievements, identify successful climate-resilient business models and document lessons learned and best practices. Knowledge management will translate into a set of tools to be used by CEPAGRI to replicate the approach in other areas of the province.

58. **Policy development.** In connection with the National Livestock Forum, the project will support key areas required to develop a conducive policy and legislative environment in areas identified by the Innovation Platforms/ Regional VCP, including regulations for hygiene practices in the meat industry, a certification process of local traders, a licensing system for meat transportation vehicles, production and processing standards to be developed in partnership with the National Institute for Standardisation and Quality (INNOQ), and approaches required to manage climate risks.

59. **Sub-component 3.2 – Production improvement.** Investments will include the following:

- *LPOs.* The project will support the strengthening/creation of Livestock Producers' Organisations able to develop production standards and efficiency in accordance with market requirements, provide services to members and manage a range of common assets, including grazing resources, water points, fodder banks and cattle fair equipment;
- *Innovation.* Innovative practices will be promoted through the following instruments: (i) *Farmers' Field Schools* will promote farmers' acquisition of technical and management skill; (ii) LPOs will be supported to prepare and implement *community based Natural Resource Management Plans* to improve the management of pasture land and to decide on strategic location for project investments; (iii) cost-effective *climate resilient and climate smart packages* will improve dry season feeding and promote climate-resilient technologies; (iv) *fodder banks* designed to bridge forage scarcity in the dry season will be established and develop into commercial, LPO-managed ventures; (v) *breeding units* will be set up in partnership with commercial farmers, whereby small raisers will exchange their livestock against improved breeds, which they will then fatten and sell to the commercial farmer; (vi) as an incentive to adopt regular animal treatment members of participating LPOs will have access to a *start-up kit* with basic animal drugs for a maximum of 5 cows and 8 goats per household.
- *Access to services.* Services will be promoted at the cattle fair and will include the following: (i) a commercial network of *Livestock Vet Stores* will be established in partnership with a private pharmaceutical company, which will provide access to essential veterinary drugs and to the services of Animal Health Agents (AHAs); (ii) *financial services* will be provided by MFIs participating in project implementation either at the cattle fair or through mobile banking; (iii) *technical advisory services* will be provided through AHAs, breeding units and a technical expert assigned by the Livestock LSP to each district, with the possibility of turning the latter into permanent positions financed through the proceeds of the slaughterhouse (see below); (iv) *access to water* will be secured through water facilities (small earth dams, boreholes and water troughs for livestock) managed by LPOs.

60. **Sub-component 3.3 – Market linkages.** Investments will include the following:

- *Cattle fairs.* The project will finance the improvement of cattle fairs, which will offer farmers an alternative to selling at farm gate by accessing a secured market place with a larger range of buyers, while buyers will reduce transaction costs. In each target district, the cattle fair will be equipped with steady water supply (through a borehole), a holding and crush pen to facilitate livestock handling and scales, which will be managed by LPOs. These will also be assisted to develop capacity building with regard to contracting processes and sales mechanisms.
- *MTOs.* PROSUL will facilitate the formation of Meat Traders Organisations (MTOs) to provide reliable market access to farmers and reduce transaction costs. They will access credit for buying animals and for purchasing transport equipment. Assistance will also be provided to develop contractual arrangements ensuring farmers a fair price and a reward for quality, and to develop a traders' identification and certification system, which will contribute to strengthening traders professionalism and enhancing the trust of livestock producers vis-à-vis traders.
- *Outgrower schemes.* Commercial farmers involved in breeding units described above will purchase fattened animals from farmers and sell them at higher prices to traders or slaughterhouses.
- *Slaughterhouse.* A new slaughterhouse will be built in the outskirts of Maputo, with a capacity of 25,000 cattle and 20,000 sheep and goats per annum, of which 70-75% will accommodate animals supplied by project-supported LPOs, while the remaining 25-20% will cater for animals from other origins. It will be equipped with cold storage, meat processing and packaging facilities, and include a waste disposal system connected to a bio-digester for the production of biogas (details in Annex 5), which will be used to generate electricity. Training of management personnel and slaughter attendants will ensure the operational efficiency of the slaughterhouse and the adoption of quality standards. The slaughterhouse will be set up under the form of a limited liability company (LLC), with joint ownership by LPOs, MTOs and private investors and will be financed by a mix of grant, equity and long term debt financing (details in Annex 4, Section 4). LPOs shares will be financed by PROSUL through the Catalytic Fund (see Component 4) on behalf of LPOs, who will gradually buy them using part of their dividends.

61. **Implementation arrangements.** An international Livestock LSP contracted by the PMT through a competitive bidding process will bear overall responsibility for coordinating the implementation of Component 3, in collaboration with the PMT and CEPAGRI. Every year, a VC DAP will be prepared by the LSP together with value chain stakeholders. VC DAPs will constitute the basis for the preparation of the Annual Work Plan and Budget for the component, and integrate climate resilience aspects. Activities related to land security will be implemented by a Land Tenure Service Provider along modalities explained in Annex 4, Section 8.

Component 4 – Financial services

62. **Objective and approach.** The objective of Component 4 is to ensure the access of value chain stakeholders (including smallholders as well as other players down the value chain such as commercial farmers, Livestock Vet Stores, MTOs and cassava processors) to adequate financial services provided at an affordable cost by sustainable MFIs using innovative delivery mechanisms to increase their outreach. There is currently no bank or microfinance institution that is in a position to provide the whole range of required financial instruments on its own resources and at an affordable rate. Project financial resources will be extended to an investment fund, which will on-lend them to microfinance institutions (MFIs), allowing these to provide the range of financial services required. To make sure that they can do this at an affordable interest rate for value chain stakeholders, the investment fund will take an equity position in the share capital of selected MFIs, which will open the possibility to also make a long-term deposit in their shareholders' account. The hosting institution for the investment fund would be the the Catalytic Fund set up in the framework of the Beira Agriculture

Growth Corridor initiative, a limited liability share company created under the laws of Mozambique with the objective to invest in and provide financial resources to agribusiness, including smallholder operations. Its bylaws leave open the possibility of extending its activities beyond the Beira Corridor and the Catalytic Fund has expressed an interest to participate in the project along the approach developed in the project report, subject to approval by its Board.

63. **Expected outcomes.** The expected outcome of the component is the timely and adequate access of value chain stakeholders to a diversified range of affordable financial products.

64. **Sub-component 4.1 – Financial services.** Investments will include:

- *Equity and debt financing.* PROSUL will finance a small department within the BAGIC Catalytic Fund. The Fund will take a minority equity participation in up to three MFIs, which will be selected based on a call for expression of interest, a due diligence exercise and a financial and operational audit. It will extend resources to each MFI in the form of a long-term deposit, the interest rate of which will be negotiated among shareholders. Equity participation will result in an increase of the share capital of the MFIs and will be used to finance increased outreach through the expansion of their network (including through innovative features such as points of services in the hubs, mobile banking or mobile phone banking facilities). The long-term deposit will be used to extend different types of financial products to PROSUL-supported value chains stakeholders, as shown by Table 3, at an affordable interest rate expected to range from 15 to 18% per year, which would allow MFIs to cover their costs, risk and profit margin.

Table 3: Different financial products for each value chain stakeholder

Stakeholders	Financial instruments
Slaughterhouse LLC	Equity financing Debt financing (investment and working capital) Leasing <i>Grant financing</i>
Horticulture hub LLCs	Equity financing Debt financing (investment and working capital) Leasing Warehouse receipt financing <i>Grant financing</i>
Cassava processing hub LLCs	Equity financing Debt financing (investment and working capital) Leasing <i>Grant financing</i>
Producers' associations	Debt financing (investment and working capital) Leasing
Livestock Producers Associations	Debt financing (working capital) <i>Grant financing</i>
Meat Traders Associations	Debt financing (investment and working capital) Leasing <i>Grant financing</i>
Breeding units	Debt financing (investment) <i>Grant financing</i>
Vet franchisees network	Debt financing (investment and working capital) <i>Grant financing</i>
Cassava producers	Debt financing (investment and working capital) <i>Grant financing</i>

These financial products (detailed in Annex 4, Attachment IV) will generate different types of revenues: (i) net dividends from equity participation in hub companies, together with interests from investment loans, working capital loans and leasing will be used by microfinance institutions to cover their operating costs; (ii) the purchase of shares held by MFIs in hub companies by hub shareholders, together with the repayments of loan principal will form a revolving fund that will be used by MFIs for further investments to the benefit of value chain stakeholders.

The Catalytic Fund will also take an equity position in the limited liability company that will own the slaughterhouse financed by PROSUL (Slaughterhouse LLC), which it will hold on behalf of LPOs co-owning the slaughterhouse. LPOs will gradually buy back the shares held by the Catalytic Fund. The net amount of dividends earned by the Catalytic Fund from the Slaughterhouse LLC investment will be used to cover the Catalytic Fund operating costs (especially those related to the PROSUL department) while the purchase price paid by LPOs for the Slaughterhouse LLC shares held by the Catalytic Fund will be used for further investments in PROSUL-supported value chains.

- *Grant financing.* Grant financing will be used to reduce the cost of building construction to be supported by the owners of horticulture hubs, cassava processing hubs, Livestock Vet Stores, and slaughterhouse. It will represent a maximum of 30% of the cost of the building, including studies and supervision costs.

Sub-component 4.2 – Capacity building. Capacity building activities will be carried out to the benefit of the following stakeholders:

- *Catalytic Fund and MFIs in which the Catalytic Fund will hold equity:* capacity building will mainly be provided to MFIs additional staff that will be recruited as a result of their participation in PROSUL. It will include: (i) training, (ii) technical assistance to design and implement new financial products and services, to implement new delivery mechanisms, and to adapt their MIS and accounting/financial systems to their new activities, (iii) study tours and exposure visits, (iv) the financing of investment costs related to staff recruitment, and (v) decreasing financing of their operating costs;
- *SMEs created under PROSUL:* these include the slaughterhouse and the service hubs that will be created under the form of limited liability companies (LLCs). Capacity building will be provided to Boards of Directors and to management teams and will include: (i) training on various subjects related to company's management, financial and cash management, as well as accounting; (ii) legal assistance for the creation of LLCs (as part of Component 5); and (iii) study tours and exposure visits;
- *Other loan beneficiaries:* they will access training from MFI staff on financial, cash and credit management and on basic bookkeeping, as well as legal assistance as required.

65. **Implementation arrangements.** The component will be implemented by the Catalytic Fund of the Beira Agriculture Growth Corridor, which will operate as an investment fund on behalf of PROSUL under a Subsidiary Financing Agreement to be signed with the Government of Mozambique. A Memorandum of Understanding will be signed between PROSUL PMT and the Catalytic Fund spelling out the role and responsibilities of either party. The Catalytic Fund will open a specific department adequately staffed to manage and monitor investments made under PROSUL, with an office in the project area. UNCDF will finance the provision of capacity building to MFIs under its programme for strengthening microfinance institutions. Every year, the Catalytic Fund as well as the three participating MFIs will take part in the preparation of the three annual VC DAPs based on which, the Manager of the PROSUL Department in the Catalytic Fund will prepare the project AWPB in collaboration with participating MFIs and the PMT Financial Services Expert.

Component 5 – Institutional Support and Project Management

66. **Objective and approach.** The objective of Component 5 is to strengthen CEPAGRI, the government agency responsible for project implementation, so that (i) it can deliver project outcomes and outputs according to plans and (ii) build capacities so that innovative climate resilient business models developed under the project can be further sustained and replicated and that value chain development can continue beyond project completion. These efforts will be complemented by a Land Tenure Security programme, funding from ASAP, and by the provision of support to strengthen linkages with agri-business education institutions in the southern provinces.

67. **Sub-component 5.1 - Institutional support.** The project will provide support to CEPAGRI to build its capacities for project implementation and coordination, for monitoring innovative climate resilient business models and value chain performance and for managing and disseminating relevant information to value chain stakeholders.

68. **Capacity building to support value chain development.** Support will be provided mainly to the Gaza Delegation, so that it acquires the capacities, systems and relative guidelines and manuals required to support value chain development, including:

- planning and budgeting public support to value chain development;
- contracting out implementation activities to service providers and monitoring their performance;
- ensuring that value-chain development is climate-resilient;
- monitoring value chain performance, identifying successful business models and good practices and ensure dissemination to value chain stakeholders. This will include setting up an information system accessible to all value chain stakeholders and connected to the Project Learning System;
- facilitating Value Chain Stakeholder Platforms; and
- mainstreaming gender and inclusion into analytical and operational systems.

69. New systems developed will be compatible with CEPAGRI's existing infrastructure. They will primarily respond to the needs of the project value chains, but, once successfully tested and revised as appropriate, they could also be used by the Delegation to cover other value chains. Institutional support activities will be based on annual capacity development plans, which will be established jointly by the PMT Coordinator and CEPAGRI's Gaza Delegate, in connection with CEPAGRI headquarters and with support from specialised technical assistance. Annual plans will also identify public institutions and external assistance required to support implementation.

70. **Policies for climate change adaptation.** The project will contribute, through ASAP, to mainstream climate change adaptation in policy support for the three value chains. Annex 5, Outcome 5, describes the expected outputs in detail. This will include:

- (i) An institutional capacity needs assessment for mainstreaming the Mozambique climate change agenda within CEPAGRI during project inception (a draft checklist is in Attachment 5, Annex 5);
- (ii) the development of policy and strategic tools to promote climate proof agriculture and to increase the resilience of project-supported value chains, which would be led by the LSPs for each value chain. Initial needs assessment would be undertaken during the inception phase for each value chain and policies and tools developed in collaboration with members of the Innovation Platform/Regional VCP (See Annex 4);
- (iii) contributions to the project KM strategy by sharing climate adaptation knowledge appropriate to the needs of each Innovation Platform/Regional VCP (See Annex 4);
- (iv) building the capacities of CEPAGRI staff with regard to the broader national and regional climate change agenda and to develop strong linkages with the national climate change platform; and
- (v) CEPAGRI links with relevant institutions (particularly MICOA and INGC) and with the Strategic Programme for Climate Resilience co-financed by the World Bank and AfDB by CEPAGRI staff participation in the National Climate Change Forum and inviting representatives of that forum to participate in the annual Regional VCP meetings.

71. **Innovative contractual arrangements.** Technical and legal assistance will be made available throughout most of the project lifetime to support project stakeholders in developing and implementing innovative contractual arrangements and governance structures (outgrower schemes, forward contracting, farmers co-owned LLCs and other joint ventures...) , securing sustainable returns to farmers and an equitable distribution of margins between smallholders and other value chain stakeholders. It will be programmed by the PMT Coordinator, in conjunction with LSPs.

72. **Agribusiness education.** In addition, PROSUL will provide limited support to developing interaction between professional agricultural education institutes in the South, on the one hand, and, on the other hand, the service hubs, innovation platforms and regional value chain platforms. This could provide students with field experience, and also offer a field for action research with learning also benefitting project activities. Assistance will be programmed by the PMT.

73. **Sub-component 5.2 – Land Tenure Security.** PROSUL will support measures aimed at strengthening land rights of the project's target groups and at improving the management of land use by FOs and communities. Activities will include: (i) mapping of information relevant to the districts targeted under the three VCs on existing and planned land titles (DUATs); (ii) FO-based analysis of land access and tenure security issues, with special attention given to identifying measures for strengthening land/natural resources rights of poor and vulnerable groups including women and youth; (iii) depending on the outcomes of (i) and (ii), support to community land delimitation and the issuing of DUATs to FOs. It is anticipated that the focus in the horticulture VC would be more on supporting the granting of DUATs to FOs and on strengthening them to develop internal rules for equitable land access. For the livestock VC, it is expected that the main emphasis will be on demarcating grazing/browsing areas and strengthening community and FO management rules for these areas. For cassava, it is anticipated that the emphasis will either be on community land delimitation in cases where cassava fields are scattered over a wide area or on the issuing of formal DUATs for associations where consolidated areas of cassava farming are identified. Priority will be given to associations directly involved in the ownership or management of hubs or those where there is the greatest demand for land. The sub-component will be implemented by a specialised service provider, with part-time technical assistance to support the PMT in programming and supervising activities.

74. **Project management.** Investments under this sub-component are designed to assist CEPAGRI in the planning, budgeting, contracting, supervising, managing and monitoring of project activities. They will mainly cover:

- *Project coordination and management.* CEPAGRI will be responsible for overall project coordination and implementation. It will be assisted by a *Project Coordinator*, who will be responsible for the day-to-day management and the overall coordination of PROSUL within CEPAGRI. The Project Coordinator will be based at CEPAGRI's delegation in Gaza, where s/he will lead the PMT that will support project implementation. His/her profile should be oriented towards management but also finance, given the high importance of developing access to financial services of a varied and innovative range as part of project activities. Knowledge on climate change issues will be advantageous. In addition to the Project Coordinator, the PMT will be composed of the following full-time staff:
 - a) a *Financial Manager* in charge of financial management, administration and procurement;
 - b) a *Financial and Administrative Assistant*;
 - c) an *M&E / Knowledge Management Officer* in charge of developing and implementing the Project Learning System, in close collaboration with CEPAGRI and with LSPs;
 - d) an *Agribusiness Expert* responsible for guiding and monitoring the implementation of the contracts with the three LSPs and for facilitating the linkages between the LSP on the one hand, and CEPAGRI and MINAG's departments (DNSA and DNSP) on the other hand;
 - e) a *Targeting and Gender Expert* responsible for ensuring that targeting and gender mainstreaming is applied throughout project activities in accordance with the Targeting and Gender Mainstreaming Strategy and Implementation Plan, and in collaboration with CEPAGRI, DPAs, LSPs and participating microfinance institutions.;
 - f) a *Financial Services Expert* responsible for the general overseeing of Component 4, including the overall coordination of the preparation and implementation monitoring of the AWPB, monitoring of performance of the various service providers intervening in the component implementation, and knowledge management.

- g) In addition, consideration will be given to recruiting a *Climate Change Expert* to complement the PMT capacities in order to supervise the LSPs' efforts to promote climate-resilience in the supported value chains, and to ensure adequate coverage of climate change aspects in the Project Learning System. This will be considered in the preparation of the first AWPB.
- *Project Learning System.* The project will cover all support costs related to setting up and running the Project Learning System integrating planning, monitoring and evaluation (M&E) and Knowledge Management (KM), including baseline and impact studies, database and website establishment, workshops and publications, and short-term technical assistance (see below). There will be close interaction between this system and international efforts by IFAD and partners supporting ASAP to build knowledge on climate resilient smallholder agriculture. Through ASAP support, project baseline and impact studies will take into account various aspects of climate resilience. Particular attention will be given to lessons generated from this project on how to integrate climate resilience into a value-chains focused project. This will provide many lessons for scale-up, which is important given the potential to combine the priorities of value-chains development and climate-resilience across the IFAD-supported portfolio and beyond.
 - *Project preparatory activities.* To facilitate a quick project start-up, CEPAGRI will receive advanced start-up funds from IFAD to set up the PMT and carry out preparatory activities that are required until IFAD can make the first disbursement of project funds. Furthermore, a Project Expeditor will assist CEPAGRI in recruiting the PMT and in setting up sound basis for financial management and procurement (draft TOR in Annex 6, Attachment 8). Towards the end of the 6-month preparatory phase, a 2-day inception workshop will be conducted in Xai-Xai by CEPAGRI and the PMT, with the participation of all relevant project stakeholders, to ensure a sound and shared understanding of the project approach and its operating modalities. A Financial Services consultant will attend the workshop to familiarize participants with the content and implementation arrangements of Component 4.
 - *Project support costs.* Financing will also cover office operation and transportation (including the purchase of three vehicles and replacement after four years), as well as planning and oversight (meetings of Project Steering Committee and annual audits).

E. Lessons learnt and compliance with IFAD policies

75. PROSUL builds on lessons learnt out of the IFAD programme evaluation (2010) and of project experience. Main lessons, reflected in PROSUL design, can be summarised as follows:

- *Capacities.* Investment should be commensurate with institutional capacity and support for capacity-building and institutional strengthening should be included in project design, based on an assessment of institutional capacities and on the availability of qualified service providers. This was done during design and a list of suitable service providers interested in participating in project implementation as Lead service Providers was established.
- *Participation and flexibility.* Building on consultative participatory processes to orient project design and implementation develops stakeholder ownership and allows project frameworks to be more realistic and more responsive to actual constraints in project environment. Furthermore flexibility in programme design is critical to allow project management to adjust interventions in response to the actual situation and to evolving demands. PROSUL design was based on a series of workshops to select target value chains and stakeholders. Consultative processes and platforms are built into project design throughout all the components, which will allow to adapt the proposed business models to the features and needs of participating stakeholders.
- *Environmental Sustainability.* Project design has corroborated a key conclusion of IFAD's 2011 Environment and Natural Resource Management Policy: that value-chains cannot be supported without also addressing the environment and climate-related issues associated with increased production. The Policy has a strong emphasis on value chains, arguing that with an increasing

number of value-chain projects in IFAD's portfolio (46% in 2009) there is an opportunity to maximize the positive environmental impact of value chain development and avoid downside risks. Such risks include where market entry comes at the cost of widespread conversion of landscapes to often less climate-resilient monocropping, and waste disposal in poor rural communities that process agricultural products. Project activities are designed to avoid such risks.

- *Mainstreaming gender and inclusion.* Efforts with regard to gender mainstreaming and inclusion have been fragmented and do not appear to have had any real impact. IFAD needs to develop a targeting strategy considering recent evidence from poverty analyses showing that gender and social inequalities remain widespread throughout Mozambique. PROSUL design includes a targeting and gender strategy to mainstreaming inclusion and gender concerns throughout project activities, including the assignment of a targeting and gender specialist in the PMT.
- *Farmers' organisations.* FOs have a key role to play in facilitating market access to smallholders, but most of them are weak and little geared towards providing services to their members. Models applied so far are based on the provision of external assistance by projects, which are usually too short-lived to produce lasting effects. To reverse this trend, PROSUL design is geared towards ensuring FOs continued access to responsive technical advisory services and coaching, in particular through service hubs.
- *Implementing agency:* project performance has been most efficient where there is a project facilitation unit integrated in the government implementing agency. This is the model that was retained for PROSUL implementation framework, which features a dedicated PMT integrated in CEPAGRI's structure, using CEPAGRI's systems and strengthening CEPAGRI's management capacities.
- *Endogenous policy dialogue processes.* The most effective policy dialogue is the result of an endogenous process of dialogue among national institutions. This lesson is built into proposed value chain stakeholders' platforms, and in the close linkages between field activities, monitoring and knowledge management, and policy development.

76. PROSUL also takes stock of the experience of projects and players involved in supporting inclusive agri-business value chains and farmers' organisations, in particular with regard to the following issues:

- *Farmers' organisations.* PROSUL builds on new, emerging approaches such as outgrower schemes and forward contracts, and takes stock of the mixed experience of *casas agrárias*, farmer-owned service centres established in connection with irrigation schemes, to propose a new service hub model securing cost recovery and sustainability;
- *Market linkages.* There is an increasing diversity of players on which to base small farmers' access to market. The promotion of market linkages can therefore not rely on one single support model, but should rather rest on a thorough identification of market agents and on the design of tailor-made support packages. This lesson is reflected in the scoping studies and in the provision of a mix of capacity building, legal/technical assistance, study tours and access to financial services;
- *Financial services.* Available financial products on offer by commercial banks and MFIs are not accessible to smallholders because of excessive interest rates and conditions that they can hardly meet. Furthermore, the lack of venture capital hampers the development of agribusiness start-ups willing to engage into partnerships with smallholders. PROSUL will promote innovative instruments to fill current gaps and support inclusive agricultural investments, building on the existing financial infrastructure and on innovative experiences financed by the government and by donors.

77. Project design is also compliant with the main IFAD policies and strategies, including with regard to the Mozambique COSOP, targeting and gender mainstreaming, rural finance, rural

enterprise development, private sector development, climate change and environment and natural resource management.

78.

III. PROJECT IMPLEMENTATION

A. Organisational framework

Key implementing agencies

79. The PROSUL organisational framework builds on the CPE finding that project facilitation units have proven to be the most effective option for project implementation in Mozambique, provided linkages are established with the hosting institution to contribute to institution building and sustainability. It is also in line with CEPAGRI's mandate, which is not one of implementing large-scale investment projects but rather of a facilitating and coordinating body. And finally, it is in accordance with the nature of the project, which is to promote the development of business relationships between private actors, which requires a mix of public and private sector competences, and to promote innovative approaches to the development of pro-poor value chains, which requires external expertise.

80. **CEPAGRI.** The Director of CEPAGRI will have overall responsibility for the coordination and oversight of PROSUL. However, line responsibility for day-to-day programme implementation will be delegated to the Project Coordinator, who will exercise it in close collaboration with the CEPAGRI Delegate for the southern provinces in Xai-Xai (Gaza), and with support from the PMT. Annex 6, Attachment 2 presents the project organisational chart.

81. **Programme Management Team.** Overall responsibilities of the PMT include: (i) the provision of strategic guidance to develop project approach and activities; (i) financial and administrative management of project resources in line with the loan agreement; (ii) the planning of project activities and the preparation of the Annual Work Plan and Budget (AWPB); (iv) the contracting and procurement of project-related services and supplies; (v) the monitoring of implementation of service providers' contracts; (v) the coordination of project activities with the various project partners; (vi) the supervision, M&E and KM in relation to all activities; and (vii) the promotion of inclusive approaches. The planning, implementation, financial management and monitoring of project activities will be integrated as part of CEPAGRI's (and particular of its Delegation for the southern provinces) regular planning, budgeting, management and monitoring activities.

82. All PMT positions will be recruited through a competitive bidding open to both MINAG and external candidates, based on detailed terms of reference presented in Annex 6, with a view to ensure the setting up of a qualified, accountable and gender-balanced team. Except for the financial and administrative positions, prior experience with gender mainstreaming will be strongly desirable. Final selection will be submitted to IFAD for no-objection, as well as staff contracts.

83. **Lead Service Providers.** The implementation of components 1 to 3 will be carried out by three specialised LSPs, who will be responsible for implementing activities in support to inclusive and gender-based value chain development, as specified in the description of components. LSP responsibilities will include: (i) the preparation, implementation and monitoring of annual Value Chain Development Action Plans (VC DAPS) and related section in the AWPB, in collaboration with project stakeholders and Regional Value Chain Platforms; (ii) the contracting and procurement of services and supplies involved in implementing the component (with prior approval by the PMT); (iii) the coordination of the activities of the various component partners; (iv) setting up and supporting Regional Value Chain Platforms and Innovation Platforms; (v) supervision, M&E and knowledge management in relation to the component activities, under PMT guidance; and (vi) the preparation of progress reports for their component. Draft terms of reference are in Annex 6. LSPs will be contracted by CEPAGRI in coordination with DNSA (horticulture), IIAM (cassava) and DNSV (red meat) using competitive government procurement procedures and based on renewable performance based contracts. The three LSPs in turn will be responsible for the recruitment of

specialised service providers, and in particular national ones, that would be required to carry out the implementation of component activities.

84. **Phasing.** LSPs are expected to organise implementation activities along three phases:

- *an initial phase* of about nine months, during which main activities will consist in: (i) carrying out the value chain scoping study; (ii) setting up all logistics arrangements; (iii) setting up the Value Chain Platform as well Innovation Platforms in the first districts of implementation, and defining their functions and mode of operation; (iv) developing the first VC DAP, together with main value chain stakeholders, and the first AWPB; (v) setting up an M&E/KM sub-system, under the guidance of the PMT, to become an integral part of the Project Learning System; and (vi) setting up administrative, financial and management systems required to comply with project requirements;
- *a main phase* of about four years, during which LSPs will implement the VC DAP jointly with value chain stakeholders. LSPs will revise the plan on an annual basis as a preliminary step to the preparation of the AWPB, based on actual performance and jointly with value chain stakeholders. Annual VC DAPs will be validated by Value Chain Platforms and by the Project Steering Committee. By the middle of the second phase (end of 2015), IFAD will carry out a Mid-Term Review (MTR), which will review project achievements, including the performance of innovative business models, and will propose relevant adaptations. Furthermore, a comprehensive Implementation Support Mission will be organised by IFAD beginning 2018, which will conduct a thorough review of achievements and make recommendations for the exit phase to ensure sustainability beyond project completion;
- *an exit phase* of about two years, during which implementation responsibilities intended to outlive the project (such as monitoring value chain performance and disseminating results, ensuring access to market information, ensuring coordination and interaction between value chain stakeholders, providing support services...) will be taken over by permanent stakeholders, including farmers' organisations, service hubs, Value Chain Stakeholders Platforms, private sector and financial institutions. Activities to be implemented by the service provider will therefore include: the provision of capacity building for the purpose (including training, coaching and methodological tools); and the preparation of value chain development strategies and plans for a new period starting right after project completion.

85. The exact duration and development of each phase will be adapted to the specificities of each component, in accordance with the progressive phasing in of target districts and in agreement with the PMT and CEPAGRI. Attachment 11 in Annex 11 shows district phasing for each component.

86. **Catalytic Fund.** The BAGC Catalytic Fund will be responsible for the implementation of Component 4. Arrangements will be finalized at project onset, and will be consigned in a Subsidiary Financing Agreement signed by the Fund and the Ministry of Finance (with prior IFAD no-objection), which will stipulate the terms and conditions under which PROSUL resources will be transferred to the Fund. An MOU with the PMT will further detail the role and responsibilities of both the Catalytic Fund and the PMT. Main responsibilities of the Catalytic Fund would include: (i) the creation of an adequately staffed specific department for PROSUL activities with an office in the project area; (ii) the preparation of annual AWPBs building on VC DAPs and the implementation of related activities; (iii) the monitoring of participatory microfinance institutions and other SMEs; (iv) quarterly reporting to the PMT on activities, financial progress and achievements; and (v) provision of technical assistance to microfinance institutions and SMEs in which it holds equity. Details are provided in Annex 4, Section 4 - Financial Services.

87. **Land Tenure Service Provider.** A Land Tenure Service Provider (LTSP) will be contracted to carry out all activities related to land tenure security. In addition to the LTSP, a part-time Land Tenure Advisor will be contracted, as required, to support the PMT and other service providers in identifying and supervising the LTSP's inputs.

88. **DNSA.** DNSA will play an advisory role for the implementation of Component 1 - Horticulture, by providing advice to CEPAGRI, to the PMT and to LSPs on all aspects related to agricultural policies and national strategies.

89. **INIR.** INIR will be responsible for the procurement and overseeing of a consulting firm to carry out the design and supervision of irrigation works and of private contractors to carry out the works.

90. **DNSV.** DNSV will play an advisory role for the implementation of Component 3 -Red Meat, by providing advice to CEPAGRI, to the PMT and to the LSP on all aspects related to livestock policies and national strategies.

91. **IIAM.** IIAM will play an advisory role for the implementation of Component 2 - Cassava, by providing advice to CEPAGRI, to the PMT and to the LSP on all aspects related to cassava policies and national strategies. Furthermore, IIAM will be responsible for implementing the whole range of research activities financed by PROSUL across the three value chains, and for setting up a system for the multiplication of high-yield, drought-resistant cassava stems on a commercial basis.

92. **DNEA.** DNEA will be a member of Project Steering Committee, through which it will provide advice and feedback to project stakeholders and implementing agencies on extension and access to services. It will be associated to knowledge management activities so as to capitalise on good practices developed through service hubs, outgrower schemes and other mechanisms designed to facilitate smallholders' access to services.

93. **DPAs.** As the lead institution of the agricultural sector at provincial level, DPA will play an important role in facilitating PROSUL implementation and linkages with agriculture stakeholders in the province. Specific responsibilities are detailed in Annex 6. To strengthen the linkages between the project and DPAs and to support the implementation of such responsibilities, each DPA will appoint a Focal Point who will be working full time with the project, for which s/he will receive a salary compensation.

94. **SDAEs.** District Services for Economic Activities (SDAEs) will facilitate the setting and operation of service hubs, by facilitating linkages with local actors. They will receive regular information about project activities and outcomes in their district, have access to hubs' business plans and progress reports and have quarterly information meetings with LSPs. With regard to extension, the development of production in the target value chains will require specialised expertise and it is not expected that SDAEs extensionists can specialise in all the value chains. SDAEs extensionists will participate in technical trainings supported by the project and be invited to open a contact point within each hub to attend farmers looking for advice on other crops than those targeted by the PROSUL, especially food crops.

95. **ANE.** The National Roads Authority (ANE) will be responsible for planning and overseeing road rehabilitation (included in components 1, 2 and 3), along arrangements that have already been successfully applied by PROMER and ProPESCA.

96. **Farmers' organisations.** FOs and their apex structures are central stakeholders in PROSUL implementation, with regard not only to production development but also to marketing, provision of support services, participation in value chain governance and in the development of service hubs. The project strategy and programme of activities are geared towards ensuring that, by the end of the project, they have become professional players in their respective value chains. Furthermore, FOs will own shares in the equity of service hubs and of the slaughterhouse that will be built by the project, which will enable them to participate in decision-making at board level, and thereby contribute to sustainable provision of responsive and affordable services. The strengthening of FO capacities will be one of the main responsibilities of PROSUL LSPs. The PMT will specifically provide guidance for the promotion of FOs entrepreneurial skills (through the Agribusiness Specialist) and to ensure that participating FOs become inclusive and gender equitable organisations (through the Targeting and

Gender Expert). National apex organisations (UNAC, AMCPM, FENAGRI) are keen to be involved in organisational and agribusiness capacity development initiatives and LSPs will review possibilities to associate them in project implementation.

97. **Micro-finance institutions.** Three MFIs will participate in PROSUL and will be responsible for providing the range of financial instruments required to support value chain development, through resources channelled through the Catalytic Fund.

B. Project oversight

98. **Project Steering Committee.** This committee of up to 30 members will meet twice a year to: (i) review project progress against targets; (ii) assess management effectiveness; (ii) decide on corrective measures where appropriate; (iii) review lessons learned, good practices and innovation; (iv) approve AWPBs and review progress reports; and (v) provide overall guidance to project implementation. It will gather the representatives of main stakeholders involved in project implementation. For details see Annex 6.

99. **Regional Value Chain Platforms.** A Regional Multi-Stakeholder Value Chain Platform (VCP) will be established for each of the target value chains. VCPs will gather the representatives of key stakeholders for the southern provinces, i.e. farmer organisations and their apex structures, service hubs managers and technical advisors, market agents (processors, traders and institutional buyers), key service providers, financial institutions (including the BAGC Catalytic Fund and participating MFIs), agri-business education structures⁷, DPA, IIAM's Southern Zonal Centre, INRI local delegation, and CEPAGRI's Southern Delegation. They will also include representatives from MINAG at the national level (DNSA, DNSV, IIAM) to channel policy related issues of concern. They will meet at least twice a year, prior to the meeting of the Project Steering Committee. They will provide a venue to discuss project achievements, identify successes and problems as well as good (and climate-resilient) practices, discuss possible solutions including non-project based solutions, providing overall project guidance and coordinating interventions, and identifying issues to be addressed at policy making level. Based on this overall dialogue, VCPs will also be responsible for approving component APWBs prior to submission to the Project Steering Committee. The LSP will assist in setting up the VCPs, establishing their internal rules and regulations and facilitating their work. It will also ensure gender-balanced participation in the VCP.

100. Discussion on project performance will lead to discussing key issues linked to the value chain development (such as pricing, quality, sustainability, access to services etc.) as well as to identify key policy areas that need to be addressed at national level. Interaction between stakeholders will help in devising coordinated and harmonised interventions, whereby each stakeholder would contribute along its role and capacities based on a shared vision of value chain potential and constraints. Such an approach should be conducive to the development of synergies and of alliances based on mutual interests among stakeholders in the value chain and contribute to developing value chain governance at the regional level. It is expected that VCPs progressively evolve into permanent multi-stakeholder value chain platforms at the regional level, for which they will receive institution building support from the LSPs. The Mid-Term Review (end of 2015) will specifically review achievements of VCPs and provide orientations as to whether and how they should evolve into permanent structures.

101. **Innovation Platforms.** Similarly, multi-stakeholder platforms will be established in each of the districts where PROSUL will develop activities and for each of the value chains. They will have a similar composition as VCPs for what regards private sector actors, and will also include the SDAE

⁷ Such as the Chibuto School of Business and Entrepreneurship (Gaza), *Instituto Superior Politécnico de Chokwe* (Gaza) and *Instituto Superior de Vilanculos* (Inhambane).

and locally-based IIAM researchers. Innovation Platforms will have a similar role as that of VCPs, but at the district level, i.e. discussing issues of common interest and possible solutions, both project and non-project based ones. They will have a key role to play in promoting project knowledge management and in disseminating good practices. They will be established with support from the LSPs.

C. Planning, monitoring and learning

102. **Objectives and approach.** A Project Learning System (PLS) integrating planning, M&E and KM will be developed with three main objectives:

- *steer project implementation:* it should provide project stakeholders with information and analysis required to: measure project outcomes; assess project effects on the livelihoods of participating farmers (including vulnerable households, women and young people); assess the relevance of the project strategy, methodologies and implementation processes; detect difficulties and successes; and support decision-making to improve project performance. It should also provide information to measure project contribution to the implementation of PEDSA and of PNDA, and to the achievement of COSOP targets;
- *support economic decisions:* it should provide value chain stakeholders, and in particular farmers' organisations and service hubs, with the information and analysis they need to assess the return brought by innovation, to develop profitable and climate-resilient activities and to adapt their strategies accordingly, by monitoring both quantitative (yields and production, margins, stocks, credit management...) and qualitative results (members'/clients' satisfaction). Furthermore, it should provide stakeholders and government with the informative environment needed to make policy decisions that can positively benefit economic activities within the value chains;
- *share knowledge:* based on the above, the PLS should develop lessons learning, capture best practices and successful innovation, and share knowledge under appropriate formats to support project performance and policy dialogue. Specific areas of interest in this respect include inclusive business models, public-private partnerships for farmers' access to services, and innovative financial instruments. Particular linkages with complementary IFAD-financed projects (such as PROMER, PAFIR and ProParcerias) will be built and maintained.

103. The system will be open, i.e. its use would not be restricted to project or government agencies staff, but also provide information and learning for value chain stakeholders; participatory, i.e. associate project stakeholders, and specifically producers' organisations, in the definition of indicators, data collection, analysis and dissemination of results; growing, thus small initially and develop progressively as needs and capacities develop; focused on analysis and learning in support of decision making and policy dialogue, and not merely on data production; connected to CEPAGRI's information systems; inclusive of women and marginalised groups; and supporting accountability to project stakeholders.

104. **Project planning.** The PLS cycle would start with the preparation of the AWPB, first at component level building on VC DAPs, then for the whole project. Planning will include an annual plan for M&E/KM and communication, which will also identify specific areas in which project stakeholders intend to identify lessons and good practices. As of the second project year, the process will build on the results and recommendations of Regional Value Chain Platforms. With support from the LSPs, they will analyse past project performance, propose corrections and discuss/validate AWPBs based on the VCDAP.

105. **Data management.** The PLS will provide both quantitative (including geo-referenced) and qualitative information and will be organised along three levels:

- *producer level:* this level would encompass information relating to farmers and to their organisations, as well as to service hubs performance. Information systems at this level will be set up by LSPs. They will reflect the specificities of each value chain and will provide

information needed to support decision-making within farmers' organisations and service hubs. Poorer producers and women will have to be specifically consulted. A small database would be set up within each service hub to facilitate the process;

- *component level*: this level will provide information on progress in implementing components, including on the outcomes of market linkages developed between small farmers and traders/institutional buyers/processors. This level will be implemented by LSPs and, for component 4, by the Catalytic Fund;
- *global project level*: this level will aggregate information on the five project components to measure project/RIMS/ASAP indicators and to assess overall project performance. It will be the responsibility of the M&E and KM Officer.

106. A specialised consultant will be hired by the PMT to support CEPAGRI/project staff and VCPs in: (i) agreeing on a shared understanding of project objectives, approaches and planned activities; (ii) agreeing on a vision of the objectives and expected results of the PLS, as well as on a broad framework for M&E and KM and on priority actions to implement it; (iii) identifying quantitative and qualitative indicators to initiate the system at each level. Indicators will be developed with relevant stakeholders at each level; they will have to be coherent with CEPAGRI information systems, easy to collect and gender-disaggregated. The consultant will prepare an M&E and KM strategy, including a detailed plan for the first year and an M&E and KM manual. S/he will also provide orientations to design a management information system (MIS), to be set up by a service provider and accessible to project stakeholders. The MIS will include project financial and technical data from the PLS and other important sector information to analyse performance of the project and other initiatives (such as prices). It will process information and present it along appropriate formats such as dashboards, charts and maps. Regular updates will be carried out to incorporate new information requirements that will arise during project implementation. Information will also be available through an online website. In addition, a baseline study will be carried out for each component and will establish the reference situation with regard to project indicators. Training will be organised for project and CEPAGRI managers to build capacities required to use the system.

107. **Innovation and knowledge sharing.** Tools and venues for knowledge sharing will be identified as part of the PLS and will be described in the M&E and KM manual. Every year, innovation areas in which project stakeholders intend to detect good practices and to develop an exchange of knowledge will be identified by the VCPs, and the annual M&E and KM plan will outline corresponding methodologies, responsibilities and deliverables. These will be reviewed by VCPs, and extensive dissemination through appropriate supports and communication channels will then be carried out based on the communication plan to be prepared by the PMT.

108. **Learning routes.** Four Learning Routes (LR) will be organised by the PMT, with guidance from the specialised and IFAD-supported NGO PROCASUR. Two LRs have been pre-identified during project design. One is on GALS (see above Section II) and could be implemented in Malawi, Uganda, Zambia or Sierra Leone. The other LR is on the Red Meat value chain and would involve value chain stakeholders (farmers, butchers, traders and DNSV staff) either in Tanzania or in Kenya. Two more Learning Routes will be organised to support innovation in the horticulture and cassava value chains. Details on Learning Routes are in Annex 11.

D. Financial management, procurement and governance

109. **Financial management.** CEPAGRI will open a foreign exchange Designated Account at the Bank of Mozambique, which will receive IFAD loan proceeds. From this account:

- *all funds required to meet project expenditure, except funds to be disbursed by the Catalytic Fund* will flow into the national finance, budgetary and reporting system, namely: the *Conta Unica do*

Tesouro (CUT) or Single Treasury Account, and e-SISTAFE, the government's electronic public finance budgetary and reporting system;

- *funds to be disbursed by the Catalytic Fund* will be transferred to the Catalytic Fund as per the Subsidiary Financing Agreement (SFA) to be signed between Fund and the Minister of Finance. The SFA will stipulate the terms and conditions under which PROSUL resources will be transferred to the Catalytic Fund (see details in Annex 4, Section 4 Financial Services).

110. The Designated Account (DA) will operate with an advance payment from IFAD (Authorised Allocation), which will be determined by IFAD based on expected patterns of expenditure, withdrawal application processing timeframe, and requirements for financial efficiency.

111. Advance Account. e-SISTAFE only allows payments that can be processed through bank transfers, which leaves out a range of payments required in project implementation (such as for example the payment of per diem to participants in workshops or in Learning Routes). For such cases, CEPAGRI will open a local currency Advance Account in Xai-Xai, at any commercial bank acceptable to IFAD, to process small payments that cannot be accommodated in the e-SISTAFE system. Funds will be transferred from the CUT to the Advance Account.

112. Both the Designated Account and the Advance Account will be in the name of the project, appropriately coded within the CUT and e-SISTAFE coding framework. The Designated Account will be operated by the signatories as directed by the Ministry of Finance and MINAG. The Advance Account will be operated by the CEPAGRI Delegate for the Southern Provinces and the Head of the Administration and Finance Department in the Delegation (joint signatories) and by the Project Coordinator and the PMT Financial and Administrative Manager (joint signatories).

113. Funds will flow from this account through the national finance, budgetary and reporting system, namely the *Conta Unica do Tesouro (CUT)* and E-SISTAFE. For those expenditure that cannot be accommodated into the e-SISTAFE system, such as matching grants, alternative arrangements will be envisaged at final design.

114. Project accounting systems will be consistent with international accounting standards and principles as well as with government requirements, and internal financial controls will regularly be applied. CEPAGRI will be accountable to the government and financiers for the proper use of funds in line with legal agreements, and, with support from the PMT, prepare quarterly financial reports as well as annual financial statements within three months of the end of each fiscal year. It will also be responsible for organising the annual audit within six months of the end of each fiscal year.

115. **Procurement.** Procurement will be carried out in accordance with government regulations, which are consistent with IFAD Procurement Guidelines, and according to the procedures already agreed for all IFAD-funded projects in Mozambique in the IFAD Code of Practices for project management in Mozambique. Service providers will be hired through renewable performance-based contracts. The draft procurement plan attached in Annex 6 for the initial period of 18 months will be finalised by the PMT during the start-up phase and updated annually or as required to reflect actual implementation needs.

116. **Governance.** Annual audits will be performed in accordance with International Standards of Auditing by an external independent auditor. IFAD's direct supervision process includes modules on fiduciary compliance and the responsibility and accountability framework.

E. Supervision

117. The project will be directly supervised by IFAD. For this, annual implementation support missions, initially followed by short follow-up missions six months later, will be organised with the participation of the government (CEPAGRI). Missions will not be conducted as a general inspection or evaluation, but rather as an opportunity to jointly assess achievements and lessons, review innovations, and reflect on improvement measures. Missions will therefore be an integral part of the

KM cycle, with mission members playing a supportive and coaching role. To ensure continuity in this process, missions will be carried out by a core team of resource persons returning regularly, joined by specialists to address specific needs of a given year. Additionally, an in-depth Mid-Term Review (MTR) will be organised by government and IFAD by the end of 2015, which will review project achievements, including the performance of innovative business models, and will propose relevant adaptations, in close collaboration project implementers and stakeholders. A detailed list of issues to be reviewed by the MTR is included in Annex 11. Furthermore, a comprehensive Implementation Support Mission will be organised by IFAD beginning 2018, which will conduct a thorough review of achievements and make recommendations for the exit phase to ensure sustainability beyond project completion.

F. Risk identification and mitigation

118. Table 4 identifies main risks and mitigation measures.

Table 4 – Main risks and mitigation measures

Risk	Mitigating measures
Climatic extremes – drought, floods, increased temperatures	<ul style="list-style-type: none"> • Promotion of resistant cassava varieties and horticulture seeds, and of climate-resilient grazing and feeding • Promotion of resilient production techniques • Irrigation and low-cost greenhouse and access to water facilities for livestock
Lack of financial capacity and interest on behalf of private sector to invest in processing	<ul style="list-style-type: none"> • Provide private investors with matching grants to support investment in innovative and riskier activity • Develop service hubs co-owned by farmers
Weak technical and management capacities of farmers’ organisations	<ul style="list-style-type: none"> • Support to governance and management provided by LSPs • Service hubs to be managed by skilled professionals
Lack of capacities of smallholders to negotiate fair deals with private investors and to exert shareholder responsibilities	<ul style="list-style-type: none"> • Provision of legal assistance and support by LSPs • Investment Fund holding shares on behalf of farmers’ organisations and representing their interests
Scarcity of labour force, as the region has high rates of immigration of men to South Africa and urban areas	<ul style="list-style-type: none"> • Train primarily women on technical skills to fill the gap • Facilitate access to mechanisation through hubs and outgrower schemes as well as through appropriate financial services (investment credit and leasing – Component 4)
Unprofitability of cassava development	<ul style="list-style-type: none"> • Pilot phase built into project, with assessment by mid of fourth year to assess success and identify whether conditions for upscaling are met

IV. PROJECT COSTS, FINANCING AND BENEFITS

A. Project costs

119. **Project cost.** The total project cost for the 7-year duration, including physical and price contingencies, is estimated at around USD 44.95 million (summary and detailed cost tables are presented in Annex 7). Physical and price contingencies make up about 4%, and foreign exchange 16% of the total costs. Taxes amount to approximately USD 2.5 million. Funds allocated to project management total USD 6.72 million or about 15% of project base costs.

Table 5: Project costs by component

Component	Amount (MZM million)	Amount (USD '000)	% of total base costs
1. Horticulture	357.0	12,750	29
2. Cassava	109.7	3,917	9
3. Red meat	151.1	5,398	12
4. Financial services	405.9	14,497	33
5. Institutional support and project management	188.0	6,716	16
Total BASELINE COSTS	1,211.7	43,278.5	100
Physical Contingencies	33.2	1,187	3
Price Contingencies	175.2	482	1
Total PROJECT COSTS	1,420.2	44,947	104

B. Project Financing

120. IFAD will finance 87% of project costs or approximately USD 39.02 million, of which USD 16.30 million in the form of a highly concessional loan, USD 1.52 million in the form of a grant, a USD 16.30 million loan (highly concessional) financed by IFAD's Spanish Trust Fund and a USD 4.91 million grant from ASAP. The United Nations Capital Development Fund (UNCDF) will finance about USD 143 000 in technical assistance. The government is expected to finance about USD 2.49 million for taxes and duties, private sector USD 1.90 million and beneficiaries USD 1.40 million. Table 6 shows the financing plan of the project.

Table 6: Project financing plan

Financier	Amount (USD '000)	%
IFAD loan	16,298	36.3
IFAD grant	1,519	3.4
IFAD Spanish Trust Fund	16,298	36.3
ASAP grant	4,908	10.9
UNCDF	143	0.3
Government of Mozambique	2,487	5.5
Private investors	1,896	4.2
Beneficiaries	1,398	3.1
Total PROJECT COSTS	44,947	100.0

C. Summary benefit analysis

121. **Beneficiaries.** PROSUL will work directly with a population of around 20,350 households, including about 18,400 farming households. The remaining households will benefit from wages earned in hubs, small cassava processing units, Livestock Vet Stores and in the slaughterhouse, processing units and hubs (staff), and will also include members of Meat Traders' Organisations (MTOs) and around 50 commercial farmers. Altogether the project would directly benefit a population of around 102,000 persons. In the horticulture sector, PROSUL would support 4,800 farmer households on irrigated plots of less than 0.7 ha. In the cassava value chain, the project would support 8,000 smallholder households cultivating cassava on an average of 0.6 ha. In the red meat sector, the project would benefit around 5,600 smallholder households breeding cattle and shoats.

122. It should be noted that these are conservative figures, which only take into account direct beneficiaries, i.e. those that will receive direct project support. In addition however, hubs will benefit a larger population of farmers that could access services of interest for other types of crops than those supported by the project (for example inputs, financial services, equipment, storage). Cattle fairs will also attract a larger number of farmers than those that directly benefit from project services. The

development of horticulture will provide increased opportunities for labour benefitting poorer households. The slaughterhouse will service clients from other areas than project target areas, and MFIs will be able to channel revolving resources to new clients. FFSs developed for the first time in the livestock sector will ensure further replication throughout the country. Finally, the development of innovative business models that could be further promoted by CEPAGRI could potentially benefit a much larger population of smallholders throughout the southern provinces.

123. **Benefits.** Main benefits expected from the various components include:

- *Horticulture:* improved productivity and extension of production cycles in irrigation schemes and greenhouses, allowing all year production and higher prices during off peak seasons alongside greater climate resilience; the full smallholder exploitation of 3,000 ha of improved and rehabilitated irrigated schemes; development of innovative outgrower schemes; service provision from 7 multi-service hubs, with services that would be of interest not only to vegetable producers, but also to farmers producing other crops; availability of appropriate technical packages to generate higher quality and prices; profitable and autonomously managed farmer organisations.
- *Cassava:* improved productivity of cassava production and processing; development of new business models securing new market outlets and increased income for cassava producers and promoting the market of cassava-based products; service provision from 24 hubs support cassava input provision and processing; development of climate-resilient technical packages to mitigate farmers' risk and to promote higher quality; profitable and autonomously managed farmer organisations.
- *Red meat:* improved climate resilient and climate smart production and herd management resulting in higher and more regular income; functioning breeding units and improved herd quality through joint ventures between commercial and small farmers; functioning cattle fairs and service provision from 7 MTOs facilitating goat and cattle marketing and increasing margins to farmers resulting from reduced transaction costs, and from a network of commercially run Livestock Vet Stores; profitable and autonomously managed farmer organisations; functioning of a new low carbon input slaughterhouse offering a market outlet for breeders and securing better prices through the promotion of higher quality.

124. **Economic viability and sensitivity analysis.** The economic internal rate of return of the project is estimated at 24.6%, with a net present value of USD 39.0 million. The project's economic viability is robust to adverse changes in project costs, and the project still remains viable with increases in capital and recurrent costs of 50%. The project is also robust to decreases in incremental benefits as its economic internal rate of return is still 18.7% if incremental benefits are reduced by 30%.

D. Sustainability

125. PROSUL is organised as a temporary intervention to develop viable and sustainable business models in the horticulture, cassava and goats/cattle value chains, with a clear objective of developing institutions, mechanisms and capacities that would be able to continue on their own after project completion. This is reflected by the following project features:

- *Private-sector driven approach:* PROSUL approach builds on a range of business ventures that are designed to secure smallholders' continued access to markets and services even beyond project completion, by ensuring not only cost recovery but also profit generation;
- *Service hubs:* service hubs are designed along a business model that will allow them to continue extending support services to farmers beyond project completion, including for other value chains than those supported by the project. Main features to this end include: (i) ownership structure allowing investment by private sector; (ii) setting up of a cost-recovery system to sustain profitability; and (iii) staffing of each hub with a skilled manager to be financed by hub proceeds;

- *Farmers' organisations*, which will be supported through tailor-made capacity building packages to acquire the technical and management capacities as well as the financial resources allowing them to become sustainable, profitable organisations, able to sustain contractual arrangements for producing and marketing;
- *Financial support services*: sustainable access to financial services and capacity building will be developed to ensure access to the diversity of instruments required to support value chain development along affordable terms and conditions for agriculture activities;
- *Climate-resilient practices*: the development of climate resilient technological packages and practices will pave the way for sustained productivity and quality improvements in the semi-arid environment of the southern provinces;
- *Multi-stakeholder platforms*: by supporting the creation of stable multi-stakeholder platforms, PROSUL will assist value chain stakeholders in developing strong linkages and support their ability to take the lead in value chain development;
- *Integration in CEPAGRI*: as CEPAGRI's mandate is not one of implementing large-scale investment activities, project implementation will be supported by a Programme Management Team and outsourced service providers. However project management procedures, and in particular M&E and KM will be aligned with CEPAGRI's own procedures and systems;
- *Utilisation of national procedures* for project financial management (CUT and e-SISTAFE framework) will be applied.

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE
MAPUTO AND LIMPOPO CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 1: COUNTRY AND RURAL CONTEXT BACKGROUND

ANNEX 1: COUNTRY AND RURAL CONTEXT BACKGROUND

Fast economic growth but low human development index rating. 16 years of civil war left Mozambique with a ruined economy and widespread poverty. The country's recovery after the 1992 peace settlement has been remarkable. Strong economic growth (with an average annual rate above 7%) has been sustained by macroeconomic liberalization, market-based reforms, massive public investment in infrastructure and large flows of foreign direct investment. However, Mozambique remains one of the world's poorest countries, ranking 165 out of 169 countries on the human development index (2010). Global positive growth figures hide significant geographical disparities. Growth has also been uneven across sectors, deriving mainly from capital-intensive mega-projects in the energy, mining and manufacturing sectors with limited impact on job creation, whereas key sectors for employment and poverty reduction such as agriculture remain weak. Limited access to finance, inefficient bureaucracy, insufficient human capacities and inadequate infrastructure contribute to a poor business environment that affects the development of the domestic private sector. Yet Mozambique possesses a wide range of natural assets that offer extensive economic and employment potential. The main development challenge lies in building on these to promote pro-poor, labour intensive growth. Agriculture and fisheries are expected to play a key role in this respect.

Rural poverty. The national poverty assessment of 2009 estimates the incidence of poverty at 54.7% of the population and an increase in the number of people below the poverty line from 9.9 million to 11.7 million. Poverty levels in rural and urban areas were respectively 56.9% and 49.6% in 2009. However poverty remains a predominately rural phenomenon with more than 70% of poor households located in rural areas and an even higher proportion dependent on agriculture for survival. All regions had a reduction of poverty between 1996/97 and 2002/03, and this continued in 2008/09, except for the central region in which poverty increased by 14.2 percentage points. Currently, the northern region has a lower incidence of poverty, with 46.5% of the population below the poverty line, than the central region with an incidence of poverty of 59.7% and the southern region with 56.9%.

Agriculture. Although agriculture contributes only 23% to GDP and represents just 20% of total exports, it is the main source of income for more than 70% of the population, provides employment for 80% of the total workforce and generates 80% of the income of rural households. The sector grew by an average annual 7.9% between 2003 and 2008, with much of the growth due to the expansion of the cultivated area and to favourable rainfall, while yields stagnated at levels between 30% and 60% of their potential. Smallholders represent the greater part of the country's farming sector, accounting for 95% of the national agricultural production. Low availability of modern inputs, lack of appropriate technologies and limited access to finance and other support services are the main determinants of low yields and low returns. Most smallholders still operate close to subsistence level and less than 20% regularly sell their products. High post-harvest losses, poor transport facilities, high transaction costs and difficult access to financial services are among the main constraints in this respect. Nevertheless new, encouraging trends are emerging. Between 2005 and 2009, the quantity of marketed agricultural products was multiplied by 2.4, with important increases for both food products and export crops. The number and diversity of market agents are increasing, from agribusinesses to farmers' associations through to small/medium-sized traders and larger trading companies. Public extension services are now present in all of the country's districts and efforts are under way to strengthen their capacities. Some agribusinesses provide extension services, access to inputs and, in some cases, credit. Furthermore, farmers' organizations are increasingly supplying advisory and marketing services to their members. The coverage of essential economic infrastructure is improving, with 90% of main roads considered passable (but substantial investment is still needed for feeder roads), a mobile communication network covering 75% of the country and 72% of district capitals that now have electricity. Despite these encouraging trends, Mozambique continues to experience food insecurity at the national and household levels. Except for maize and cassava, the country is a net importer of food staples (rice, wheat and potatoes) and less than 25% of smallholder families are able to cover their food needs throughout the year. With an annual 4% growth, the urban population is expected to generate increasing pressure on agricultural production. Meeting the growing domestic demand for food products and reducing the country's dependence on imports (an

even more stringent objective in the wake of the 2008 food price crisis) will require the competitiveness of domestic products to be developed, with an emphasis on reducing transaction costs and improving smallholders' access to production and business development services. Climate change represents another important challenge. Rainfall variability and the risk of flooding are expected to grow, especially in the south and central regions of the country. Adaptation measures are needed to build smallholder resilience to climate variability.

Rural livelihoods. The three southern provinces - Gaza, Inhambane and Maputo – are home to 4.3 million people (excluding Maputo city), who constitute 21% of the total country's population. The poverty rate for the southern region as a whole has been declining from 66.5% in 2002/2003 to 56.9% in 2008/2009. However evolution has been uneven across provinces: while poverty fell from 81% to 58% of the population in Inhambane and from 54% to 36% in Maputo city, it slightly increased in Gaza, whereas changes were marginal for the province of Maputo. In fact, the province of Maputo has remained the second poorest of the country, and it is immediately followed by Gaza and Inhambane. Extensive agriculture and animal husbandry constitute a primary or secondary source of income for about 70% of the population, but proximity to South Africa and to Maputo city provides for a wider set of economic opportunities, including wage labour, trade and remittances. *Smallholders* farm 90% of the cultivated area, except in the province of Maputo, where 25% of the land is cultivated by medium and larger farmers. Smallholders' plots average 1.6 ha in Maputo to 2.4 ha in Inhambane. They mostly produce for family consumption, with low yields and modest returns. Main crops are maize, cowpea, groundnuts and cassava, with rice, vegetables and sugar cane in the valleys and, along with fruit trees, on irrigated land. Erratic rainfall, drought and reliance on rain-fed land constitute one of the main obstacles to greater productivity. Additionally, and as for the rest of the country, low use of inputs (improved seed, pesticides, manure, animal drugs, feed) and mechanisation, lack of post-harvest infrastructure, poor state of roads, reduced access to market and pricing information and lack of adequate financial services further constrain potential income. Livestock ownership is higher in the southern region than in other parts of Mozambique: inland Maputo, Gaza and the west of Inhambane have large areas of pasture and smallholders traditionally raise goats and, to a lesser proportion, cattle. Livestock plays multiple roles in household livelihood strategies: draft power (because of the greater cattle density, the southern provinces have the largest proportion of farms using animal traction), manure, cash buffer, food and greater capacity to take part in social activities. *Medium and larger farmers* cultivate areas above 5 ha, produce throughout the year applying modern cultivation techniques and using intensification techniques (inputs, equipment) and labour, and have stable linkages to the market. They form less than 3% of the total number of farms (of which mostly medium farms), but they offer a potential for facilitating market access to smallholders. Emerging commercial farmers, mostly operating outside associations, are often also extension promoters.

Target value chains. Cassava, horticulture and ruminants are the three priority value chains selected to receive project support, based on pre-design value chain analysis. *Cassava* is widely farmed by smallholders in the three Southern provinces, and especially in the province of Inhambane. Consumed mostly fresh, it plays a crucial role in food security. While at the moment marketing is constrained by produce perishability, there is a large market potential for different types of processed products, either for direct consumption markets or to enter industrial production processes for beer (starch) and bread (flour) in substitution of imports. New high-yield varieties adapted to agro-ecological conditions in the South and multiplying productivity by 2.5 have just been released by local research. While there is therefore a good potential for cassava to become a profitable crop for smallholders, production systems are poorly geared towards meeting market requirements and the lack of processing facilities hampers both production and market development. *Horticulture* benefits from favourable agro-ecological conditions enabling production throughout the year, close markets in Maputo City, availability of irrigated schemes and permanent water. While it is an activity well suited to smallholders, there are also larger, emerging and commercial farmers that can be important drivers of value chain development. The lack of skills, poor maintenance of irrigated schemes, lack of access to finance, absence of cold storage and poor organisation of the value chain affect the competitiveness of Mozambican vegetables, but because of shorter supply lines and lower transport costs, the potential for import substitution is high. *Goats and cattle* production constitutes a major activity for small

producers' households in the inland, dry areas of the Southern region. It benefits from favourable agro-ecological conditions and ample of land available for grazing. Increased income stimulate a growing demand for meat that is partly met by growing imports and that opens up a developing market for beef and goat meat. While grazing ruminants represent a significant economic potential for poorer households, they are poorly tended, have high mortality rates, poor productivity and a reduced off-take, due to a low access to veterinary assistance and inputs, lack of infrastructure and little incentive to sell on poorly organised markets. Main challenges facing the three value chains are related to developing production volume and quality, strengthening the efficiency and profitability of farmers' organisations, improving access to sustainable and quality support services, and developing linkages to markets.

Rural women. As a result of the war and of male migration to South Africa, women constitute the majority of the population in the southern regions (around 57%) and they head more than a third of households. Despite such prominent position, women have higher poverty levels, lower literacy, lower access to services and limited opportunities for livelihood diversification. When they do gain access to land, plots are smaller – usually no larger than 1 hectare. Their mobility to access inputs and markets is severely restricted both by a lack of assets and by social custom. This is true for the livestock value chains (men remain the decision-makers over cattle and women's role in the goat value chain is limited to production and accessing spot markets), for vegetable production (irrigation management) and marketing, as well as for the cassava value chain (women take care of production and household processing but marketing and most of the semi-industrial processing is men's responsibility). Female-headed households are significantly disadvantaged in terms of both participation in and level of earnings from crop markets.

Agri-business. While the vast majority of producers are constituted of smallholders selling their produce to small rural traders, a modern agri-business sector is developing in the country, initially around cotton and tobacco concession holding companies, but increasingly for the production and the processing of other traditional cash crops such as grain and oilseeds, as well as in the industrial poultry sector. These companies provide new opportunities for small farmers to access market outlets as well as inputs, technical assistance and credit. While these new models are mostly developing in the more fertile areas of central and northern Mozambique, a range of opportunities have been identified in the three target value chains in the southern provinces, including with commercial farmers producing vegetables, cooperative-based livestock breeders and cassava processors.

Farmers' organisations. Only about 10% of rural households are members of a farmers' organisation. UNAC, the National Farmers' Union has 350 member associations over the three provinces, with unions or emerging unions in all the districts. Most farmer organisations deal with problems of poor management and organisation, limited focus on service provision, lack of knowledge with regard to post-harvest and marketing aspects, and lack of negotiation skills to develop partnerships. Associations remain the most common form for farmers' structuring, despite the fact that, according to the law on associations, these are not allowed to make any profit. The 2009 law on cooperatives provides a more appropriate legal framework for profit-making activities, but farmers lack the management capacities required under this status.

Agriculture support services. *Extension services* are available to a minority of small and medium farmers (from 4% in Inhambane to 7% in Maputo province). District-based public extension lacks staff and financial resources and is centred on the production of food crops, leaving out critical elements such as cash crops, marketing, management and farmers' organisation. Farmers' Field Schools (FFS), which were introduced in 2009, showed very positive results and IFAD-financed National Agricultural Extension Programme (PRONEA) is due to finance their expansion throughout the country. In line with the Agricultural Extension Master Plan (2007-2016), which supports a pluralist approach building on public, private and associative service providers, new actors are gradually providing advisory services to farmers, including input suppliers, farmers' associations/unions, larger farmers and private service providers. Furthermore, and in accordance with the National Agricultural Development Plan, the Ministry of Agriculture (CEPAGRI) as well as

UNAC are planning to develop agriculture service centres, owned by farmers and/or the private sector, to provide advisory services, inputs and mechanisation to smallholders. *Improved inputs* are rarely used because of their cost and a limited outreach of input dealers. Most inputs are imported, but internal demand is low due to lack of knowledge about their use, limited supply and the inadequate purchasing power of family sector farmers. *Post-harvest* management and handling are minimal. Lack of knowledge on quality requirements and product preparation, of adequate infrastructure (cool storage for vegetables, pens and loading ramps for cattle, well maintained slaughterhouses) and of appropriate transport affect overall quality of products as well as farmers' capacity to add value to their produce, and, in the case of horticulture, generate high losses and price instability.

Financial services. Only 4.3% of the population have access to formal financial services. Commercial banks charge interest rates up to 30% and applicable conditions (collateral, fees, credit history...) that de facto exclude smallholders from accessing credit. With the exception of Maputo province, microfinance institutions (MFI) have a more limited outreach in rural districts. They have very small portfolios and limited resources, charge interest rates up to 130% and most of them have low recovery rates and poor management. Neither commercial banks nor MFIs offer long-term financing for costly equipment such as tractors or processing units. So far donors have addressed the situation by developing complementing financial instruments with terms and conditions that are appropriate for agriculture, including IFAD (matching grants and risk mitigation fund financed by the Rural Markets Promotion Programme (PROMER) and the Artisanal Fisheries Promotion Project (ProPESCA), innovation fund for women's enterprise funded by ProPESCA). The catalytic fund of the Beira Corridor Agriculture Growth (BAGC) constitutes the first attempt to develop a new instrument covering value chain financing through a diversity of instruments, including equity financing, short and medium term credit, and matching grants.

PNDA and value chain strategies. The goal of the draft National Programme for Agribusiness Development (2011-2020) is to increase the competitiveness and added value of agriculture products, by strengthening public-private partnerships and resource mobilisation for the development of priority agribusiness initiatives, including farmers' cooperatives offering a range of services on a profitable basis, outgrowers' schemes involving small and medium farmers, and agribusiness service centres. Plans also include the creation of a specialised institution to manage public or donors' financing, including credit lines, guarantee funds, investment funds, venture capital, crop insurance and matching grants to contribute to the financing of investments of public utility (warehouses, irrigation, agricultural equipment, R&D, demonstration centres...) in the framework of public-private partnerships. Cassava, vegetables and livestock are part of the strategic products promoted by PNDA. National strategies are available for all of these three value chains and, together with the National Irrigation Strategy (2010), they underlie the project strategy.

F. Donor support

Agribusiness. Several donors are involved in promoting market-oriented agriculture and the development of inclusive agri-business, however mostly in the northern and central regions. The IFAD-financed PROMER builds on the successful experience of the *Programa de Apoio aos Mercados Agrícolas* (PAMA). It aims at promoting smallholders' access to markets by facilitating their linkages with agribusinesses and by building the capacity of market intermediaries. USAID-funded *AgriFuturo* aims at increasing the competitiveness of nine target value chains, by supporting outgrowers' schemes as well as farmers' cooperatives that can support production and marketing through the financing of capacity building, research, bridging to financial institutions and provision of seed capital grants for farming and processing equipment. The BAGC financed by DFID, the Netherlands and Norway, is a public-private partnership designed to promote agricultural enterprises that incorporate smallholders and emerging commercial farmers. The BAGC Partnership (registered as an association) is a coordinating and overseeing body composed of government institutions (including CEPAGRI), agribusiness companies and farmers' organisations, whereas the BAGC Catalytic Fund (incorporated as an investment company) is a social venture capital fund that incubates

start-up farming and agri-processing businesses until they can deliver social impact and attract third-party financing on commercial terms. The Fund provides credit and equity financing on a cost-recovery basis, and is complemented by a Smallholder Support Facility that supplies grant financing to innovative models that integrate smallholders into commercial agriculture. Finally, the *Sustainable Trade Academy* is financed by the Netherlands and aims at developing a sustainable trade curriculum at the Chibuto School of Business and Entrepreneurship (Gaza), to deliver graduates who meet the demands of the growing commercial agricultural sector.

Horticulture and irrigation. The *Trilateral Project for Food Security*, co-financed by USAID and the Brazilian government and implemented by a group of Mozambican, American and Brazilian research institutions, includes a component that will promote integrated models for the strengthening of production, post-harvest and processing systems in horticulture value chains serving the city of Maputo. In the field of irrigation, the African Development Bank (AfDB) is planning to finance two separate projects in the province of Gaza. The *Baixo Limpopo Agricultural Climate Resilience Infrastructure Project* will develop 1,000 ha of irrigated land and improve drainage in part of the existing scheme. The *Climate Resilience through Sustainable Land and Water Resources Management Project* will finance mini irrigation and drainage schemes as well as the construction of water harvesting structures in the arid zones of the province. Contacts have been initiated with AfDB to explore possibilities of entering into parallel co-financing.

Livestock. IFAD finances a three year grant project (2010-2013) implemented by the International Livestock Research Institute (ILRI) to pilot innovative models strengthening goat value chains in India and in Mozambique to the benefit of women and other vulnerable groups. The project, known as ImGoats, is implemented in three districts of the province of Inhambane and plans for setting up Producer Hubs delivering demand-led packages of support services including on production, natural resource management, business development, marketing and value addition. It also supports Innovation Platforms to develop linkages between value chain stakeholders.

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE
MAPUTO AND LIMPOPO CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 2: POVERTY, TARGETING AND GENDER

ANNEX 2: POVERTY, TARGETING AND GENDER

TABLE OF CONTENTS

<u>ABBREVIATIONS AND ACRONYMS</u>	ii
<u>I. THE POVERTY CONTEXT</u>	1
<u>A. The National Poverty Context</u>	1
<u>B. Resources and Livelihood Strategies of the Poor</u>	2
<u>C. The Institutional Context</u>	11
<u>II. The Targeting rationale and Target Group</u>	14
<u>A. Value Chain Producers</u>	14
<u>B. Targeting Rationale and Target Group</u>	16
<u>III. Project Targeting Mechanisms</u>	20
<u>A. Geographic Targeting</u>	20
<u>B. Targeting and Gender Approach</u>	21

ABBREVIATIONS AND ACRONYMS

AD	<i>Administração Distrital</i>
AE	Adult Equivalent
CAADP	Comprehensive Africa Agricultural Development Programme
CAP	<i>Censo Agro-Pecuario</i>
CLUSA	Cooperative League of the USA (American NGO)
DNEA	National Department of Extension
DPA	Provincial Directorate for Agriculture
DNSA	National Directorate of Agriculture Services
EU	European Union
FAO	Food and Agricultural Organisation
FDD	District Development Fund (<i>Fundo de Desenvolvimento Distrital</i>)
FO	Farmers' Organisation
GALS	Gender Action Learning System
IAF	<i>Inquérito ao Orçamento Familiar</i>
IIAM	Institute of Agricultural Research of Mozambique
ILRI	International Livestock Research Institute
INE	National Institute of Statistics
LOLE	Law on Local Branches of the State (<i>Lei dos Órgãos Locais do Estado</i>)
LSP	Lead Service Provider
M&E	Monitoring and Evaluation
MINAG	Ministry of Agriculture
MPD	Ministry of Planning and Development (<i>Ministério do Plano e Desenvolvimento</i>)
MTR	Mid-Term Review
MZN	Meticais
NEPAD	New Economic Partnership for African Development
NGO	Non Governmental Organization
OLIPA-ODES	National NGO supporting Rural Entrepreneurial Associations
PARP	Poverty Reduction Action Plan,
PEDSA	Strategic Plan for the Development of the Agricultural Sector
PFI	Participating Financial Institution
PMT	Programme Management Team
PROAGRI	Agricultural Sector Programme (1999-2011)
SETSAN	<i>Secretariado Técnico de Segurança Alimentar e Nutricional</i> (Technical Secretariat for Food Security)
SIMA	Agricultural Marketing Information System
SISTAFE	<i>Sistema de Administração e Finanças do Estado</i>
SNV	Dutch Development Organization NGO
TIA	<i>Trabalho de Inquerito Agrícola</i>
T&V	Training and Visit Extension Model
UNAC	National Smallholders Union
VC DAP	Value Chain Development Action Plan
WFP	World Food Program
WUA	Water User Association

THE POVERTY CONTEXT

1. The National Poverty Context

Mozambique has experienced strong economic growth rates of over 7% for the last five years. The composition of GDP remained relatively stable between 2001–09 with 42.9% contributed by services, 25.0% by agriculture, 14.1% by manufacturing and 18.1% by others. However overall the annual growth rate of the economy at 2.1% is below the current population growth rate of 2.8%. Poverty fell significantly from 71.6% to 54.1% between the two national poverty assessments conducted in 1997 and 2003. However Mozambique remains one of the poorest countries in the world, with a GDP per capita of 428 USD and a rank of 165 out of 169 countries on the Human Development Index (HDI) of 2010. The national poverty assessment of 2009 estimates the incidence of poverty at 54.7% of the population and an increase in the number of people below the poverty line from 9.9 million to 11.7 million. Poverty levels in rural and urban areas were respectively 56.9% and 49.6% in 2009. However poverty remains a predominately rural phenomenon with more than 70% of poor households located in rural areas and an even higher proportion dependent on agriculture for survival.

All regions had a reduction of poverty between 1996/97 and 2002/03, and this continued in 2008/09, except for the central region in which poverty increased by 14.2 percentage points. Currently, the northern region has a lower incidence of poverty, with 46.5% of the population below the poverty line, than the central region with an incidence of poverty of 59.7% and the southern region with 56.9%. The southern region has two of the three poorest provinces in Mozambique: Maputo with poverty rates of 67.5% and Gaza with poverty rates of 62.5%. The results for the southern region as a whole are distorted by Maputo City, which has a poverty rate of 36.2%.

Table 1: Incidence of Poverty, by Province, Urban-Rural and National: 1996-2009

Province	Incidence of Poverty		
	1996-97	2002-03	2008-09
Niassa	70.6	52.1	31.9
Cabo Delgado	57.4	63.2	37.4
Nampula	68.9	52.6	54.7
Zambézia	68.1	44.6	70.5
Tete	82.3	59.8	42.0
Manica	62.6	43.6	55.1
Sofala	87.9	36.1	58.0
Inhambane	82.6	80.7	57.9
Gaza	64.6	60.1	62.5
Maputo Province	65.6	69.3	67.5
Maputo City	47.8	53.6	36.2
Urban	62.0	51.5	49.6
Rural	71.3	55.3	56.9
North	66.3	55.3	46.5
Centre	73.8	45.5	59.7
South	65.8	66.5	56.9
National	69.4	54.1	54.7

Source: MPD, 2010

Evidence from poverty analysis shows that there has been some improvement in many non-monetary human development indicators, particularly education, housing, access to public services and electricity. The HDI⁸ improved from 0.398 in 2001 to 0.481 in 2010. However life expectancy at birth remains low at 52 years, adult literacy is 40% for women and 69% for men, the infant mortality rate is 76 per 1000 live births, 11.5% of adults between 15-49 have HIV/AIDS⁹, 420,000 children have been orphaned as a result of the epidemic and 46% of children under the age of 5 suffer from chronic malnutrition.

Analysis on the stagnant poverty line show that both insecurity and differentiation have been increasing and that the rural population can be better divided into three groups: those who remained ‘better-off’ throughout the three household budgets (7% of the population); the 52% who stayed below the poverty line; and the remaining 41% whose living standards are very insecure and who move in and out of poverty. In addition, inequality is increasing with the lowest quintile accounting for only 5.4% of income compared to 53% for the highest income quintile. For the poorest 60% of the population, nearly half of children are malnourished and one-fifth of children die before their fifth birthday.

There is a broad consensus on the factors behind the slow progress made in poverty reduction and human development since 2003. These include the very slow growth rates in agriculture, natural shocks and hazards and the declining terms of trade due to international food and fuel prices. The agricultural sector provides employment for 80% of the total workforce and generates 80% of the income of rural households. Other broadly accepted explanations for the lack of progress in poverty reduction include investments that are directed towards capital intensive projects with limited impact on employment, limited access to finance, an underdeveloped private sector, an inefficient bureaucracy, limited human capacity and poor infrastructure. Finally, most poor people do not have the assets and access to use the present market centred economic model to use private resources to pull themselves out of poverty.

2. Resources And Livelihood Strategies Of The Poor

The high rates of poverty, chronic food insecurity, high rates of HIV/AIDs, high numbers of female-headed households, combined with the potential for market expansion in selected value chains and the relatively low donor presence were amongst the factors identified in the COSOP as justifying an investment in the southern region. This section therefore concentrates, where data permits, on the specific characteristics, resources and livelihood strategies of the rural poor in the southern region and the identification of the resources and livelihood strategies of project target groups.

In the southern region smallholder¹⁰ households number 267,000 (Inhambane), 211,000 (Gaza) and 148,000 (Maputo Province), farming an average of 2.4 ha in Inhambane, 2.8 ha in Gaza and 1.6 ha in Maputo Province. The southern region is mostly dry with semi-arid pockets along the eastern border and a wetter coastal strip. In the valleys mainly rice, vegetables, sweet potato, some maize and in uplands cashew, cassava, groundnuts. Some chicken are kept, a few goats and some households have cattle (especially away from the coast). Cassava (18.7%), maize (13.6%), vegetables (12.8%) and fruit (12%) are important crops, while forestry (11%) and fisheries (8.6%) also make important contributions to regional agricultural GDP. The region is prone to drought, has a high population density, contributes only 22.5% to national agricultural GDP, is dependent on food imports and vulnerable to food price fluctuations. Extensive agriculture and animal husbandry prevail, complemented by off-farm activities and male migration to South Africa.

⁸ Combines life expectancy, education and GDP.

⁹ UNDP Economic and Policy Analysis Unit 2011.

¹⁰ A smallholder household owns a smallholding for agriculture as their main source of livelihood. The CAP classifies a household as smallholders if they have less than 10 rain-fed ha, less than 10 cows less than 50 goats and less than 2000 chickens. Thus officially, 99% of farmers in Mozambique are smallholders.

The smallholder sector, also called the family sector, is subsistence oriented with the majority of rural household income derived from the value of food production retained by households. The extension of agriculture brought gains to all rural producers between 1996 and 2002 and is reflected in the significant poverty reduction during this period (see table 1). Since 2002 this broad based agriculture sector driven poverty reduction in the southern provinces has slowed with a decline in the caloric production per capita in the period up to 2008. There has been limited progress in the structural shift of the economy towards greater market orientation, agricultural diversification or participation in higher-value farm activities¹¹. Progress in poverty reduction has been uneven across the regions; whilst Inhambane saw a substantial reduction in poverty, Gaza and Maputo Province have seen only small improvements. However total poverty reduction in the southern region (66.5% to 56.9%) in the period 2002-3 to 2008-9 has to be assessed in the context of the annual population growth rate of 2.8% and growing inequality.

Table 2: Poverty Movements in the Southern Region

	Poverty Headcount		Poverty Gap		Poverty Gap Squared	
	2002-3	2008-9	2002-3	2008-9	2002-3	2008-9
National	54.1	54.7	20.5	21.2	10.3	11.0
Southern	66.5	56.9	29.1	22.1	16.0	11.4
Inhambane	80.7	57.9	42.2	20.9	26.0	10.1
Gaza	60.1	62.5	20.6	28.3	9.3	16.7
Maputo P	69.3	67.5	31.3	25.6	17.2	12.5

Source: MPD/DNEAP (2010)

Preliminary results from the TIA 2008 demonstrate the rapid increase in inequality from 2002 to 2008. The mean total income increased while the median total income fell — in other words, most people became poorer but the best off became richer. The total income of the richest 10% is 44 times that of the poorest 10%. This is a striking result, especially as the TIA is an agricultural survey and therefore excludes any bias from urban areas; table 4 provides the breakdown in quintiles for 2008.

Table 3: Mean and Median Incomes by Quintiles (per adult equivalent)

2008 Income Group	Cash Income*				Total Income			
	MZN**		USD		MTN		USD	
	Mean	Median	Mean	Median	Mean	Median	Mean	Median
Poorest	230		10		1218	1058	51	44
2	938	190	39	8	3816	3672	159	153
3	2917	1100	122	46	8082	8098	337	337
4	8254	4500	344	188	17280	16685	720	695
Best Off	50453	27960	2102	1165	92289	46347	3845	1931

Source: Hanlon (2010) based on TIA 2008 dataset.

Note: Total income is cash income + imputed value of production consumed. \$1 = MZN 24

The structural characteristics of the southern region differ significantly from the rest of Mozambique; vulnerability to drought, urbanisation and non-farm opportunities in migration to South Africa and mining have pushed smallholders from all quintiles into greater livelihood diversification. The period between 2002 and 2008 saw a shift in the importance of agriculture for all income quintiles with an increase in the cropped area between 2002 and 2005 and a decline in the cropped area in the period leading up to 2008. This decline was greater among the lower quintiles of per capita cash income. The TIA 2008 shows that whilst rural households in the poorest quintiles received increasingly less cash income from agriculture, participation in higher value farm activities and cash earnings from agriculture for households in the top two quintiles increased significantly. The period between 2002 and 2008 also saw substantial diversification in income sources and an increase in both agricultural and non-agricultural income in all quintiles, as shown in table 3.

¹¹ MPD/DNEAP (2010) Third National Poverty Assessment

Table 4: Type and Importance of Economic Activities (%)

Type of Economic Activity	Inhambane	Gaza	Maputo P
Paid labour	16.6	21.2	19.3
Self-employment	20.1	12.0	14.4
Households with remittance in last year	35.1	41	25
Agriculture as primary income source	45.8	47.2	42.7
Agricultural as secondary income source	31.3	24.2	29.8
Do not practice agriculture	22.9	28.5	27.5

Source: TIA 2008

Table 5 provides an overview of household level access to agricultural technology and services in the southern region. The table shows the overwhelming prevalence of the subsistence/traditional orientation of agriculture and just how much remains to be done to support these households to produce for the market¹².

Table 5: Household Access to Technology and Services (%)

Type of Technology/Service	Inhambane	Gaza	Maputo P	National
Animal traction higher in the south	45.7	44.6	26.6	10.9
Hire part-time manual labour	22	20.6	20.6	18.6
Members of Association	9.8	7.8	12.3	7.2
Members that attend meetings in last 12 months	24	15	46	50.3
Use irrigation	4.9	6.3	9.9	3.1
Use manure	5.1	1.5	8.5	2.0
Use chemicals	0.6	2.3	6.2	3.3
Use pesticides	0.8	1.4	4.2	2.9
Use tractors	0.2	4.3	15.9	1.4
Have accessed credit	3.1	5.7	0.79	2.6
Have received extension support.	4.6	4.0	6.8	8.3
Have received price information via radio	14.2	16.0	10.5	21.7
Mean share of crop production in net household income*	64.7	38.8	35.8	63.1
Mean share of food crop sales in net household income*	2.2	2.2	2.2	5.7
Mean share of high value crops in net household income*	2.7	1.6	3.5	4.8
Mean share of livestock sales in net household income*	2.0	4.4	2.7	2.4

Source: TIA 2008. Items with * are from TIA 2005 and will be updated once full dataset is accessed during final design.

Access to Private Assets and Resources

Land. Land size is positively correlated with increased agricultural income in the south; an increase of a hectare of land has been associated with a 10% increase in probability of being less poor¹³. Whilst poor households do not identify access to land as a constraint to agricultural production, increased land size is often associated with access to other factors of production such as labour, livestock and some working capital, which are pivotal to differentiating households in the wealthier quintiles. In other words, access to land (with average land sizes of 2.2 ha in the southern region and additional

¹² The data in Mozambique is not robust. Fortunately there has been a substantial effort to cross-check data against numerous indicators and the summary picture of poverty trends is accurate. However, in terms of detail, for example, the CAP (2011) provides the following figures for tractor use in the provinces; Inhambane 0.57%; Gaza 22.75%; Maputo Province 40.33%. The TIA 2008 figures were used as they seem more plausible.

¹³ Cunguara, B (2008) Pathways Out of Poverty in Rural Mozambique, Thesis submitted to MSU.

land available) is not in itself an obstacle to value chain entry but access to the factors of production to work the land do present an obstacle.

Livestock. Livestock ownership in the southern provinces has increased rapidly in the last ten years and plays multiple roles in household livelihood strategies; draft power, manure, a means for savings/investment, insurance, cash, a source of food and greater capacity to take part in social and cultural activities. Livestock ownership is positively correlated with reduced poverty mainly because it provides animal traction and an insurance and a cash buffer that enable rural households to diversify their production, as well as enter into higher non-farm activities. Livestock ownership is higher in the southern region than in other parts of Mozambique (48.8% of the national cattle herd; 23.9% of national goat herd). Table 6 indicates the distribution among the three provinces. The rapid growth in stock numbers in the southern region has contributed to a much higher adoption of animal traction compared to the national picture of 10.9%, with an estimated outreach of 7 households per livestock¹⁴.

Table 6: Profile of Livestock Ownership and Use Characteristics

Household Ownership of Livestock	Inhambane	Gaza	Maputo P
Households with cattle	14.0%	22.7%	12.1%
Households with goats	30.3%	35.4%	29.2%
Households using animal traction	45.7%	44.6%	26.6%

Source: TIA 2008

At a sub-provincial level the role that livestock play in the household economy of different wealth groups is more complex and not captured in large surveys. There are semi-arid mixed systems in the interiors, particularly in Gaza and Inhambane, where livestock numbers are much higher for all households: 14 cattle equivalent units and 13 goats on average¹⁵. In these semi-arid areas livestock contribute 80% of the cash income from agriculture and are the foundation of household livelihood strategies, as well as the main source of food security. Income from livestock sales is relatively more important to poor households and whilst all households listed draft power and insurance as the two main reasons for keeping cattle, it was more common for the poor to have a commercial orientation. These semi-arid districts are amongst the poorest in the southern region and livestock are the only source of income and means by which poor households can enter an agricultural value chain. Indeed as noted in a recent assessment, the arid regions of the south and south-western part of Gaza province are suitable only for livestock¹⁶.

Non-farm activities. There has been a rapid diversification into non-farm activities in the last ten years, as table 4 above shows. Households in the top quintile earned 53 times more from non-farm sources than those in the lowest quintile and the addition of a salaried member to a household increases the probability of moving out of poverty by 400%, partly because non-poor households are able to invest these resources into more diversified and higher return farm activities. In contrast, households in the lower quintiles participate in nonfarm activities partly as a drought coping mechanism.¹⁷ Gaza, which had a drought in 2002 and 2005 saw an increase in non-farm participation from 66 to 84% and an increase in the non-farm share from 33 to 52%. The main non-farm activities of the poor are: (i) unskilled agricultural and non-agricultural wage labour; (ii) extraction of low value flora and fauna; (iii) charcoal extraction and (iv) trade, particularly of farm production.

Whilst diversification into non-farm activities and an increase in wage labour on-farms is usually indicative of a structural shift in the rural economy and a greater commercial orientation, this is not the case in the southern provinces. Poor households are selling their labour, as well as own crop

¹⁴ Cunguara, B (2008) *ibid*.

¹⁵ These insights come from Radeny, M. and N.Johnson (2011) Livestock, Livelihoods and Market Participation in Rural Semi-Arid Mozambique: LiLi Markets Baseline Survey Results on Livelihoods, Income and Food Consumption as well as the fieldwork of the livestock consultants during the design mission.

¹⁶ FAO/WFP (2010) Special Report on Food and Crop Security

¹⁷ Cunguara (2011) *ibid*

production, in pursuit of immediate cash and are not able to spend as much time on their own fields during critical periods (as they would if rural credit were available). In addition, food price instability in the southern region encourages food deficit households to devote scarce resources to staple food production to ensure their livelihoods, limiting farm diversification and the increased incomes that typically come with it. Many of these households constitute the economically active poor (see below on vulnerable households) but they are caught in a cash trap whereby their failure to improve crop productivity and household food security prevents access to both higher return farm and non-farm activities.

Access to Technology and Public Goods

Irrigated Land. In the southern region access to irrigated land (at an average of 7% of households) is higher than the national average of 3%. More than 90% of smallholders with access to irrigation farm plots of less than 1 ha, but even plots of 0.2 ha can provide improved returns. Probably the biggest barrier to increased income from irrigated land is that only 30% of the total irrigation area is considered to be operational.

Extension and Agricultural Technology. Recent studies have demonstrated that the impact of agricultural extension on farm income is positive and that the receipt of extension advice increases farm incomes by 12%.¹⁸ Most extension contacts are about crop production (95%), but 33% of respondents also had contacts on animal production and 22% on marketing issues.¹⁹ However the number of people reached by extension has declined between the two agricultural surveys from 15% in 2005 to 9% in 2008. Households receiving extension support in the project provinces include 4.6% in Inhambane, 4.0% in Gaza and 6.8% in Maputo. In addition, although the receipt of extension services increases farm incomes it may not have a significant impact on poverty reduction because extension visits tend to target less poor and mainly male-headed households, thus increasing income inequality.²⁰ Rather than crafting resource-poor technologies, extension services tend to target wealthier households who are relatively more likely to adopt the existing technologies. The socio-economic and farming system diversity, relatively low population density and low effective demand due to low education levels combine to create significant challenges for extension and technology distribution. The situation in the south follows national trends in the period between 2002 and 2008: 38.5% fewer farms receive extension; use of pesticides is down 44%; use of irrigation down 19% and receipt of credit down 10%. The only indicator that has increased is that for chemical fertilizer which has increased by 7.9%. (see section C). The uptake of technology and extension services is also skewed at the national level where the difference between uptake in the lowest and top quintiles is: 0.75% and 10.25% for chemical fertilisers; 4.93% and 12.20% for extension and 28.93% and 44.20% for receipt of price information.²¹

The receipt of agricultural price and market information via radio has a far greater outreach than extension (Inhambane 14.2%; Gaza 16%, Maputo Province 10.5%) and has been linked with poverty reduction in TIA 2008.

Whilst agricultural technologies and advice have been shown to support poverty reduction they often only have a marginal impact because of poor market infrastructure, a lack of financial services, cyclical drought and, as explored above, a lack of private assets for agricultural investment. In addition there has been a failure to develop technologies and extension approaches appropriate for resource poor farmers.²² This conclusion was also reached in the recent PRONEA mid-term review, which notes that there is a great variability in demand for agricultural services and that ‘in order to achieve pro-poor rural growth it is essential to address explicitly the conditions of high-risk, low

¹⁸ Cunguara, B., Moder, K., 2011.

¹⁹ TIA(2008).

²⁰ Mather, D., B. Cunguara, and D. Boughton (2008).

²¹ All figures from Cunguara, B. and J. Hanlon (2011).

²² Mather (2009) and Berg and Jiggins (2007).

productivity and low capital endowments of poor farmers'.²³ **In sum, the evidence suggests that the successful promotion of the use of improved technologies will only be effective if parallel investments are made in market infrastructure and emphasis is placed on supporting the whole agricultural system, not production alone, for example, through a value chain approach.**

Vulnerability and Human Capital

The main characteristic of the very poor households is that they are more likely to have an elderly head, a chronically ill member, have experienced the recent death of a member, have pregnant and lactating mothers, host orphans or are female-headed. As the following section will explore further, the number of female-headed households exceeds the national average in the southern region. The high incidence of HIV/AIDS (Inhambane 12.6%, Gaza 25.1%, Maputo Province 19.8%) further increases vulnerability. Access to education has increased rapidly in the period between 2002 and 2008 but remains lower in the lowest quintiles, particularly for girls. Even a little education increases consumption, with rising returns.

Household human capital deficits in education, health and labour, drought prone agriculture and the food deficit in the southern region are key explanations for poverty. The southern provinces include a large number of the food insecure population in Mozambique. The 2010 Special Report on Food Security found the number of food insecure at risk to be Inhambane (47 720), Gaza (30 000), Maputo Province (22 000, respectively 4%, 2.8% and 3%). Households in Gaza also had the worst food consumption with only 45% achieving acceptable levels and 17% with poor consumption. The arid and semi-arid interior of Gaza (especially the lowlands and Chigubo) and Inhambane and the northern parts of Maputo are usually the most affected, since food reserves at the household level are often limited as a result of partial or complete failure of maize production and limited or no prospect for second cropping and alternative source of food or income in these areas.²⁴ Although cassava and sweet potatoes may compensate for the lack of cereals in the arid and semi arid areas affected by crop failure, for those who will not benefit from a second agricultural season, the market is then the primary source of food. Poor households facing regular food insecurity will once more not produce enough grain for their own consumption and will not earn enough money from cash crops or labour to purchase sufficient food at the markets. The livelihood strategies of households with limited human capital and chronic food insecurity is to rely on casual labour (43%), a combination of trade and food crop production (41%) and a combination of food crop production and sales (39%)²⁵. Table 7 provides an overview of coping strategies of vulnerable households noted during the World Bank Poverty and Vulnerability Assessment Survey:

Table 7: Coping Strategies in Communities

<u>Coping Strategy</u>	<u>Social Group</u>
Casual day labour	All, but predominantly men and male youth
Collection of wild fruits, roots, and vegetables	Women and children
Collection, preparation, sale of firewood and charcoal	Male youth
Relying on remittances	All
Selling, consuming, and drawing down existing household assets	All
Borrowing from friends and family	All
Begging	All
Early marriage	Young girls
Prostitution	Women, youth, girls
Social Networks	All (limited to those with ability to reciprocate)

²³ PRONEA Mid Term Review, Working Paper 1.

²⁴ FAO/WFP (2010) Special Report Crop and Food Security Mission to Mozambique.

²⁵ FAO/WFP (2010) *ibid.*

Source: World Bank 2007

Gender Issues

The female population in the provinces is in the majority (Inhambane 57%; Gaza 57%; Maputo Province 58%) and a large number of households are female-headed (Inhambane 36%; Gaza 42%; Maputo Province 31%). The main explanation for high numbers of female-headed households in the southern region is male outmigration for labour, although high numbers of widows, abandonment and divorce are further explanations. The gender roles constrain women's options, mobility and access to the means of production (particularly land and livestock) with the result that women have higher poverty levels and limited opportunities for livelihood diversification. Women are less literate, are not well represented in formal associations and experience lower technology adoption rates than men. Whilst women do have a tradition of informal collective action most of this is focused on the production of food staples. In the southern part of the country, a patrilineal system prevails amongst the dominating ethnic groups (*Rongas, Changanas, Chopes and Bitongas*) whereby a woman's access to land depends on her husband and male relatives. When women do gain access to land, plots are smaller – usually no larger than 1 hectare. Although the law does not provide for the traditional payment of a bride price, known as *lobolo*, it is accepted and gives husbands custody of their wives who have no say in the administration of assets and cannot claim their right to access land. Moreover, women are confined in the amount of labour they can dedicate to agriculture because of heavy household workloads and in those households where men have migrated the lack of male labour for traditional male tasks. In the southern region the following is the traditional gender division of labour: male teenagers and men often work in South Africa, construct/maintain houses, prepare land for agriculture, irrigate, herd livestock and trade. Women are responsible for all domestic tasks as well as hoeing, seeding, weeding and harvesting.

Gender inequities are also notable in education, where young girls have higher non-attendance and drop-out rates because of gender stereotypes and roles. The ratio girls/boys attending school is 0.89 with about 47% of women between 15 and 24 literate. The low education level of women is one explanation for early marriages and a lack of economic independence and as numerous studies have shown, improving women's education level is a significant factor in household welfare and children of educated mothers are far more likely to promote education of their own daughters.

In terms of involvement in particular value chains, women's governance is particularly limited in the red meat value chain; women usually do not own cattle (although the semi-arid areas of Gaza is an exception) and although they may own goats they have limited decision-making power over sales. Given the high numbers of female-headed households and the importance of goats in particular as a source of cash increasing women's governance in the red meat value chain has been noted as a key challenge by donors, amongst them IFAD and ILRI²⁶. Women are present in the cassava and horticulture value chain at all levels, as producers, traders and in limited numbers as processors. In these value chains the division of labour described above applies, but given the number of female-headed households women also undertake male tasks, particularly that of trading. The horticulture value chain in particular involves large numbers of women at all levels, with the exception of spraying and irrigating, which is mainly undertaken by male youths. Section II.A has some further comments on how gender affects access and returns from the project value chains.

The mobility of women to access inputs and markets is severely restricted both by a lack of assets (cash, transport, bicycle etc) and by social custom. Male-headed households market a larger share of their production, notably maize, rice and groundnuts whilst female-headed households are more likely to market horticultural crops. In general female-headed households are significantly disadvantaged in terms of both participation in and level of earnings from crop markets.

²⁶ This is a cornerstone of the rationale for the IMGoats projects funded by IFAD and managed by ILRI.

Emergent Commercial Farmers And Commercial Farmers

There is no accepted definition of who the emergent commercial farmer is, though numerous definitions have been provided that define the land size, assets, resources and strategies of the emergent farmers. In general, they can be distinguished from commercial farmers by the size of their landholdings, by a larger area planted for household food consumption, by a livelihood strategy that combines commercial farming with food security and other income sources and by limited knowledge and non-local perspective on the operation of markets and value chains.

The emergent commercial farmers and commercial farmers can be broadly aligned with the ‘medium’ and ‘large’ categorization used by the CAP and TIA. The TIA categorization is of <5 ha as small-scale, 5-10 ha as medium-scale and >10 ha as large-scale. According to the CAP definition, table 8 presents the distribution of farmers by size category as defined in the CAP. The CAP identifies *average* farm sizes for farming households (at a national level) as 1.4 ha for small, 5.1 ha for medium and 87.5 ha for large farmers. However the brackets proposed in the CAP to define small, medium and large farmers are respectively up to 10 ha; up to 100 ha and above 100 ha. Table 8 presents a breakdown of farmers according to the latest CAP.

Table 8: Small, Medium and Large-Scale Farmers

	Small	Medium	Large
Inhambane	267,322	1919	65
Gaza	211,067	5516	153
Maputo Province	147,725	2729	255

Source: Censo Agro-Pecuario, 2011

Emerging commercial farmers are likely to belong to the two upper wealth quintiles and whilst they are partly commercial it is access to non-farm incomes, both salaried labour and self-employment, that lifts them into the upper wealth quintiles; incomes are volatile but the best off in this group are better off than they were in 2002. The focus on assets alone is not useful as the value of these will depend both on the crops, capacity and strategic orientation of the farmer. The following criteria have been suggested as a broad guideline for emergent farmer identification:

- Has an area above 5 ha and regularly produces a surplus for the market.
- Farming might not be their main and/or only activity but they could secure a reasonable living based on the farming activities and are trying to increase the financial returns from agriculture.
- Has some knowledge of the market and the value chain and sells to wholesalers or directly to shops.
- Is mainly geared to cash crops, horticulture and livestock.
- Employs people, either formally or informally.
- May have equipment (pumps, tractor, truck), definitely uses animal traction.
- Usuably has a DUAT.
- Might have experience in farming but will also learn by trial and error.
- Does not need the services currently on offer (such as public extension, traditional NGO assistance,) but mostly needs market information, value chain development services (branding, grading, access to higher-end markets) and access to finance.

Emerging commercial farmers have become a focus of interest for agricultural interventions because of their potential for creating a linkage between public and private sector intermediaries and poor smallholders to boost agricultural development. Because they face many of the constraints of poorer smallholders (ie. access to infrastructure, technology, services, balancing cash and food cropping) albeit to a lesser degree, they are able to play catalytic roles as lead farmers. In addition, unlike commercial farmers, emergent commercial farmers usually remain socially and culturally located within the community and therefore have a stake in local institution building and investments with a longer time horizon.

Summary

This section has examined the characteristics of rural smallholders and different income groups in the project target area and the potential and constraints they face in developing livelihood strategies based on agricultural intensification. Arguably almost all smallholders in the drought prone southern provinces have a high degree of vulnerability due to their dependence on rain-fed agriculture. The fact that the poverty line has fluctuated so significantly demonstrates the limited security of the non-poor; the droughts of 2002 and 2005 pushed many households below the poverty line. However there are some differences in the livelihood strategies of different wealth and income groups that will have an impact on the project targeting strategy. These are summarised briefly here, and laid out in more detail in Attachment 1: (i) whilst land is not in itself a constraint, access to private assets and factors of production, particularly labour and livestock, are an important determinant of capacity to generate income from agriculture; (ii) household human capital characteristics, particularly age, gender and health, are closely related to poverty levels and capacity to derive income from agriculture; (iii) non-farm income has become an increasingly important part of household income but in the upper wealth quintiles this is a permanent and lucrative part of livelihood strategies, whilst in the lower income quintiles this is mainly a coping strategy and often leads to increased poverty; (iv) access to technology, extension and infrastructure does not demonstrably increase household incomes in isolation from a value chain approach that provides smallholders with the resources they need to take advantage of public services; (v) gender roles and stereotypes pose serious constraints to women trying to develop livelihood strategies based on agricultural intensification; and (vi) there is a group of emergent commercial farmers in the upper wealth quintiles able to play a catalytic role in value chain development.

The needs and priorities of the smallholders in different wealth quintiles differ: within the two lower wealth quintiles the increasing reliance on low income labour has not led to sustainable diversification away from agriculture but rather to a cash trap in which they are forced to sell labour, crop production and purchase food at high prices. The needs of these very poor households are first to establish food security and secondly to generate a cash income, also as a buffer against frequent droughts and increasing reliance on the market for food. The value chains selected by the project have a role both in securing food security and generating cash incomes and thereby are able to flexibly respond to the needs and priorities of the poor. In addition, the value chains selected can be channelled through differentiated markets (different levels of processing for cassava, modern/traditional markets for horticulture and livestock) and thereby meet the production capacities and needs of a number of producers from different income groups. This is particularly important as many of those trading in traditional markets, as discussed above, are from the poorest income groups and will benefit from the development of value chain markets.

Amongst the poorer income groups there is a distinction between those that are economically active and able to produce a surplus and those whose primary focus is likely to remain basic food security. The main difference between these groups, as discussed above, is household capacity to labour (demographic profile and health) and access to animal traction. Whilst the project will target both groups some of the poorer households will lack the assets necessary to benefit from improvements in infrastructure and better market access. In this case, scarce resources are likely to have a higher pay-off in poverty reduction if invested in helping better endowed (but still poor) smallholders increase their cultivated area to the point of increasing returns than if invested in helping the least well-endowed households, who may be better served through labour markets than through direct participation as sellers in crop markets.²⁷

²⁷ Boughton, D *et al* (2007) Market Participation by Rural Households in a Low-Income Country: An Asset-Based Approach Applied to Mozambique, *Faith and Economics*, Vol 50; 64-101

Finally, a note on numbers and relative proportions within the various livelihood groups and quintiles. In each of the provinces around 60% of the population are under the poverty line. The TIA (2008) and CAP (2010), as noted, provide categories that have a limited application for more refined poverty and target group analysis as over 90% of smallholders are grouped into a single category. The PRONEA Targeting Working Paper, drawing on analysis presented in Hanlon (2010)²⁸ has divided households into the following categories, presented in table 8.

Table 8: Distribution of Households by Poverty Groups in Three Provinces

1. Province	2. Extremely Poor	3. Poor	4. Non-Poor	5. Better-Off
Gaza	105,176	57,835	27,087	53,930
Inhambane	120,536	66,281	31,043	61,806
Maputo Province	48,203	26,506	12,414	24,717

Source: Working Paper 4, PRONEA MTR.

This table demonstrates the difficulty, given data availability and fluctuations in poverty levels, in dividing the approximate 60% of the population below the poverty line into poverty groups and identifying respective household numbers. Attachment 1 presents a summary of the analysis in this section in terms of three groups; extremely poor, poor and non-poor. The main target group is expected to fall within quintiles 1-3, although within quintile 1 there is a sub-group of approximately 10%, as presented above, that is more likely to benefit indirectly through the development of labour markets.

3. The Institutional Context

PARP. The national strategy towards poverty reduction is outlined in the new Poverty Reduction Action Plan for 2011-2014 (PARP) with the objective of reducing the incidence of poverty to 42% in 2014 through pro-poor growth. The strategies are: (i) increasing agricultural and fisheries production and productivity; (ii) promoting employment; and (iii) improving availability and quality in access to social services. Strategies for broad-based growth include investment in agriculture of the kind that will boost the productivity of the family sector and diversify the economy, creating jobs and linkages between foreign investment and the local economy, supporting micro, small and medium-sized enterprises, and fostering human and social development. The PARP (2011-2015) has three priorities for agriculture: (i) improve and expand access to factors of production; (ii) facilitate market access and; (iii) improve the sustainable management of natural resources (land, water, fisheries and forests).

PEDSA. The principal strategy for development of the sector is set forth in the Agricultural Development Plan (PEDSA). PEDSA's goal is to build an integrated, prosperous, competitive and sustainable agriculture sector that contributes towards the food security and income of agricultural producers in a competitive and sustainable way, guaranteeing social and gender equity". The PEDSA objective is to convert subsistence agriculture into a competitive, sustainable and market-oriented. Increasingly policy makers realize that different development strategies are needed in the rural areas, such as for smallholder emerging farmers, and FA's, but also for small and medium-sized enterprises in agriculture that generate employment in rural and urban areas. Within the framework of the PEDSA the development of regional strategies and approaches is important as the three regions of Mozambique differ significantly. It is organised along 'growth corridors', of which the Maputo and Limpopo corridors in the South.

Gender policies. A National Gender Policy was adopted in 2007 and provides the main framework for incorporating gender in development processes. The Gender Strategy for the Agricultural Sector draws on the National Gender Policy and the four pillars of ProAgri I, namely access to markets,

²⁸ Hanlon (2010) Is Poverty Decreasing in Mozambique? Open University England, Conference Paper No.14; this paper draws on the TIA (2005) and World Bank (2007) Beating the Odds, *ibid*.

financial services, technology and natural resources. The Gender Unit within MINAG was responsible for supporting and monitoring the implementation of the gender strategy. The unit has put some focus on activities related to gender training and the incorporation of gender in the planning process, but has carried out its gender mainstreaming activities on a limited scale and without substantial institutional support. The Gender Unit, though still weak and ineffective is a necessary starting point. Moreover, training activities, particularly at the central level, on how to incorporate gender issues in planning and budgeting have certainly contributed to raise understanding and capacity in gender mainstreaming. The challenge is to translate such awareness into concrete actions.

Extension. Within districts, the District Economic Activity Service (SDAE) is responsible for agricultural development and extension and recently updated civil service schemes allow for the employment of up to 20 extension workers. However the actual numbers fall far short. Nationally, women represent only 11% of extension workers and 20% of the students in agricultural schools; in Inhambane 14 out of 64 extension officers are women and out of 7 extension supervisors one is a woman. The fieldwork conducted for the design found that whilst there has been some impressive progress in institution building and social inclusion, the tendency is to orientate towards the relatively less poor, many of the extension positions within SDAE are not occupied and the extension agents are overstretched and under-resourced.

In line with the National Extension Master Plan (2007-2016), the overall extension approach as applied by the public sector is gradually changing from T&V to a more participatory approach based on principles such as value chain development and market orientation. In such settings extension officers require additional and different kinds of knowledge and skills, such as on developing business plans and the capacity to interact with different actors in the value chain. The emphasis is shifting from transferring technology to facilitation of innovation. Farmer Field Schools represent probably the most structured effort to change extension practices: 1,115 FFS have been established in 2010 in the three provinces of Maputo, Manica and Sofala. In terms of impact on production, food security and livelihoods, the monitoring and measurement of the FFS was insufficient from a quantitative point of view, though the general assessment is one of positive change in technology adoption rates and market access.

Farmers Associations. Farmers Associations (FA) and Unions are the principal means for smallholder farmers to engage in collective action to solve constraints related to agricultural production and marketing. The Ministry of Agriculture, as well as many NGO's, donors and UNAC (the National Union of Smallholder Farmers) support FA as the most effective organizational structure to solve farmer production and marketing constraints. FA need a minimum of 10 members to form and can form forums or Unions to represent their interests and participate in district level planning or lobbying. The new Cooperative law passed in 2009 provides an organizational framework for FA's that intend to generate profits, but in practice there are many FA that generate some profit but have not yet converted to a Cooperative. Table 9 provides an estimate of the number of associations and members existing in the three provinces.

Table 9: Farmers Associations in the Southern Provinces

	Inhambane	Gaza	Maputo Province	Total (3 Provinces)
Number of Associations	192	247	159	598
Number of Association Members	7,413	12,617	16,866	36,896
Number of Unions	1	8	1	10
Number of FA's that are UNAC members	192	247	159	598

Source: CEPAGRI 2011

The National Union of Smallholder Farmers (UNAC) is the representative of all associations and in 2010 UNAC had a total of 86,000 individual members, organized in 2,200 associations and cooperatives and 83 district unions in 2010. The latest agricultural survey records 273,600 farming households organized in FAs, which suggests that UNAC represents around 30% of FA. In the

southern region UNAC has four main strategic objectives: (i) strengthening UNAC as a service provider to its members; (ii) enhancing agricultural production, productivity and market access through establishing service centers; (iii) strengthening the role of UNAC in design, implementation and monitoring of agricultural policies; and (iv) integrating gender, young farmers and environment/climate change issues in all its activities.

Rural household participation in FA's is low; 9.8% in Inhambane, 7.8% in Gaza and 12.3% in Maputo Province. Households that are FA members tend not to be very active, as the participation rates in table 5 indicate. Analysis has shown that FA members tend to be less poor and are often formed to get financial resources from the District or an NGO. There are a number of FA's specific to the project value chain. In general, horticulture FA's are fairly well developed because they build on collaborative and collective action arrangements already established for irrigation. In the cassava value chain, there are a number of FA's established. There are a number of FA's specific to the project value chain although the exact number still has to be established. In general, many of the cassava FA's were established in the context of initiatives under the national cassava strategy (such as the Common Fund for Commodities, MINAG and Sazakawa Global 2000) to facilitate technical assistance in growing improved variety cassava and small-scale processing. However with a few exceptions the ongoing difficulties of value chain development, described in detail in the value chain paper, have meant that these FA's are not well developed. In the livestock sector FA's are reported to be widely spread and to provide an important focus for local extension services' access to producers. Several good examples of support to marketing and improved husbandry have emerged, and it is observed that these tend to be organisations with strong leadership and heightened commercial awareness.

In general the FA's represent only a small part of the community in which they are established and not all the growers in that particular VC, apart from in horticulture, where all producers with irrigation are members. Fieldwork informants noted that the FA's have not grown in size because community members do not see what were the benefits; the membership fees, at MZN 20-30 a year are not in themselves exclusive, even for the poorest community members. Fees for WUA's are much higher: MZN 1000 per household to join and MZN 50 per month membership fees.

Institutional Framework for Land Rights. The Land Law of 1997 and its 1998 regulations, aside from reiterating the fact that all land belongs to the state, also introduce legal measures to help communities, men and women gain legal occupation rights to land without requiring written proof of de facto use. These can be converted into private occupation rights through a right of use and exploitation (DUAT) title, which only 2% (Inhambane, Gaza) and 6% (Maputo Province) of households have obtained. In reality, however, the majority of the rural population does not yet benefit from the new provisions; this is partly because the people, especially women, lack information and knowledge about their rights and partly because the administrative and judicial practices are still far from incorporating the new norms. Land conflicts were reported by less than 3% of the population and households report that it is easy to gain additional land (TIA 2008; fieldwork) and that the key concern is the lack of animal traction for cultivation. However whilst access to land is currently not a major constraint on agricultural production nor a source of significant conflict it remains an issue that will have to be addressed for securing smallholder rights and access.

Poor households, in particular female-headed households, are vulnerable to exploitation because they lack understanding of their customary rights, capacity to negotiate these and resources for DUAT registration. The new legislation recognizes women's rights to land but also formally recognizes customary systems of land tenure in which male relatives regulate women's access to land. The dichotomy between statutory and customary systems together with the generality and ambiguity with which customary law is integrated in statutory provisions, compounded with an overall insufficient articulation of the question of gender equality in national development strategies, does not result in a supportive institutional environment for women's land rights.

TARGETING

A. Value Chain Producers

The three project value chains were selected out of thirteen value chains with potential in a pre-design study. Eleven weighted selection criteria²⁹ were chosen to compare, rank and select the value chains which led to the selection of the three project value chains as follows: (i) cassava with a score of 84 out of a 100; (ii) goats with a score of 75/100; (iii) cattle with a score of 70/100; (iv) horticulture with 66/100. Criteria most relevant to the target group (d,e,f) had a combined score out of 28 of which cassava had 24; goats 26; cattle 14 and horticulture 16.

Cassava. This is the largest crop in Mozambique in an absolute sense and its adoption is being supported in the southern region as part of food security initiatives and the National Cassava Strategy. Cassava is exclusively produced by smallholders and has a comparative advantage over other crops, particularly in Inhambane, where it is farmed by a large majority of smallholders. Although poor in vitamins and proteins it is rich in calories and a resilient crop so very important for household food security cassava and maize are the main staples in Mozambique. Most cassava is consumed directly by the household as cassava is highly perishable, although small amounts are sold on spot markets. Cassava is typically grown on small areas of land (about ¼ to ½ ha from an average size of rural household holding of 1.6 ha, TIA 2005), however in Inhambane in particular larger farms (5 to 40 ha) have also started growing cassava, partly in anticipation of market development promoted through the National Cassava Strategy.

The rapid deterioration of cassava after harvesting and the difficulty of transporting the heavy tubers is the main reason that cassava remains a subsistence crop and has not been seriously considered as a commercial or cash crop. In addition, the cassava value chain is constrained by low productivity, unreliable supply of good quality cassava, lack of processing facilities and a low quality range of traditional products. New high-yield varieties and a variety of processing options would enable smallholders not only to satisfy household food security but also to access differentiated markets for processed cassava products. The cassava value chain is self-targeting to large numbers of vulnerable rural households.

As already profiled, many very poor producers find themselves in a cash trap whereby immediate household food security needs force household labour to work on other small-holdings, resulting in production losses incurred during peak labour periods as well as forcing poor households to purchase food in small quantities and at high prices. The development of differentiated markets for cassava will support producers to escape immediate cash constraints and the vicious circle of entrenched poverty that it generates.

Whilst both men and women and female-headed households are cassava producers, there are gender imbalances in resource control and returns, following the lines of gender roles outlined in section 1.B. Women are usually responsible for farm processing (peeling, fermenting, drying, rale production) and some market retailing, usually spot markets, although this is usually only in the rale trade. Part of the explanation for this is that cassava bags are heavy and trade is usually conducted by young men. In general, women work in the labour intensive, manual processing part of the value chain while men occupy more lucrative niches such as long-term storage, milling, processing, stock control, transport and trade. In cassava FA's women are often in the majority but men almost always occupy leadership positions, as was apparent during the fieldwork.

²⁹ Relevance to smallholders (18), comparative advantage (15), size (10), demand (10), scope for private sector involvement and processing (10), scope for intervention (10), growth and growth potential (5), food security (5), relevance to vulnerable groups (5), environmental sustainability (5), complementarity with other initiatives.

Horticulture. Horticulture benefits from favourable agro-ecological conditions, close and growing markets, availability of irrigated schemes and permanent water and proximity to inputs and hardware providers. Smallholders farm an estimated 90% of the areas devoted to horticulture throughout the country on plots of less than 1 ha. They mostly produce during one season using traditional technologies and a minimum of inputs. The horticulture value chain is not in itself self-targeting to the poor and includes large non-poor producers. However, apart from irrigation, the horticulture value chain has low entry barriers and provides potentially quick returns to a large number of smallholders even with small parcels of 0.2 ha. In addition, the horticulture value chain involves a large number of women in all aspects of the chain, generates a significant demand for labour and is the only source of cash income for a large number of rural poor households. Recent studies have demonstrated that more households are involved in the sale of horticulture than in either cash crops or maize in Mozambique although the by far the highest sales were made by households in Quintile 5 (80% of all sales). Given the low entry barriers this presents a challenge, rather than a constraint, and the traditional (as opposed to modern/supermarket) markets in particular have recently been considered as having great potential for poverty reducing growth.³⁰ The lack of skills, poor maintenance of irrigated schemes, lack of access to finance, absence of cold storage and poor organisation of the value chain affect smallholder income potential, but because of shorter and more flexible supply lines and lower transport costs, the potential for poverty reducing growth is high.

As with cassava, very poor households that are forced to labour on other plots due to household cash constraints will be supported by the development of storage facilities and differentiated markets. This is particularly critical for horticulture where labour availability and capacity during key periods, such as weeding, have a big impact on productivity.

Gender roles in the horticulture value chain follow the basic division already described in section 1.B. In general women are occupied in crop production whereas men, particularly young men, perform manual tasks such as spraying and irrigation, as well as any task that is mechanised. Men receive higher wages than women in the horticulture value chain³¹, have a higher rate of technology adoption and access higher-end markets. Whilst there is no cultural gender barrier to the horticulture value chain as such, indeed spot market trade is generally considered women's domain, the conventional barriers that restrict women's mobility, access to technology and control of financial resources are very evident, even in female-headed households. Associational activity around horticulture is often fairly developed because of collective action around irrigation but whilst women may be majority members it is rare to find them in management positions.

Livestock. Livestock breeding constitutes a major activity for small producers' households in the inland, dry areas of the southern region. Herds are composed of goats and sheep as well as, in a lesser proportion, beef cattle. Some of the features of the livestock production systems in semi-arid mixed production systems in the interiors of Gaza and Inhambane have already been described in section 1(B): livestock numbers are on average 14 cattle equivalent units and 13 goats, contribute 80% of the cash income from agriculture and are the foundation of household livelihood strategies, as well as the main source of food security. Income from livestock sales is relatively more important to poor households and whilst all households listed draft power and insurance as the two main reasons for keeping cattle, it was more common for the poor to have a commercial orientation. These semi-arid districts are amongst the poorest in the southern region and livestock are the only source of income and means by which poor households can enter an agricultural value chain³². Whilst livestock

³⁰ Recent research has persuasively suggested that even in fairly developed countries (in terms of consumer demand/value chain development) such as Kenya the 'modern' market is small and most fresh fruit and vegetables is in fact traded in tradition markets which have a higher potential impact on reducing poverty. Tschirley *et al* (2011) Can Horticulture Pull African Smallholder Farmers Out of Poverty? Insights from Kenya, Mozambique and Zambia, Paper Presented at Agricultural Policy Symposium 20-22 April 2011

³¹ For example, in a FA visited in Moamba men are paid MZN 150 per day for irrigation and spraying whilst women receive MZN 100 per day for weeding and MZN 10 per box for harvesting

³² Radeny, M. and N.Johnson (2011) *et al*,

represent a significant economic potential for poorer households, they are poorly tended, have high mortality rates and a reduced off-take, in part because of very little incentive to sell and lack of market connections. A red meat value chain approach would improve capacity utilisation (animal productivity and use of environmental resources) and promote stronger market linkages between small producers and “market makers” in the formal sector, as well as improved animal husbandry practices; benefits that could be realised by poor livestock breeders both through higher yields, increased food security, trade in the informal sector and the formal sector.

Gender roles in production and value chain access are most distinct in the red meat value chain. Cattle ownership is often male and even when it is joint, men are the main decision-makers overall production and trade issues, as well as contributing most of the labour. Goat ownership and decision-making also tends to be a male domain, although here women, particularly in female-headed households, play a more active role. In both value chains male children and youth contribute significant labour. In the semi-arid areas one study has noted that in 66% of households cattle are owned by men compared to 61% for goats. In 11% of households, women own cattle and in 13% they own goats. Slaughter, processing and trade in live animals is mainly a male domain. FA's formed around livestock have mostly male membership and leadership. Given the potential importance of livestock to household livelihood strategies these limitations should be considered a challenge rather than a constraint.

Attachment 2 provides an overview of the producers in each value chain based on the poverty analysis conducted during fieldwork.

4. Targeting Rationale and Target Group

The project value chains were selected because they have relatively low thresholds in terms of the asset portfolios necessary for smallholders to enter and expand net sales in these markets. Each of the value chains has a function in promoting food security as well as providing opportunities for generating incomes. Given the current level of market development, weather and price influenced fluctuations in food security and varying needs both between groups and within groups in different years (again largely dependent on weather and food price), this dual function of the value chains offers an important risk mitigation function and differentiates them from the conventional cash crops. The value chains already play an important role in the livelihood, food security and risk management strategies of the poor and therefore offer an opportunity for relatively low risk diversification into generating income from agriculture.

In addition, each of the value chains has different entry points (formal/informal markets for livestock; different levels of cassava processing; traditional/modern for horticulture) that provide entry points for producers with different resources, assets and capacities. Formal markets bring higher returns and the project will support the development of a variety of contract arrangements, whereby credit, inputs and outputs are linked, to enable poorer households to start accessing these markets. Formal markets can be further differentiated by quality requirements and marketing conditions that increase returns, but also increase the risk of financial loss for smallholders who participate. Project investment in value chain development at all levels will support the gradual transition of poor producers from traditional to formal markets.

In terms of accessing higher-end formal markets, the project targeting rationale builds on the observation that there is great potential for ‘win-win’ solutions in promoting market linkages between smallholders and market-makers (commercial farmers, processors and traders). Fieldwork conducted during project design affirmed that there is an interest in such an arrangement on behalf of all stakeholders and that the institutional and capacity building support provided by the project can ensure that this arrangement will be one of mutual interdependence rather than dependency. The fact that each of the value chains has three potential end-uses (direct consumption, traditional markets, higher end/contract markets) further supports the entry of poorer groups as well as non-exploitative relationships. There is already experience in cooperation in production and marketing between

commercial, emergent commercial and small farmers in the horticulture sector on which the project can build. These collaborative links are still nascent in the cassava and horticulture value chain but the fieldwork demonstrated scope in developing these linkages between producers of different levels.

Whilst supporting the entry of the poor into formal and high-end markets is a central objective, the following complementary objectives are key to the project targeting rationale:

The development of the horticulture and cassava value chains will generate a significant demand for casual labour, which is one of the main livelihood options of poor households.

The poverty analysis has shown that one of the main livelihood strategies of the poor is their involvement in traditional markets, which involve no contractual obligation prior to or after sale of a commodity and generally have few requirements in relation to quality or quantity. The flexibility of such markets implies low barriers to entry, but high transactions costs often implies low unit returns for smallholders. The project will decrease reliance on traditional markets by developing new, better organised markets (processed cassava for industrial use, hygienically slaughtered ruminant meat, quality vegetables) and exploring the potential for reducing transaction costs in traditional markets (particularly for horticulture).

Finally, the project has a number of activities that will directly target the most vulnerable households (starter-kits to enable value chain entry, extension, appropriate technology) which along with an increase in demand for labour and produce will support poorer households to escape the immediate vulnerability cycle/cash trap that has been described and which may eventually enable their entry into higher return markets in the value chain.

The Main Project Target Group

The *main target group* will consist of the economically active poor who are already involved in value chain production (existing cassava, horticulture and livestock producers) and are able to produce a surplus, but who are caught in a cash trap whereby their failure to improve crop productivity prevents them from accessing to higher returns. These households do not suffer from chronic food insecurity, although they may be food insecure in drought years, and their main livelihood strategy is household food production supplemented with off-farm wage labour and trade. The primary objective for their entry into each of the value chains is to generate income for increased food security and to meet basic household needs of health, education and shelter. *Women* will constitute a direct target group in each value chain because of the clear evidence that, whilst they constitute the majority of the population and female-headed households are amongst the poorest, their access to the value chain and capacity to generate income is heavily curtailed by traditional gender roles that will undermine their participation unless gender is mainstreamed into the project.

Women will constitute a direct target group in each value chain because of the clear evidence that whilst they are in the majority in terms of population and female-headed households are amongst the poorest their access to the value chain and capacity to generate income is heavily curtailed by traditional gender roles that will undermine their participation unless gender is mainstreamed into the project. These provisions are detailed further in Section III.

Whilst the primary target group will include some of the poorest households in quintile 1, there is a sub-group of extremely poor, as already profiled, who suffer from chronic food insecurity, have labour limitations due to household demography and health and lack access to animal traction that are unlikely to be in the primary target group.

The *secondary target group* will include both: (i) (emergent) commercial farmers, i.e. medium and large farmers, mainly geared to cash crops (horticulture and livestock) and who have stable linkages to markets; and (ii) small and medium cassava processors who produce for the market. Both groups can be important drivers of change, because they have a commercial interest in the development of the smallholder sector to meet market demand, and they can be an effective channel for facilitating smallholders' access both to markets and services.

The *indirect target group* will include poorer households who lack the assets necessary to participate directly in the project activities, but who will benefit from labour opportunities generated by increased agricultural production (especially in horticulture) and processing (cassava processing units and slaughterhouses). Furthermore, project investments in value chain development will lead to a number of indirect benefits for value chain producers even out of the project area. Pro-poor value chain development is constrained by a number of policy factors such as: the lack of pro-poor orientation amongst extension services; limited progress in mainstreaming gender issues into value chain development; a lack of experience in institutional models for connecting market-makers in the value chain with poor producers; the lack of standards for quality and branding; and the lack of a favourable business environment. The project will engage on these issues to support pro-poor entry into value chains as well as to ensure a fair distribution of value added for small farmers. The benefits of these interventions will provide indirect benefits to all producers in the value chain.

However specific provisions are being made within each of the value chains to directly target some of the poorest households and support their entry into the value chain as will be outlined in Section III.

Table 10 provides a brief overview of target group characteristics and the main elements of the project targeting strategy, which will be explored in greater depth in Section IV³³.

³³ Table 11 is not intended to provide an exhaustive list, but to illustrate the main types of activities and how these apply to different target groups and the targeting rationale.

Table 10: Target Rationale, Target Group and Key Benefits

Project Targeting Rationale	Key Benefits
Extremely Poor	
<ul style="list-style-type: none"> • Provide extension/advice on production practices. • Improve access to traditional markets. • Support labour generating investments. • Empower producers to act collectively, negotiate. • Directly target support to enable the very poor to overcome key asset constraints, for example, with starter packs. • Participation in demonstrations and on-farm trials. • Improve community infrastructure for livestock. 	<ul style="list-style-type: none"> • Improved production practices and capacity. • Increased food security. • Increased access to wage labour. • Improved access to traditional markets • Opportunity to labour on own land. • Reduced transaction cost of finding markets; particularly for female-headed households. • Higher cash incomes. • Empowerment in VC transactions.
Poor	
<ul style="list-style-type: none"> • Provide extension/advice on production practices. • Improve access to traditional and formal markets. • Provide access to improved practices. • Support in negotiating contracts with market-makers. • Empower producers to act collectively and individually to improve VC governance. • Access to rural finance • Improve community infrastructure for livestock. 	<ul style="list-style-type: none"> • Improved production practices. • Increased food security. • Improved access to traditional/ formal markets. • Reduced transaction cost of finding markets, particularly for female-headed households. • Empowerment in VC transactions • Higher cash incomes.
Non-Poor	
<ul style="list-style-type: none"> • Extension/advice in production, processing • Support for business development opportunities. • Support in establishing contracts/working relations with smallholders. • Support in upgrading production practices to comply with quality standards of formal markets. • Rural finance for VC business development, for example cattle and goat purchasing loans and short-term credit for cassava processors. 	<ul style="list-style-type: none"> • Increase in incomes from VC participation • Increased capacity for strategic planning, investment and business development. • Increased and more sustainable access to higher-end formal markets.
Indirect	
<ul style="list-style-type: none"> • Improve business environment for VC development • Support innovation initiatives for adoption of best practice principles. • Support higher-end market development by introducing quality standards and related consumer awareness. • Develop understanding of nutritional role of cassava • Establish institutional models for linking VC stakeholders • Research directed at decreasing entry-barriers of poor producers into project VCs. • Enhanced capacity of the public sector to provide pro-poor and gender sensitive support. 	<ul style="list-style-type: none"> • VC producers at all levels, but particularly the poor and women.

PROJECT TARGETING MECHANISMS

Section II has described the self-targeting aspects of the project: (i) cassava is self-targeting to large numbers of vulnerable rural households; (ii) horticulture has low-entry barriers, generates labour, provides quick returns even from small plots; and (iii) livestock are a cornerstone of the livelihood strategies pursued in very poor semi-arid areas in the south. The project value chains were selected because they already play an important role in the livelihood, food security and risk management strategies of the poor and therefore offer an opportunity for relatively low risk diversification into generating income from agriculture. They have relatively low thresholds in terms of the asset portfolios necessary for smallholders to enter and expand net sales in these markets. Whilst the value chains also include non-poor producers, in particular horticulture and livestock, the fact that each value chain has several livelihood functions and different markets (Section II.B) reduces the risk of elite capture.

The self-targeting aspects of the project will require the operational measures described in this section in order to support the negotiating power and capacity of the target group and ensure that the services respond specifically to the priorities, assets and labour capacity of the identified target group.

A. Geographic Targeting

Project area. PROSUL will be implemented across the Limpopo and Maputo corridors, with a focus on priority production areas in 19 districts of the provinces of Gaza, Inhambane and Maputo, as indicated by Table 11.

Table 11 – PROSUL Target Districts

Provinces/districts	Horticulture value chain	Cassava value chain	Red meat value chain
Gaza			
1. Chicualacuala			X
2. Chibuto	X		
3. Chokwe	X		X
4. Guijá	X		X
5. Mabalane			X
6. Manjakaze	X	X	
7. Massingir			X
8. Xai Xai	X		
Inhambane			
9. Inharrime		X	
10. Jangamo		X	
11. Massinga		X	
12. Morrumbene		X	
13. Zavala		X	
Maputo			
14. Boane	X		
15. Manhiça			X
16. Magude			X
17. Marracuene	X		
18. Moamba	X		
19. Namaacha	X		

These districts were selected based on an initial list of 27 districts proposed by MINAG reflecting the following selection criteria: (i) density of small scale producers; (ii) agro-ecological and economic potential; (iii) poverty incidence; (iv) target commodity already making an important contribution to household income and food security and representing the best option the poor have for market participation; (v) geographical concentration and ease of access to facilitate logistics and to maximise

impact; (vi) complementarity with PRONEA, the ImGoats project and other donor-financed interventions; (vii) PNDA priority districts. The final design mission proposed the final selection, which was agreed upon by the government, taking into account the following considerations.

For the Horticulture component, the final selection was based on a list of irrigation schemes proposed by the National Directorate for Agriculture Services (DNSA). The application of the following criteria led to the selection of 19 irrigation schemes, which in turn correspond to the first seven districts mentioned in Table 11:

current cultivated area: emphasis was given to schemes that have already a significant area under operation, but needing either improvement or rehabilitation. About half of the schemes also entail possibilities to increase the cultivated area and to allocate new irrigated land;

target group: average plot size per scheme is the main indicator, but also information on the type of beneficiaries (farming as the main income) has been used. Average plot size in areas currently in operation is 0.4 ha;

accessibility: distance to the main national and provincial centers as well as quality of access roads;

performance of the WUA: main indicators were the (i) formal aspects (legal registration, DUATs, bank accounts, frequency of committee and plenary meetings, (ii) informal aspects such as leadership performance and (iii) organisational aspects: how operation and maintenance of the scheme is organised;

technical: technical complexity for scheme improvement or rehabilitation within the context of the project financial resources as well as reliability of the main water source were taken into account;

costs: estimated cost per ha for scheme improvement or rehabilitation;

expansion potential.

Furthermore, the project also targets 900 ha in a larger irrigation scheme, the Baixo Limpopo Regadio, where the rehabilitation has already been undertaken by AfDB and development activities can start immediately.

The Cassava component focuses on five districts in the province of Inhambane and one district in the province of Gaza. The six districts were selected based on the following criteria:

production: they concentrate the largest number of both small and medium farms producing cassava in the Southern provinces;

market access: all selected districts are along the main road (EN 1) leading to Maputo.

For the Red Meat component, selected districts are the 7 districts composing a ‘meat corridor’ running from Chicualacuala district down to Maputo, which is the main market. Northern, semi-arid districts of Gaza (Chicualacuala and Mabalane) are among the poorest districts in the south, where livestock is the main source of income for vulnerable households and in particular women.

5. TARGETING AND GENDER APPROACH

The target value chains respond to a range of self-targeting features: (i) cassava is farmed by poor and extremely poor, and constitutes a key food security crop in the south; (ii) horticulture provides quick returns even from small plots (0.3 ha) and generates labour; and (iii) livestock are a cornerstone of the livelihood strategies pursued in very poor semi-arid areas. They were selected because they already play an important role in the livelihood, food security and risk management strategies of the poor and therefore offer an opportunity for relatively low risk diversification into generating income from agriculture. Whilst the value chains also include non-poor producers, in particular horticulture and livestock, the fact that they have different livelihood functions (food security, cash income or buffer) and markets (traditional and modern) reduces the risk of elite capture.

However the self-targeting aspects of the project need to be supplemented by operational measures so that project services respond to the priorities and capacities of poorer groups and of women. The overall project approach to ensure that inclusion and gender equity are mainstreamed in all aspects of project implementation will rest on the following instruments that will apply across the three value chains.

Targeting and gender studies. A targeting study will be carried out at project onset to: (i) further detail the main characteristics (assets, practices, seasonal vulnerabilities, cash and other key constraints) of producers of different poverty levels; and (ii) identify opportunities and measures required to promote the inclusion of the various groups, including the most vulnerable ones, in the three value chains. Jointly with the targeting study, a gender study will specifically identify the factors that prevent women from gaining equal access to value chains, as producers but also processors, managers and investors, and propose measures to facilitate women access and mainstreaming gender issues into project activities. The study will be carried out by a team of specialised consultants that will be recruited by the Project Management Team (PMT) and will work in close collaboration with the Lead Service Providers (LSPs) for each value chain, microfinance institutions participating in project implementation (PFIs), CEPAGRI, PROSUL focal points in the Provincial Directorates of Agriculture (DPAs) and the PMT Targeting and Gender Specialist (see below). The studies will be carried out in close coordination with the value chains scoping studies.

GALS. The gender study will also pilot the implementation of the Gender Action Learning System (GALS), a participatory approach aiming at ensuring women and poor inclusion in value chains that was developed by Oxfam-NOVIB in Asia, Latin America and recently in IFAD-financed projects in Uganda and Zambia. GALS is also being replicated in other IFAD-financed projects, especially in Sierra Leone and Malawi. The approach analyses and addresses the poverty and gender constraints affecting not only people themselves, but also the flow of quality goods, transparency of markets and relationships, and therefore incomes for all. GALS engages with and changes private sector attitudes and behaviour for sustainable and equitable ‘win-win’ strategies. The pilot will be implemented with one participating farmers’ organisation in each value chain. Learning from the GALS pilot will be used to include GALS as the main approach to build social inclusion and ensuring that participation, project activities and decision-making are more equally distributed across social levels and across gender. The team of consultants selected for the targeting and gender study will possibly include the consultant who was involved in developing the GALS approach in the Sierra Leone project.

Targeting and Gender Mainstreaming Strategy and Implementation Plan. Stakeholder workshops will be organised to discuss the results of both studies and contribute to the establishment of a targeting and gender mainstreaming strategy and action plan for each of the value chains. This activity will be carried out by the same team of consultants involved in the targeting and gender studies, in collaboration with LSPs and PFIs. A key measure will be the establishment of quotas for women’s access to services (minimum 50% of serviced clients) and women’s participation in decision-making bodies such as farmers’ organisations decision-making structures, service hub’s Board of Directors and multi-stakeholders platforms (requiring a minimum of 40% women in farmers’ structures/representation).

Annual Value Chain Development Action Plans. Every year, a Value Chain Development Action Plan (VC DAP) will be prepared by each of the LSPs together with value chain stakeholders, building on multi-stakeholders’ platforms to be set up with PROSUL support at the local level (Innovation Platforms) and at the regional level (Regional Value Chain Platforms) and in close collaboration with managers and technical advisors of the service hubs. In the first year of activities, VC DAPs will be based on the outcomes of the initial scoping studies to be carried out in each of the value chains, and on the Targeting and Gender Mainstreaming Strategy and Implementation Plan. They will detail actions required to improve production and develop market linkages as well as activities designed to expand women’s and poorer households’ access to and control over capital, land, knowledge, financial and non-financial support services. This will also include the implementation of GALS. VC

DAPs will include quantified targets and performance indicators, including with regard to gender and inclusion mainstreaming. VC DAPs will be reviewed every year by Regional Value Chain Platforms with support from LSPs, based on an assessment of past year achievements and an identification of challenges and constraints facing value chain actors.

Inclusive farmers' organisations, service hubs and MFIs. Annual capacity assessments and development plans will be the key instrument used to programme capacity building activities in farmers' organisations (FOs)³⁴. LSPs will assist FOs, including through the use of GALS, to ensure that capacity assessments and development plans take into account specific challenges and constraints faced by women and by poorer smallholders and contribute to making participating FOs more inclusive and gender-balanced organisations. Women and poorer smallholders' participation in decision-making within FOs and in decision-making venues in which FOs are invited to participate will be a specific area of focus. Similar provisions will be adopted to ensure that service hubs and MFIs are responsive to the needs of women and of poorer farmers. Hubs managers and technical advisors as well as MFIs staff within the hubs will receive training (collaboration between LSPs, the PMT Targeting and Gender Specialist and PRONEA, IFAD-financed project supporting the National Extension System) to ensure that they develop inclusive and gender fair access to services.

Access to land. Across all three VCs there is a need for securing land rights and access to land, concentrating on priority 'hot spots' (i.e. areas where there is good investment potential, expressed interest by outside investors and/or prevalence of land conflict) and for considering measures for improving land access by poorer people, women and youth. Activities will include: (i) dissemination of information on land rights, ensuring that women and vulnerable groups are specifically targeted; (ii) farmer association-based analysis of land access and tenure security issues, to be done as part of the strengthening of farmer organisations, with special attention given to identifying constraints faced by poor and vulnerable groups including women and youth; (iii) depending on the outcomes of (i) and (ii) support to community land delimitation and the issuing of land use rights (DUATs) to associations³⁵.

Project management. The PMT will include a Targeting and Gender Specialist, who will be responsible for ensuring that targeting and gender mainstreaming is applied throughout project activities in accordance with the Targeting and Gender Mainstreaming Strategy and Implementation Plan, and in collaboration with CEPAGRI, DPAs, LSPs and PFIs. Detailed terms of reference are attached to the Project Design Report (Annex 3, Section 7 – Institutional arrangements). With regard to project management specifically, the Targeting and Gender Specialist will ensure that all terms of reference for service providers include the requirement that the latter set up gender-balanced teams that have prior experience with gender mainstreaming, and that contract deliverables reflect gender and inclusion target and indicators. S/he will organise capacity building as appropriate for PMT staff and project implementers as required to improve project performance in extending project benefits to women and poorer groups.

Knowledge management and institutional support. The Targeting and Gender Specialist will collaborate with the Monitoring and Evaluation/Knowledge Management Specialist so that the Project Learning System allows the monitoring of inclusion and gender aspects, and that achievements and lessons learnt are made available to multi-stakeholders platforms and project implementers to support regular analysis, improved performance and annual programming of related activities. Furthermore, a Learning Route on GALS will be organised for PROSUL stakeholders, with support from IFAD regional project PROCASUR³⁶. Building on lessons learnt from project achievements, the Targeting and Gender Specialist will also support the mainstreaming of gender and inclusion into CEPAGRI's

³⁴ For more details see Project Design Report, Annex 3, Section 6 – Farmers' Organisations and Access to Services.

³⁵ See details in Project Design Report, Annex 3, Section 8 – Land Tenure Security.

³⁶ See Annex 10 – Knowledge Management and Monitoring and Evaluation.

analytical and operational systems, including trainings and the development of guidelines and toolkits as appropriate.

In addition to these general measures that encompass all the value chains, specific measures will facilitate the access of women and poorer households to project benefits.

Horticulture. The *expansion of existing irrigation schemes* will provide opportunities for poorer farmers and women to increase their irrigated plots and reach profitability, and will give the opportunity to farmers, women and men, with no irrigated land to access new plots. Feasibility studies as well as operation and management modalities will have to address inclusion and gender issues. In addition the project will secure smallholders land occupation by financing the issuance of land use titles (DUATs) to WUAs. *Starter input packs* for horticulture production will facilitate women and poorer households adoption in the first production campaign. Support for the development of appropriate *technologies and practices specific to the agro-ecological conditions of the southern area*, such as soil and water conservation, will help in reducing household vulnerability to climate risks. The availability of *mechanization and transport services* at the hubs will relieve women from some of their workload.

Cassava. Similarly to the horticulture value chain, *starter input packs* for cassava production as well as the availability of *mechanization and transport services* will facilitate the participation of women and of poorer households, and the development of *climate-resilient technologies and practices* will assist in offsetting climate risks affecting their livelihoods. Furthermore, the development of cassava blocks, in substitution of currently scattered cultivation, will also open opportunities for poorer households to negotiate improved access to land with their community.

Red meat. The extension of project services and benefits to *goat and sheep producers* will specifically favour women participation and promote their integration in the red meat value chain. All-year access to fodder and water in strategic locations will offset climate risks affecting the livelihoods of livestock breeders. Furthermore, PROSUL will establish close linkages with the ImGoats project to build on lessons learnt and extend successful practices developed under this IFAD-financed grant to PROSUL areas. The ImGoats project is implemented by the International Livestock Research Institute (ILRI) in the province of Inhambane, and aims at increasing incomes, reduce vulnerability and enhance welfare amongst marginalized groups, including women.

Attachment 1: Assets, Resources, Livelihoods Strategies and Priorities

Characteristics, Assets, Resources	Livelihood Strategies	Priority Needs
Quintile 1 and 2 (mean household income per AE between USD 51 and 159); includes the 99,720 food insecure in 2011; a large part of the 36% of women-headed households and 19% of HIV/AIDS households.		
<ul style="list-style-type: none"> • Small landholdings/ no animal traction/no improved technology • No ruminants apart from in semi-arid areas/some chicken. • Not FA members, unless targeted by NGO's. • Many households with female heads • Old/orphans/HIV/AIDS in households • Low literacy and skill levels • No assets/home improvements apart from some tools for agriculture. • Cyclical food insecurity 	<ul style="list-style-type: none"> • Diverse staple production for food security (cassava/groundnuts). • Petty trade in spot-markets particularly of household food crops to satisfy immediate cash needs. • Engage in low-return wage labour (on and off-farm) due to drought and cash shortage. • Purchase food in markets (up to 63% in Maputo P). • Low-return flora/fauna extraction, charcoal making for consumption and sale. • Selling/consuming/ drawing down household assets. • Borrowing/early marriage/prostitution 	<ul style="list-style-type: none"> • Food security, increased productivity of staple crops, appropriate technology, soil and water conservation. • Income earning opportunities. • Functional literacy to improve income-earning potential • Bridging finance to enable household labour to be used for food production on own land • Collective action for bulk food purchase/sale • Improved animal health care/build-up of small ruminants. • Health and nutrition advice. • Gender sensitive public sector outreach and policies
Quintile 2-3-4 (mean household income per AE between USD 159 and 720)		
<ul style="list-style-type: none"> • Medium sized landholdings (under 3 ha) and some access to animal traction, particularly Q3 and Q4. • Chickens, some ruminants, some cattle in Q4 (greater numbers of all in semi-arid areas) • Irregular market access/transport problems • May be FA members, have access to price information • Limited literacy and skill levels • Assets may include bicycles, radio, improved housing, agricultural equipment. • Food insecurity during drought years. 	<ul style="list-style-type: none"> • Agricultural production oriented around staples/household food security with some diversification for the market. • Hire agricultural labour/undertake agricultural labour, depending on frequent household capacity fluctuations. • Build up livestock numbers for cash/insurance/traction • Sell surplus mainly in spot markets/some wholesale • Engage in unskilled/semi-skilled non-farm economy • Petty traders in spot markets, some skilled traders 	<ul style="list-style-type: none"> • Production support services • Finance for working capital/traction/improved inputs • Post-harvest facilities/storage/processing and market access. • Information on price and support in collective action. • Support in negotiating arrangements with market makers. • Irrigation rehabilitation • Opportunities to increase non-farm income • Support with registration of DUATS
Quintile 4 -5 (mean household income per AE between (mean total income per AE between USD 159 and 3,845); includes commercial emerging farmers.		
<ul style="list-style-type: none"> • Landholdings (above 3 ha), animal traction, occasionally tractors. • Livestock include small ruminants and cattle (10 and above) • Have access to price information/markets/transport • May be FA members, if so in leadership positions • Literate and have additional skills/capacities • Assets may include tractors, processing equipment, storage in Q5. • Food secure and producing surplus 	<ul style="list-style-type: none"> • Larger landholdings, use animal traction/tractors • Diversified cropping patterns to satisfy both household food and cash needs with some improved technologies • Hire labour on regular seasonal basis for production. • Access high-return non-farm income options as a permanent livelihood strategy • Build up livestock numbers for insurance/status/cash/food • Sell surplus to wholesalers/retail • Skilled traders 	<ul style="list-style-type: none"> • Specific price/market information to improve agricultural/livestock productivity • Less volatile prices, markets and greater throughput to justify agribusiness investment. • Support for upgrading production practices • Rural finance for agribusiness investment • Advice and training on value chain standards/quality • Support in developing business models connected to value chain activities.

Attachment 2: Producer Constraints and Priorities in the PROSUL Value Chains

Producer Characteristics	Constraints	Needs/Priorities
Cassava		
Extremely Poor – Intercrop cassava for household consumption, usually on 0.30 ha area, occasional sale of fresh produce on market. Cassava sometimes produced through collective labour arrangements, but sales individual, responding to need. Cassava critical for food security.	Limited means of production (labour, traction, cash), low productivity cassava, reliance on cassava as food staple, no access to extension/advisory services, forced into spot market sales by cash constraints. Household human capital limitations in health, mobility, age, literacy, skills for upgrading practices.	Support with means of production, improved variety cassava, technical advice on inter-cropping cassava for improved productivity/nutrition, market for cassava.
Poor - Intercrop cassava for household consumption, occasional sale of fresh produce on market. Some limited processing into cassava flour through FA's. Area planted is between 0.30 ha and 3 ha, intercropped, cassava important for food security along with other staples.	Cassava used interchangeably with other staples depending on annual production characteristics, sometime left in the ground. Low productivity cassava, no market for cassava, limitations in market access. No access to finance for investment in improved cassava, processing.	Improved variety cassava, extension services for improved production, information on value chain potential, access to processing, collective action to resolve production/market constraints, potential support in negotiating contracts.
Non-Poor - Cassava production for business, encouraged by CEPAGRI/FAO, includes areas of between 3-30 ha. Includes individuals/FA members, some with processing equipment, often emergent commercial farmers.	Insufficient cassava production, no linkages to growers, no market development, limited knowledge of market for different processed products, no finance for investment in processing capacity, limited business skills.	Need greater cassava volumes and support in market access and business development. Finance for investment in processing and related capacity building. VC opportunities/standards advice.
Horticulture		
Extremely Poor - less than 0.5, poorly irrigated (if at all), mainly maize, few vegetables, local spot markets (roadside).	Irrigation system needs rehabilitation/expansion, no resources for inputs, no technical capacity, household human capital limitations, no connection to market.	Improved irrigation, resources to purchase inputs, technical services, market access.
Poor - Less than 3 ha, but usually under 1 ha poorly irrigated, maize/vegetables, some use of improved technology, limited negotiated market access, mainly spot markets. WUA members, relatively active.	Irrigation system needs rehabilitation, finance for inputs limited by timing, lack of access to storage/processing capacity, lack of coordinated market access/transport problems.	Improved irrigation, resources to purchase inputs, technical services, market access, support in collective action for market access, support in identifying traditional/modern market options.
Non-Poor - More than 3 ha, access regular markets, use inputs, have access to finance, some arrangements with smallholders, occupy management positions in WUA.	VC expansion opportunities limited by volume & quality, limited finance for upgrading facilities, investment climate for expansion risky, high transaction costs of outgrowers' arrangements.	Financial/technical services in value chain upgrading, institutional support for forging links with smallholders, market development.
Livestock		
Extremely Poor - In semi-arid areas have mainly goats, some cattle. No collective action for production.	No resources to build up stock, poor housing, mismanagement, high mortality rates, theft, access to water, poor pastures	Start-up stock, improved environment for AH care: water, pastures, shelter.
Poor - Mainly goats, few cattle; in semi-arid areas 11 cattle/9 goats. May be FA members. Herds mainly owned my men, though joint ownership and women's ownership not uncommon.	Household cash requirements prevent stock growing, poor housing, mismanagement, high mortality rates, theft, access to water, poor pastures, constraints to female cattle ownership, distant markets and transaction costs of marketing.	Production support (stock increase, health, pastures/water/shelter/fencing), access to improved markets, support in acting collectively, support in VC negotiations, forward contracts for stock.
Non-Poor - Numbers vary widely and can be hundreds of cattle/goats. In semi-arid areas 16 cattle/14 goats. Not socially and practically inclusive of women, though there are isolated examples of large herds owned by women.	Slow stock build-up, limited incentives to improve animal husbandry practices, high market transaction costs, limited financial resources for fattening, limited understanding of potential VC opportunities.	Financial support for breeding/fattening, increase in throughput to benefit from scale economies, VC opportunity advice, business development support.

Attachment 3 – Main Documents Consulted

Arndt, C., James, R., Simler, K., 2006. *Has Economic Growth in Mozambique been Pro-Poor?* Journal of African Economies 15(4): 571-602.

Boughton, D., D. Mather, D. Tschirley, T. Walker, B. Cunguara, E. Payongayong. *Changes in Rural Household Income Patterns in Mozambique 1996-2002 and Implications for Agriculture's Contribution to Poverty Reduction*. MINAG Working Paper, Maputo, Mozambique, 2006.

Boughton, D., D. Mather, C. Barrett, R. Benfica, D. Abdula, D. Tschirley and B. Cunguara. *Market participation by rural households in a low-income country: an asset-based approach applied to Mozambique*. Faith and Economics 50(2007): 64-101.

CAP 2011. *Agricultural Census of Mozambique 2009-2010*, National Statistics Institute.

Cunguara, B., Hanlon, J., 2010. *Poverty is not being reduced in Mozambique*. Crisis States Research Centre, Working Paper No. 74, London School of Economics and Political Sciences.

Cunguara, B., Langyuntuo, A., Darnhofer, I., *The role of non-farm income in mitigating drought risk among farmers in rural Mozambique*. Manuscript submitted to Agricultural Economics in July 2010.

Cunguara, B., Darnhofer, I., *The impact of improved agricultural technologies on household incomes in rural Mozambique*. Manuscript resubmitted to Food Policy in June 2010.

Cunguara, B., Moder, K., *Is agricultural extension helping the poor? Evidence from rural Mozambique*. Manuscript submitted to Journal of African Economies in May 2010.

Cunguara, B., 2009. *Pathways out of poverty in rural Mozambique*. Lambert Academic Publishing, Germany.

DHS 2003, *Demographic and Health Survey Mozambique*

IFAD 2011, PRONEA MTR Working Papers 1,3 and 4.

FAO/WFP 2010, *Special Report Crop and Food Security Assessment Mission to Mozambique*.

Government of Mozambique, 2006. *Plano de Acção de Redução de Pobreza Absoluta 2006-2009*. Conselho de Ministros, Maputo, Mozambique.

Government of Mozambique (2011) *Poverty Reduction Action Plan 2011-2015*

Hanlon, J., Smart, T., 2008. *Do Bicycles Equal Development in Mozambique*. Woodbridge: James Currey

Hanlon, J., 2010 *Is Poverty Decreasing in Mozambique?* Open University England, Conference Paper No.14

ILRI (2008) *Small Ruminant Value Chains as Platforms for Reducing Poverty and Increasing Food Security in Drylands Areas of India and Mozambique*, Proposal for Grant Submitted to IFAD.

INE (Instituto Nacional de Estatística), 2004. *Anuário Estatístico*. 2004. Maputo, Mozambique.

INE (Instituto Nacional de Estatística) 2008, *Inquerito Sobre Orcamento Familiar*

Mather, D., 2009. *Measuring the impact of public and private assets on household crop income in rural Mozambique, 2002-2005*. MINAG Working Paper n. 67E, Maputo, Mozambique.

Mather, D., D. Boughton, B. Cunguara, *Household income and assets in rural Mozambique 2002-2005: Can pro-poor growth be sustained?* MINAG Working Paper n. 66E, Maputo, Mozambique, 2008.

MPD (Mozambique Ministry of Planning and Development), 2010. *Poverty and well-being in Mozambique: The Third National Assessment (2008-9)*. Maputo.

Radeny, M. and N. Johnson (2011) *Livestock, Livelihoods and Market Participation in Rural Semi-Arid Mozambique: LiLi Markets Baseline Survey Results on Livelihoods, Income and Food Consumption as well as the fieldwork of the livestock consultants during the design mission*.

TIA 2002-2008, *Trabalhos de Inquérito Agrícola 2002-2008*. Departamento de Estatística, Direção de Economia, Ministério da Agricultura (MINAG), República de Moçambique, Maputo, Moçambique.

Tschirley, D (et al) *Can Horticulture Pull African Smallholder Farmers Out of Poverty?* Paper Presented at Agricultural Policy Symposium 20-22 April 2011.

UNAC, 2010. *Plano Estratégico 2011-2015*. Aprovado pela Assembleia Geral, Outubro 2010. União Nacional de Camponeses.

UNAC 2011, *Lords of the Land - Preliminary Analysis of the Phenomenon of Land Grabbing in Mozambique*, Maputo.

UNDP 2011, *Mozambique Quick Facts*, UNDP Economic and Policy Analysis Unit

UNDP 2008, *Mozambique National Human Development Report*, Maputo.

Walker, Thomas, David Tschirley, Jan Low, Maria P. Tanque, Duncan Boughton, Ellen Payongayong, and Michael Weber. 2004. *Determinants of Rural Income, Poverty, and Perceptions of Well-being in Mozambique in 2001-2002*. MINAG/DE Research Report No. 57E. Maputo: Ministry of Agriculture and Rural Development. (<http://www.aec.msu.edu/fs2/mozambique/wps57e.pdf>)

WFP (World Food Program), 2010. *Mozambique Country Overview*
<http://www.wfp.org/countries/mozambique>. Accessed on August 3, 2010

WFP 2010, *Comprehensive Food Security and Vulnerability Analysis; the Agricultural Marketing and Information System*

World Bank 2011, *Project Appraisal Document, PROIRRI – Sustainable Irrigation Development Project*, Maputo

World Bank 2007 *Beating the Odds: Sustaining Inclusion in a Growing Economy: A Mozambique Poverty, Gender and Social Assessment*; Maputo

Attachment 4: District Level Extension Capacity

District (Province)	Area (km ²)	Household density in 2010 (households / km ²)	PRONEA Extension staff 2010	Private/ NGO extension staff (2006)	Total extension officers	Number of households per extension officer
Inhambane Province						
Morrumbene (I)	2,358	14.7	9	2	12	2,890
Homoine (I)	1,942	15	8	6	15	1,936
Inhassoro (I)	6,299	2.2	3	6	9	1,509
Jangamo (I)	1,288	19.7	8	9	17	1,495
Zavala (I)	2,617	15.2	6	13	20	1,983
Massinga (I)	5,324	11	11	4	16	3,651
Funhalouro (I)	15,678	0.6	3	4	8	1,186
Govuro (I)	4,584	2	4	6	11	826
Mabote (I)	14,231	0.9	3	10	15	827
Panda (I)	6,971	2.1	6	5	12	1,214
Vilankulo (I)	4,700	7.5	5	9	15	2,358
Subtotal (I)	65,992	4.3	66	74	150	1,884
Gaza Province						
Chókwè (I)	1,864	29.1	10	15	26	2,086
Guijá (G)	3,589	5	4	3	7	2,558
Chibuto (G)	5,878	8.8	8	7	17	3,034
Bilene-Macia (G)	2,719	15.3	6	12	19	2,193
Manjacaze (G)	3,748	13.5	7	13	22	2,292
Xai-Xai (G)	1739	29.8	6	9	16	3,239
Chicualacuala (G)	16,035	0.6	7	5	15	694
Chigubo (G)	13,952	0.3	6	10	19	221
Mabalane (G)	9,580	0.8	5	6	12	664
Massangena (G)	10,351	0.4	3	5	9	462
Massingir (G)	5,858	1.2	3	3	6	1,162
Subtotal (G)	75,313	4.0	65	88	168	1,789
Maputo Province						
Boane (M.P)	820	21.6	8	11	19	934
Manhiça (M.P)	2,380	17.1	11	12	24	1,700
Moamba (M.P)	4,528	3	7	4	12	1,132
Magude (M.P)	6,960	1.9	3	9	12	1,116
Matutuíne (M.P)	5,403	2	13	6	19	579
Namaacha (M.P)	2,144	4.6	7	2	9	1,093
Marracuene (M.P)	666	19.6	7	33	42	311
Subtotal (M.P)	22,901	5.2	56	77	137	868
Total (3 Provinces)	164,206	4.3	187	239	455	1,543

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 3: COUNTRY PERFORMANCE AND LESSONS LEARNED

ANNEX 3: COUNTRY PERFORMANCE AND LESSONS LEARNED

Country performance

A Country Programme Evaluation (CPE) was carried out in 2009-2010, which rated overall programme effectiveness and efficiency as moderately satisfactory, with significant variations determined by different capacities of contracted service providers and different implementation arrangements. The CPE noted that efficiency had improved over time and had generally been superior when implementation was managed by a full-time Programme Facilitation Unit. The CPE also noted that in most cases, private and civil society organisations rather than government agencies are best positioned to develop the capacity of private sector entities, although they have been rarely considered as important implementing partners.

Sustainability was overall assessed as moderately unsatisfactory, particularly with respect to achievements related to the private sector with specific problems identified with regard to producers' associations, farmer-run agro-processing businesses, and SME finance in fisheries. In the case of producers' organisations, it was noted that support was often provided by a project-contracted service provider, with support ending at project completion. Hence, sustainability prospects depended on how far the project progressed in maturing the group or activity towards self-reliance and viability before project closure, which was most of the time evidently not sufficient. Similar weaknesses affected agro-processing businesses run by farmers' organisations, which did not reach sufficient command of management abilities.

The contribution to innovations and upscaling was rated moderately satisfactory. Several innovations planned and agreed in design had been abandoned as unrealistic while a number of innovations had been introduced and upscaled during implementation. Overall the CPE noted that projects were insufficiently geared towards tracking innovation and supporting replication.

Two areas were specifically pinpointed for having shown modest performance and limited results, i.e. support to production services for smallholder agriculture and access to formal financial services. In particular, the CPE noted the poor performance of two recent projects, the National Programme for Agricultural Extension (PRONEA) and the Rural Finance Support Programme (RFSP), both with relatively poor performance in the last few years. Two main factors were highlighted to explain this: (i) the limited institutional and human capacity at various levels, from the lead agency to the contracted service providers and the beneficiaries themselves; and (ii) the management and implementation arrangements, undermined by the lack of dedicated project coordination and management capacity to ensure efficiency and effectiveness in implementation.

PRONEA 2011 Mid-Term Review noted that weak MINAG planning, implementation and monitoring capacities resulted in insufficient capacity development for extension management staff, extension workers, and farmer associations in the implementation of the planned change programme. The project was consequently redesigned to make it a self-standing project closely working with the National Directorate of Agriculture Extension (DNEA), instead of a budget support mechanism that had been prevented to sort effects because of limited DNEA capacities.

RSFP last Implementation Support Mission (April 2012) showed persistent poor performance with concerns expressed regarding over-commitment of project funds, support to MFIs owned by private persons, alleged irregularities in FARE's investments, limited management capabilities in the overall low quality of the lending portfolio.

Lessons learned

PROSUL builds on lessons learned out of the IFAD programme evaluation and of project experience. Main lessons, also reflected in the COSOP, can be summarised as follows:

Consultation and participation. Building on consultative and participatory processes to orient project design and implementation develops stakeholder ownership and allows project frameworks to be more realistic and more responsive to actual constraints in project environment. Emphasis needs to be given to mechanisms that ensure participation of main stakeholders in annual review and planning processes. PROSUL design was based on a series of workshops to select target value chains and stakeholders consultative processes and platforms are built into project design throughout all the components.

Flexibility. Flexibility in programme design is critical as it allows project management to develop and adjust interventions in response to the actual situation and to evolving demands.

Mainstreaming gender and inclusion. Efforts with regard to gender mainstreaming have been fragmented and do not appear to have had any real impact. IFAD needs to develop a targeting strategy considering recent evidence from poverty analyses showing that gender inequalities remain widespread throughout Mozambique. Increasing inequalities also call for increased attention to targeting aspects to ensure inclusion of disadvantaged groups.

Farmers' organisations. Farmers' organisations have a key role to play in facilitating market access to smallholders, but most of them are weak and little geared towards providing services to their members. Models applied so far are based on the provision of external assistance by projects, which are usually too short-lived to produce lasting effects, or by the public extension service, which has insufficient resources and skills to provide the strong backstopping required to develop sustainable management capacities and technical expertise.

Capacities. A thorough assessment of institutions and capacities at various levels is a key prerequisite for a successful project. Options for project institutional settings need to be carefully assessed against actual institutional capacity. The availability and capacity of service providers should be a critical factor in orienting investment decisions at the design stage. Support to grass-roots beneficiaries' institutions should factor in the time needed to build the conditions for long-term sustainability. Overall, investment should be commensurate with institutional capacity and support for capacity-building and institutional strengthening should be included in project design.

Implementing agency. In several recent loans, IFAD has integrated implementation responsibilities in government organisations and avoided the establishment of dedicated Programme/Project Units (PU). This has, however, reduced efficiency and the speed of implementation in some cases. In artisanal fisheries, a model has been developed whereby an integrated PU facilitates implementation efficiency as well as the ownership and capacity development of the government partner by seconding staff from the implementing government agency to the PU. Though of a temporary nature, task forces or PUs are in many countries considered a normal part of the government machinery. Once the change process has been completed and the innovation accepted and integrated in government, the relevant authority takes over and the PU is dissolved. The PU model applied in artisanal fisheries provides a positive lesson and inspiration for how to organise implementation in the future.

Endogenous policy dialogue processes. The most effective policy dialogue is the result of an endogenous process of dialogue among national institutions. The combination of support for policy and institutional development and field activities has been very effective in providing inputs from the grass-roots level to identify constraints and possible practical solutions. This lesson is also built into project design, in particular through the development of value chain stakeholders' platforms at different levels, and in close linkages between field activities, monitoring and knowledge management, and policy development.

Innovation. A more structured approach for innovation and scaling up and dedicated resources and efforts are needed in policy dialogue, knowledge management, and building partnerships, which are essential for replication and scaling up innovations. Areas in which innovation should be pursued include continued efforts in ensuring that policy initiatives are adopted as national legislation, developing new rural financial services and products, supporting grassroots organisations, and pioneering strategic partnerships with private sector organisations active in fields relevant to the country programme.

PROSUL also takes stock of the experience of other projects and players involved in supporting inclusive agri-business value chains and farmers' organisations, in particular with regard to the following issues:

Farmers' organisations. PROSUL builds on new, emerging approaches such as outgrowers' schemes and forward contracts. It also takes stock of the mixed experience of *casas agrárias*, farmer-owned service centres established in connection with irrigation schemes, to propose a new service hub model securing cost recovery and sustainability;

Market linkages. There is an increasing diversity of players on which to base small farmers' access to market, including (emerging) commercial farmers, traders, processors, institutional buyers and farmers' organisations. The promotion of market linkages can therefore not rely on one single support model, but should rather rest on a thorough identification of market agents that exist or can be attracted in project implementation areas, and on the design of tailor-made packages to support marketing arrangements in accordance with players' capacities. This approach is supported in the project by the development of scoping and feasibility studies, and by the provision of a mix of capacity building, legal/technical assistance, and access to financial services;

Financial services. Available financial products on offer by commercial banks and MFIs are not accessible to smallholders because of excessive interest rates and conditions that they can hardly meet. Furthermore, the lack of venture capital hampers the development of agribusiness start-ups willing to engage into partnerships with smallholders. PROSUL will promote innovative instruments to fill current gaps and support inclusive agricultural investments, building on the existing financial infrastructure and on innovative experiences financed by the government and by donors.

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 4 – DETAILED PROJECT DESCRIPTION

Republic of Mozambique
Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report

ANNEX 4 – DETAILED PROJECT DESCRIPTION

TABLE OF CONTENTS

<u>Section 1 – Horticulture Value Chain Development</u>	2
<u>Section 2 – Cassava Value Chain Development</u>	21
<u>Section 3 – Ruminants</u>	31
<u>Section 4 – Financial Services</u>	42
<u>Section 5 – Service Hubs</u>	69
<u>Section 6 – Outgrowers’ Schemes</u>	82
<u>Section 7 – Farmers’ Organisations And Access To Services</u>	86
<u>Section 8 – Land Tenure Security</u>	105

Attachment 1: Horticulture: Detailed Description of Irrigation Sub-component

Attachment 2: Draft Terms of Reference for Scoping Studies

Attachment 3: Cassava: Multiplication of Cassava Cuttings

Attachment 4: Financial services and Business Models

Attachment 5: Draft Terms of Reference for Hub Staff

Attachment 6: Land Tenure Security

SECTION 1 – HORTICULTURE VALUE CHAIN DEVELOPMENT

• RATIONALE

1. In the three selected provinces, the total area under irrigation is currently above 70 000 ha, of which only 19 354 ha are operational. The following table illustrates the average land size under irrigation in the three provinces as well as the total number of farmers exploiting those surfaces. For Gaza province, three large perimeters (Chokwe, Macia and Xai-Xai) have been isolated because of their different characteristics in terms of average land size.

Table 1: Irrigated Perimeters in Gaza, Maputo and Inhambane Provinces

Provinces	Total irrigated land	Irrigated land under exploitation	Average land size per plot	# of farmers on exploited land
Gaza				
- Xai-Xai perimeter	8.735	4.827	0,9	5.363
- Chokwe perimeter	33.334	8.500	0,9	9.444
- Macia perimeter	8.000	1.250	0,9	1.389
- Other perimeters	8.353	598	0,5	1.196
Sub-total	58.422	15.175		17.393
Maputo				
- Perimeters > 0.5ha/farmer	8.477	3.446	0,8	4.308
- Perimeters < 0.5ha/farmer	979	246	0,4	615
Maputo	9.456	3.692	1,2	4.923
Inhambane	2.645	643	0,5	1.286
Total	70.523	19.510	0,83	23.601
Total area considered for the project	11.977	1.487		3.097

Source: National Directorate of Agricultural Services, 2011

2. **Target group.** Horticulture benefits from favourable agro-ecological conditions, close and growing markets, availability of irrigated schemes and permanent water and proximity to inputs and hardware providers. Smallholders farm an estimated 90% of the areas devoted to horticulture throughout the country, on plots of less than 1 ha. They mostly produce during one season, using traditional technologies and a minimum of inputs. The horticulture value chain is not in itself self-targeting to the poor and includes large non-poor producers. However, apart from irrigation, the horticulture value chain has low entry barriers and provides potentially quick returns to a large number of smallholders even with parcels of 0.5 ha, which is the average plot size. In addition, it involves a large number of women in all aspects of the chain, generates a significant demand for labour and is the only source of cash income for a large number of rural poor households.
3. Because it is so largely farmed in the southern provinces, horticulture represents a major value chain for a large numbers of vulnerable households. Positive indications with regard to the development of potential markets, strong government involvement with some donors' support (AfDB, USAID, IsDB, Brazilian and Dutch governments), as well as technical service providers (IIAM, SNV, IDE, University of Michigan, University of Florida) may turn a low-income generating activity into an activity that would lift permanently smallholders above the poverty line. As revealed by field work carried out during the design, such opportunities exist for the various categories of farmers, including the poorer ones. Poorer producers that are caught in a cash trap whereby they have to resort to labour on other small-holdings to meet their immediate food security, would in particular gain from the development of the horticulture value chain, especially from the development of existing irrigated perimeters, as well as from the improvement of access to services and to markets.

4. While not part of the primary target group, emergent and commercial farmers with stronger skills offer good opportunities to develop outgrowers' schemes that would open smallholders' access to knowledge, inputs, financial resources and markets.
5. **Markets.** The demand for horticulture products is continuously increasing in all sectors (high-end markets for quality products such as restaurants and hotels, national markets and regional/local markets for lesser quality products). Available data shows that imports from South Africa and other neighbouring countries represent approximately 50% of the total production sold in the markets while during the low season, they represent more than 75%. The development of chains of supermarkets and department stores in the country will also contribute to increase the demand for local quality products. With low costs of production compared to South Africa and comparative advantages with regard to seasonality, Mozambican farmers once organized can become major suppliers of these new channels.
6. **Constraints.** While the Southern provinces are well endowed in irrigation schemes, the majority of these are either unexploited or hampered by degradation and poor efficiency of Water Users' Associations. Low productivity, lack of access to improved seeds, inputs and mechanisation, limited access to markets that are poorly organised, the low development of support services, including financial ones, and the lack of storage are also hindering the production of smallholders in rural areas. Furthermore, most farmers are growing the same products and, given the lack of storage facilities, products crowd the market over the same, limited period, contributing to low market prices. Added value on horticulture production is made by third-parties who have access to adequate storage facilities or financial resources. With proper financing of adequate farmers' organisations owned storage facilities, the largest share of this added value, which ranges from 40 to 300% could be passed on to smallholders.
7. **Government support.** National strategies for agriculture and horticulture policy developed by the Government of Mozambique are addressing previously mentioned issues: (a) promotion of increased productivity of farmers' associations; (b) development of business-oriented farmers' associations; (c) focus on small-scale irrigation scheme to develop block production, and (d) creation of an innovation fund that could provide working capital with an acceptable interest rate. The Southern region of Mozambique, which provides adequate locations for horticulture production and benefits from the proximity of Maputo and South Africa markets, is paradoxically the less developed region in terms of modern horticulture production.
8. A detailed value chain analysis and review of current government and donors' support is provided in Working Paper 1.

• OBJECTIVES AND APPROACH

9. The component aims at increasing the income of smallholders growing vegetables in selected irrigated perimeters, by assisting them in intensifying vegetable production, accessing support services to raise productivity and quality, and developing remunerative market linkages both with modern and traditional markets. The component will target small farmers with an average of 0.6 ha in and around existing irrigated schemes in seven target zones over eight districts in the provinces of Gaza and Maputo. It will be implemented through three main strategic thrusts. *First, it will promote year-round vegetable production*, thereby allowing farmers to supply markets products off the peak season and to earn higher prices. This will be achieved by: (i) financing small investments aimed at developing existing irrigation schemes; (ii) providing access to low-cost greenhouses; and (iii) promoting efficient water usage and irrigation operation and management, as well as adequate seeds and farming practices that would further improve production and mitigate drought risks. *Second, it will develop linkages between smallholders and other stakeholders in the value chain*, to gain better access to both market and

services. This will be achieved through innovative approaches, especially for the southern provinces, including outgrowers' schemes and the development of professionally managed horticulture service hubs co-owned by farmers. The hubs will be run on a cost-recovery basis and will provide farmers with sustainable access to services and markets. The project will also build the capacities of farmers and other value chain stakeholders (including small collectors and traders) to engage with the markets and negotiate higher margins, based on enhanced quality and on regular supply. *Third, it will develop a favourable value chain environment*, by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation.

10. The component comprises three sub-components:

- Improvement, rehabilitation and expansion of existing irrigated perimeters*, including activities related to the implementation and capacity building of Water Users' Associations (WUAs);
- Strengthening linkages between value chain stakeholders*, including promoting smallholders' access to services and markets through service hubs and outgrowers' schemes, promoting innovation to develop production in accordance with market requirements, supporting farmers' organisations so that they can integrate the value chain
- Developing a conducive value chain environment* by setting up multi-stakeholders' platform and supporting knowledge management and communication.

11. **Expected outcome.** The expected outcome of the component is that around 4,800 farmers producing vegetables on operational, well-managed irrigated schemes in selected target zones of Maputo and Gaza province will raise their income through increased productivity, volumes and quality of vegetables reaching both traditional and modern market segments. It is expected however that an additional large population of farmers, including those cultivating other crops, will be serviced by the service hubs.

• DESCRIPTION OF THE COMPONENT

Sub-component 1.1: Development of existing irrigated perimeters

12. The project will assist in developing effective irrigation and agriculture production in a total of 2,101 ha of existing irrigated schemes, currently improperly used or in total disuse. Two types of works are envisaged:
- *improvement works* required to improve irrigation in currently operational schemes. The improvement of irrigated land under exploitation will increase the current yield by an estimated 40% minimum (based on farmer interviews);
 - *rehabilitation works* required to getting schemes that are currently not being cultivated into operation.
13. Both improvement and rehabilitation works include infrastructure works such as the cleaning of canals, clearing and bank stabilization, repair and maintenance of sluice gates and pumping units.
14. **Small-scale schemes.** The selection of PROSUL small-scale schemes builds on an initial list provided by the Ministry of Agriculture (MINAG) and on a further screening process based on the following criteria: (i) current cultivated area; (ii) average plot size in line with the target group; (iii) accessibility; (iv) performance of the Water User's Association (WUA); (v) technical feasibility; (vi) costs and (vii) potential for expansion.
15. A total of 32 schemes have been evaluated using the selection criteria, resulting in the final selection of 19 schemes clustered in six target zones over 8 districts as indicated in Table 2. The 19 schemes total 2,100 ha and 3,140 existing beneficiaries, of which around 65% of women. In

most schemes, plots are already allocated to farmers. Average size plot in areas currently in operation is 0.4 ha and farmers correspond to extremely poor (less than 0.5 ha) and poor (see Annex 2 – Poverty, Targeting and Gender, Appendix 2). In some rehabilitation schemes, additional areas will become available for land allocation for an estimated 660 beneficiaries. The total number of beneficiaries of the 19 schemes is thus 3,800 households.

Table 2: Selected Schemes in 6 Target Zones in Maputo and Gaza Provinces

Target Zone	Code	Scheme	Priority	Improvement		Rehabilitation		Beneficiary households	
				Area (ha)	Costs (USD)	Area (ha)	Costs (USD)	Existing	Additional
Moamba (M)	M-08	1. Bloco I*	P1	300	210,000	90	472,500	320	180
	M-09	2. Bloco II*	P1	150	525,000	90	630,000	350	180
		Sub-total		450	735,000	180	1,102,500	670	360
Marracuene (M)	M-13	3. Pateque	P2	-	-	30	42,000	90	-
	M-14	4. Bobole 1B	P1	106	265,000	-	-	239	-
	M-15	5. Bolaze	P1	97	242,500	-	-	209	-
	M-16	6. Eduardo Mondlane	P1	102	255,000	-	-	220	-
		Sub-total		305	762,500	30	42,000	758	-
Namaacha/Boane (M)	M-01	7. Manguiza 1	P2	10	17,500	-	-	41	-
	M-02	8. Manguiza 2	P2	8	28,000	-	-	45	-
	M-05	9. Mafuiane	P2	-	-	196	343,000	256	-
		Sub-total		18	45,500	196	343,000	342	-
Total Maputo				773	1,543,000	406	1,487,500	1,770	360
Chokwe/Guija (G)	G-02	10. 25 de Setembro	P1	-	-	50	87,500	41	50
	G-04	11. Gandlaze	P1	45	315,000	45	315,000	180	-
	G-07	12. Nhatine	P1	50	175,000	50	350,000	112	100
	G-08	13. 7 de Abril	P1	70	122,500	30	105,000	62	60
		Sub-total		165	612,500	175	857,500	395	210
Manjacaze (G)	G-11	14. Vunguine	P1	130	325,000	45	225,000	345	90
	G-12	15. Banguene	P1	110	275,000	-	-	156	-
	G-13	16. Banze	P1	105	262,500	-	-	120	-
		Sub-total		345	862,500	45	225,000	621	90
Chibuto (G)	G-14	17. Maniquenique	P2	7	12,250	5	8,750	71	-
	G-15	18. Tchaimite	P2	-	-	110	577,500	207	-
	G-16	19. 7 de Setembro	P2	15	52,500	55	288,750	80	-
		Sub-total		22	64,750	170	875,000	358	-
Total Gaza				532	1,539,750	390	1,957,500	1,374	300
Grand Total				1,305	3,082,750	796	3,445,000	3,144	660

16. Average cost is USD 2,362/ha for improvement works and USD 4,327/ha for rehabilitation. Beneficiaries will finance 5% of total construction cost.

17. **Regadio do Baixo Limpopo.** Furthermore, in a 7th Target Zone, PROSUL will implement support activities to develop production and marketing of horticulture in the Nhocoene Block of the Regadio de Baixo Limpopo, a large irrigation scheme where AfDB-financed Small Scale Irrigation Project (SSIP) recently rehabilitated some 12,000 ha. With the rehabilitation of the

drainage system, horticulture can again be developed. Apart from rehabilitation works, the AfDB project has established seven agricultural service centres (*casas agrárias*) on the hillsides bordering the horticultural areas, which are owned and managed by farmers' associations. Overall, insufficient support to farmers' organisations in charge of management have led to mixed performance and sustainability of these centres.

18. The project will specifically target Nhocoene Block, which covers 900 ha and is farmed by 1,000 smallholders, thus with an average plot size of 0.9 ha. This block was selected because of the good conditions (soils, drainage, access) for vegetable cultivation, the performance of the Nhocoene Association and the performance of the *casa agrária*.
19. Although main infrastructure (drainage and road system) was rehabilitated, an amount of USD 100,000 is reserved for minor infrastructure improvement interventions, such as construction of water control structures and tertiary block development. This allocation also covers the cost of related studies, including economic, social and environmental aspects, as well as the assessment of the organisational capacity of the WUA.
20. **Participatory implementation process.** General implementation of the sub-component will rest on the Guidelines for Irrigation Development (National Directorate for Agriculture Services - DNSA, 2007), which describe activities to be undertaken at each stage of irrigation development, from feasibility studies to operation and maintenance. It also describes the roles and responsibilities of the parties involved in each activity, i.e. water users, DNSA (now National Institute for Irrigation - INIR) at national and provincial level, District Services for Economic Activities (SDAEs) at district level and consultancy firms and contractors. It is recommended that PROSUL consults INIR as well as World Bank-financed PROIRRI currently in operation to identify lessons learnt and modifications that should be brought to this implementation process.
21. **Feasibility.** Feasibility studies will be carried out by a specialised firm to be contracted through competitive bidding. The studies will make sure that planned investments are technically sound and cost-effective so as to spread their benefits as widely as possible, with low operation and maintenance (O&M) costs and minimum need for reliance on external support. They will also take into account the possible multiple use of water for irrigation, cattle drinking water and for washing places. Schemes will be designed in consultation with farmers, and preliminary design options will be presented to and discussed with them. The design phase for each scheme will also include a detailed capacity assessment of the existing WUA.
22. Environmental Impact Assessments (EIAs) will be carried out where appropriate (schemes to be rehabilitated over 100 ha). Among the PROSUL schemes beyond 100 ha, only two may involve rehabilitation works that require an EIA, which will be verified with INRI. These are: (i) Chaimite in Chibuto, with construction developed under the Drought Mitigation Project (EU); and (ii) Mafuiane in Maputo, which has functioned since 1993 but needs major repairs on the pumping station. The LSP will verify if there is any need to carry out EIA for these two schemes. If so, they will be carried out as part of the design studies.
23. **Land allocation.** A selection process will be carried out for the allocation of land to new beneficiaries in expanded schemes, which will rest on:
 - *preliminary participatory diagnostic* of current use and ownership of the land to be irrigated;
 - *set up of an irrigation committee* with representatives of the WUA and of communities involved to participate in the process (including 50% of women and a representation of various socio-economic groups);
 - *communities' /existing WUA's agreement on criteria for selecting beneficiaries*, building on the following criteria: (i) no irrigation plot or with maximum plot size of 0.6 ha; (ii) at least

- 50% of women, with priority to women-headed households; (iii) resident in the area; (iv) farming is main activity; (v) no access to other irrigation areas.
- *selection of beneficiaries* by the irrigation committee;
 - *final selection* to be validated by the Horticulture Lead Service Provider and PROSUL Coordinator.
24. The whole process will be implemented by a Land Tenure Service Provider with the guidance of the Land Advisor, under the Land Tenure Security Sub-Component in Component 5 (see Annex 4, Section 8 Land Tenure Security).
25. **Construction.** Civil works will be carried out by competent contractors selected through competitive bidding. Farmers will participate in construction through the provision of labour as well as in the supervision (quality control) of works.
26. **Strengthening WUAs.** Farmers in the selected schemes are all organised in associations, with considerable variations in the level of organisations and associations' capacities. PROSUL will support the development of sustainable WUA capacities to operate and maintain their schemes. Capacity building will be provided to WUAs on: (i) participatory design and supervision of work; (ii) scheme operation and maintenance (O&M) and related planning; and (iii) pump operation and maintenance. Capacity building programmes need to be tailor-made based on each specific scheme requirements and on WUAs current level of capacities. They will be jointly defined with each WUA, building on the following participatory process:
- *assessment of the current status of the WUA*, including its organisation, O&M practices, fee collection;
 - *assessment of O&M scheme requirements and of capacity gaps*. This will also entail reviewing the roles and responsibilities of the WUA, and ensuring a clear separation with any collective roles linked to production and marketing, for example, as is often the case, through setting up a specific committee or sub-group for the purpose or, where adapted a separate organisation;
 - *formulation of a capacity building plan* defining relative activities, timeframe and indicators. The plan will be part of the Value Chain Development Action Plan (VC DAP – see Sub-component 2).
27. The Horticulture LSP will be responsible for overall implementation of capacity building plans in collaboration with WUAs. Capacity building activities will combine trainings and regular coaching by LSP irrigation engineers and the hub technical advisor. Annual participatory capacity assessments will be carried out and the plan will be updated accordingly. A major final output of each capacity building programme will be the production of an O&M Manual for each scheme. The manual will be designed in a simple form making it accessible to WUA members.
28. **Land management.** A register of plot allocations to each member will be set up by each association with support provided by the LTSP and the Horticulture LSP, and will be used to record any changes in plot allocations. The register will include information on the member, a unique number for each parcel and the estimated area of the plot. The conditions and terms of member's use rights including duration of these rights and rules and procedures for transferring or extinguishing use rights will also be included either in the main text or in annexes of the constitution and articles of association. It is anticipated that the duration of rights will depend on continuous use and payment of user fees.
29. Furthermore, the project will finance the cost of land demarcation for each of the participating WUAs and schemes, as part of the sub-component on Land Tenure Security in Component 5.
30. In the case of the *Regadio de Baixo Limpopo*, where a public company has been granted a DUAT and in which PROSUL may support farmer associations, it is anticipated that DUATs will not be granted to the associations. Nevertheless, contractual arrangements between the

association and the company should stipulate that the use rights are granted for the duration of the existence of the association, provided the land is used for the agreed purposes, and that the termination of such contractual arrangements will be subject to mutual agreement between the company and the association. Agreement on the above measures should be reached between the *Regadio de Baixo Limpopo* public company and CEPAGRI prior to the commencement of PROSUL's support in the scheme.

31. **Irrigation Management Transfer (IMT).** It is expected that the legislation on irrigation management arrangements as established in Resolution 10/2010 will be further elaborated in rules and regulations and procedures in the coming years. The project will assist in the implementation of the IMT in the schemes targeted by the project according to these newly developed procedures.
32. **Institutional support.** PROSUL will provide institutional support to irrigation staff at the provincial and district level in those provinces and districts where it will develop irrigation schemes, using the same approach and methodology as PROIRRI. Capacity building assistance at provincial level will include: (i) participatory irrigation planning and design, (ii) preparation of terms of reference for design studies and tender documents; (iii) monitoring, including quality control of irrigation construction and (iv) operation and maintenance. At district level training will be provided to agricultural extension staff of the SDAE and to service hubs' technical advisors in: (i) planning; (ii) monitoring and quality control, and (iii) operation and maintenance. The irrigation specialist together with the short term institutional irrigation advisor of the LSP will assess the training requirements, review existing available training modules and training institutes in close collaboration with PROIRRI and elaborate the training plans. Training will be provided through short courses. A total of 10 short courses (5 in each province) are envisaged for provincial level staff and 35 for district irrigation staff (5 in each district).
33. **Implementation arrangements.** The Horticulture LSP will bear overall responsibility for implementing sub-component 1, which will include: (i) providing assistance to INIR in the procurement of a consulting firm to carry out construction design and supervision and of private contractors to carry out the works; (ii) strengthening WUAs capacities in collaboration with INIR and SDAEs; (iii) raising the capacities of the ministry of Agriculture staff departments dealing with irrigation at provincial and district level in planning and supervising irrigation works along the PROIRRI Capacity Development Programme approach and methodology and assisting it in carrying out its responsibilities.
34. Implementation of irrigation works will be carried out in parallel with the strengthening of WUAs and will include four stages:
 - a) *identification and planning:* the scoping study to be carried out throughout the targeted area for horticulture at project inception will include an assessment of the interest of existing WUAs to participate in the project. Dissemination meetings will be conducted to explain the objectives and conditions of the project as well as the planning of activities. Once agreement is reached, a document will be signed with an explanation of PROSUL objectives and conditions as well as farmers' commitment to participate in the planning and implementation of activities and to take full responsibility for O&M;
 - b) *organisation and preparation:* once the agreement is signed, a full feasibility study will be conducted and cover the engineering, economic, social and environmental aspects, as well as the organizational capacity of the WUA. At the end of the preparation stage, the final design of the scheme will be discussed with the farmers, including the planned time-schedule for construction, planning of the O&M requirements, capacity building plan, costs and farmers' participation in construction and supervision. The preparation stage will be concluded with a signed agreement stipulating the roles and responsibilities of the LSP/INRI and of the WUA. Most of the training activities as defined in the capacity development plan will be implemented in this stage, such as technical training on water

distribution, water requirements, canal maintenance, planning and costing of scheme management. Final outputs will be a Scheme Operation Plan, a Scheme Maintenance Plan, a Financial Plan and an O&M Manual.

- c) *implementation*: once agreement is reached, the procurement for the construction works will start. The WUA will receive training on its roles and responsibilities in construction and supervision, and it will form a quality control committee. Most of the training activities as defined in the capacity development plan will be implemented in this stage. When the construction is concluded, the scheme will be tested on the proper technical functioning for at least 12 months, after which it will be officially handed over to the association.;
- d) *operation and maintenance*: in this stage the project involvement will be limited to monitoring the implementation of the operation and maintenance plans and providing coaching as appropriate. Possible weaknesses in scheme management will be assessed and additional capacity building activities provided.

35. **Phasing.** Activities related to civil works will be phased as indicated in Table 3.

Table 3: Phasing of Irrigation Civil Works

Target Zone	2013	2014	2015	2014
Moamba Chokwe/Guija	Scoping study	Design Procurement of construction	Construction	
Marracuene Manjacaze Namaacha/Boane Chibuto	Scoping study		Design Procurement of construction	Construction
Regadio do Baixo Limpopo	Scoping study	Design Procurement of construction		

- 36. Criteria for selecting the two clusters to start in 2014 are the fact that they have the largest areas currently in operation. In addition the Regadio de Baixo Limpopo only requires minor civil works, if at all, and is therefore ready to start quite quickly on strengthening WUAs and promoting horticulture.
- 37. **LSP staffing.** The LSP will hire staff required to perform its responsibilities in accordance with the technical proposal submitted to the PMT in the competitive bidding process. In addition, it will resort to short term technical assistance (total 12 months over 4 years) by: (i) a construction engineer for reviewing designs and ensuring quality control of the construction works, and (ii) an institutional irrigation advisor to assist in the strengthening of the WUAs and institutional support to irrigation staff at provincial and district levels.
- 38. **Land tenure security.** All activities related to land tenure security will be carried out by the Land Tenure Service Provider (LTSP), along the modalities detailed in Annex 4, Section 8 – Land Tenure Security, in close collaboration with the LSP and INIR.
- 39. **Partnership with AfDB.** AfDB is currently formulating a new project called ‘Climate Resilience through Sustainable Land and Water Resources Management Project’. One of the possible target districts is Guija (Gaza), where it may address irrigation. CEPAGRI will share its plans with AfDB to avoid a possible overlap.

Sub-component 1.2: Strengthening linkages between value chain stakeholders

- 40. An initial scoping study will identify opportunities to develop linkages between farmers and other value chain stakeholders. Based on outcomes, the project will adopt a flexible approach with a view to develop farmers’ access to services and markets. Where commercial farmers are

interested, the project will promote outgrowers' schemes. Otherwise, it will support the creation and development of professionally managed service hubs that will be co-owned by farmers. In either scenario, the project will assist value chain stakeholders to access new techniques and markets and to develop linkages to further strengthen value chain dynamics.

41. **Scoping study**³⁷. A participatory scoping study will be carried out at project inception to identify value chain stakeholders, including WUAs, assess their interest in participating in the project as well as their capacities, identify specific market opportunities and products³⁸, lay out business development opportunities that have potential for increasing the income of smallholders (including outgrowers' schemes), and identify investors interested in participating in service hubs. The study will be carried out by the Horticulture Lead Service Provider (LSP) in coordination with the targeting and gender studies (described in Annex 2), and with the mapping of existing and planned community and concessionary DUATs and investment hot spots (described further down in Section 8). It will provide baseline data upon which to base monitoring and evaluation. Findings and recommendations will be presented to the Regional Value Chain Platform (see below) for discussion and validation, and they will form the basis for the preparation of the first Value Chain Development Action Plan (see Implementation arrangements below).
42. **Outgrowers' schemes**³⁹. PROSUL will promote contractual arrangements between smallholders' organisations and selected commercial farmers or traders along modalities ensuring fair contracting and enforcement to the benefit of smallholders. There will be two types of arrangements:
 - outgrowers' schemes*, whereby smallholders would have an integrated access to inputs, technical assistance, agricultural equipment, credit and market linkages by entering into contractual arrangements with a buyer, most likely a commercial farmer. The contract would specify the volume and quality of production to be delivered by smallholders along pre-determined pricing modalities (including the payment of a premium where the buyer would get a higher purchasing price than the one established in the contract), as well as the modalities along which the buyer would provide inputs, mechanisation and technical assistance. The cost of inputs and equipment released to smallholders would be financed through a loan, which would be either secured by the buyer through his/her own bank or accessed through microfinance institutions participating in PROSUL. In both cases, the contract would be used as a collateral, and the buyer would pay the loan back by deducting the cost of inputs and equipment from the price paid to smallholders;
 - forward contracts*: in the likely event that the buyer would not want to provide assistance or inputs to smallholders, these could access them through PROSUL-promoted service hubs (see below). In such case, the forward contract would only consist in an agreement by the buyer to purchase smallholders' production at a pre-set price, with the possibility of a premium to be paid in a second stage.
43. The project will assist buyers and small farmers in the project target areas to engage in outgrowers' schemes. PROSUL will finance support activities including:
 - information workshops*: in collaboration with the PMT, the Horticulture LSP will organise a workshop with interested buyers and smallholders' representatives to provide information on the various types of arrangements and on mutual benefits and obligations for either parties, implementation modalities and support that could be provided by PROSUL;
 - technical and legal assistance*: the Horticulture LSP will provide assistance to buyers and smallholders for the negotiation drafting and monitoring of contractual arrangements, including

³⁷ Detailed terms of reference for the scoping study to be carried out in each of the value chain-based components are proposed in Attachment 2.

³⁸ Economic models are based on a mix of potatoes, cabbage, carrots, tomatoes and sweet peppers.

³⁹ See details in Section 6.

for determining: (i) production volume, quality and delivery time; (ii) technical requirements to be followed by smallholders; (iii) determination of profit margins for either party and of pricing modalities according to quality specifications; (iv) modalities for accessing inputs, rental of equipment and technical assistance, including possible role of hubs and payment. Specialised technical and legal assistance will also be made accessible through project financing (as part of Component 5). The monitoring of contract enforcement will be included in the obligations of the Horticulture LSP;

study tours: in addition, study tours of buyers/farmers' representatives will be organised to neighbouring countries, in particular South Africa, to visit successful outgrowers' schemes.

44. **Service hubs**⁴⁰. Where outgrowers' schemes are not possible, service hubs constitute an alternative model to provide the core set of services that farmers will require to integrate value chains, retain part of the added value and generate remunerative income. In the horticulture value chain, the service hub is a physical construction where farmers can access services, including access to inputs, financial services, technical assistance, agricultural equipment, market linkages, storage and transport. This setting calls for specific provisions to regulate the ownership and management of the building and equipment, and to ensure that services can be made accessible in a sustainable fashion.

45. **Services**. One service hub will be set up in connection with each of the seven target irrigation clusters. Hubs in the horticulture value chain will provide the following services:

storage: farmers, mostly growing the same products, harvest and sell them at the same time and mostly in the same local markets, hence getting low market prices. The same products sold a few weeks after harvest get much higher market prices on local and regional markets because of insufficient supply. While farmers cannot store their production for lack of facilities, traders take the largest share of the added value, because they have access both to storage and financing. The horticulture hub addresses this issue by proposing cold and dry storage facilities for farmers and farmers' organisations in the neighbouring irrigated perimeters. It will allow producers to store part of their production while waiting for higher market prices. The hub manager will be responsible for organising a proper storage system, i.e. allowing to record quantities and grades brought by each single farmer and to store them until they can be sold at a good price. Storage will be coupled with access to warehouse receipt loans. The microfinance institution located at the hub (see below) will extend a working capital loan to the hub company to buy farmers' production at harvest time and price. The hub's manager (see terms of reference in Attachment 2) will sell the stored production when market prices are high. With the proceeds, the microfinance institution's loan is paid back, the operating costs of the storage facilities and a small profit for the hub are covered and the balance is distributed to farmers in proportion to quantity stored;

input supply: while agricultural inputs are available at suppliers in Maputo and in South Africa or at local dealers, they are mostly accessible to commercial farmers because smallholders lack access to finance and to means of transportation. Furthermore farmers' organisations' lack of knowledge harms proper supply planning (quantity required and delivery timing), with local dealers most of the time running out of stock. The horticulture hub addresses this issue by having an outlet within the hub building to be leased out to an input dealer/supplier, with a possibility of storing products;

equipment: lack of access to finance is a hindering factor for mechanized agriculture in irrigated perimeters. In addition, equipment suppliers are far away from production zones. Hubs will include space for storing agricultural equipment to provide access to mechanised land preparation and weeding, either tractor-driven or through animal traction, transport equipment (refrigerated truck), small agriculture equipment such as pumps... This could be done either: (i)

⁴⁰ Details in Section 5.

by leasing out space to an equipment dealer that would sell or lease agricultural equipment and would provide repair and maintenance, including for water pumps; or (ii) by having the hub company purchasing equipment and leasing it out;

financial services: smallholders' production development is hampered by the lack of access to financial resources for purchasing inputs and equipment. The few microfinance institutions (MFIs) able to finance working capital loans charge excessively high interest rates and have stringent collateral requirements, while investment loans are barely financed. In addition, very few MFIs have points of services in production areas resulting in a very high transaction costs for the borrowers. Hubs will enter into arrangements with a microfinance institution⁴¹ (MFI) to secure access to financial services. The MFI will have a microfinance point of services in the hub's premises (through a lease contract) and will offer a wide range of financial products and services to farmers, including working capital and investment loans, warehouse receipt loans, leasing, savings deposits, remittances and transfers;

technical advisory services: lack of access to innovation and technical assistance affect productivity and quality. The horticulture hub addresses this issue by having a technical advisor⁴² who will provide services to farmers related to horticulture production and harvesting, including the preparation of simple business/production plans, in accordance with market requirements. S/he will also be responsible for coordinating in the hub's catchment area all activities aimed at strengthening farmers' organisations and developed by the Horticulture Lead Service Provider, including Farmers' Field Schools. The hub premises will include a fully-equipped meeting room to carry out training of hub's members. Finally, the technical advisor will organise a Joint Team of Experts (see below);

market linkages: hubs will be organised as selling points. Building on the results of the scoping study, the Horticulture Lead Service Provider (LSP) will help the hub manager in contacting buyers (commercial farmers traders, processors, supermarkets etc.) and in developing supply contracts with them. Contracts/purchase could be either between farmers and buyers, or between the hub company and buyers, and could include forward contracts as explained above. The Horticulture LSP will focus on local traders and buyers and will provide them with technical assistance and training. Furthermore, PROSUL will finance a system to secure price information, which will be based on a network of informants in main markets and on a small data base managed by hubs. Finally, hubs will have access to financing for market promotion/exploration for activities that would be identified/validated by the local Value Chain Innovation Platform and the Regional Value Chain Platform. Such activities would either be implemented by the Horticulture LSP to the benefit of the whole lot of hubs in the value chain, or by hub companies directly.

46. To ensure sustainability, service hubs will secure service provision on a commercial basis, so that not only the cost of providing services is entirely recovered (including all of the hub's operation and management costs), but also that a profit can be generated and either reinvested to develop activities, or distributed to owners through the payment of dividends. Profitability is required to attract private investors in the ownership structure. Services will be provided against a fee or a payment, except technical advisory services, whose cost will be covered by the proceeds of other services run on a commercial basis. Through the hub, farmers will have access to short term credit allowing them to finance the cost of services until they get paid for their production.
47. **Hub governance.** The project is expected to finance the construction and implementation of 7 horticulture hubs, one for each of the clusters of irrigated schemes. Each service hub will be established as a limited liability company, whose assets will consist of the equipment and infrastructure that will generate value added (for example agriculture equipment, storage facility, refrigerated trucks). Shareholders will comprise: (i) producers (either individually or

⁴¹ Details in Section 4.

⁴² Terms of reference in Attachment 2.

through their organisations), and (ii) private investors (including traders, processors, collectors, exporters or any other third party). Scoping studies will help in identify potentially interested private investors, based on which tenders will be organised to further select private shareholders. At any rate, a minimum of 30% of the shares will be owned by smallholders, to ensure that they have a meaningful voice in the company’s board. Where few or no private investors are interested, farmers can own up to 100% of the company’s equity.

48. Even though the minimum share capital of a limited liability company is quite low, smallholders will not have the financial resources to subscribe their percentage of the share capital. It will therefore be financed by the microfinance institutions in which the Catalytic Fund is holding equity (through funds provided by PROSUL), which will hold the shares on their behalf until such time that they can buy them by using part of their dividends.
49. The company’s management will be entrusted to a professional hub manager, who will be contracted by the company and will be accountable to the company’s Board of Directors. Smallholders are therefore not expected to take charge of management functions, for which they do not have the required competences. However they will have at least one seat at the Board of Directors and will participate in the Shareholders’ General Assembly. Support will be financed by PROSUL so that farmer shareholders build the capacities required to participate in the company’s governance structures (see below). The hub will also be staffed with a technical advisor, an accountant and support staff.
50. **Implementation of a horticulture hub.** For each hub, the Horticulture LSP will: (i) assist in developing the model and in promoting partnerships between buyers and farmers; (ii) support smallholders in developing vegetable production so that they can sustainably deliver the volumes and qualities of cassava required to supply processing units, and access the right mix of services to this end; and (iii) support the hub/processors to deliver a range of quality and attractive products targeting selected markets. The implementation process for a horticulture hub is described in Table 4.

Table 4: Implementation steps for horticulture hubs

Seq.	Activities	Responsibility
1	Scoping study to identify private investors, farmers’ organisations, market and business opportunities, existing ventures that the hub could build on	Lead Service Provider (LSP)
2	Awareness campaign for farmers’ organisations on: - role and benefits of horticulture/cassava hubs; - role, responsibilities and duties of hub company membership	LSP
3	Feasibility study	Technical assistance
4	Assistance to private investors and farmers’ organisations for: - creation and registration of the limited liability company (LLC) - elaboration of internal rules - setting up a management information system, an accounting and reporting system and related manuals - negotiation of equity participation holding by a participating financial institution - selection of Board members - selection and contracting of the Hub Manager - recruitment of staff	LSP, technical assistance, legal assistance
5	Launching of a tender for the construction of the horticulture hub (design, construction and supervision) and contracting	LSP with support from PMT
6	Management training for hub staff (manager, technical advisor, accountant	LSP and MFIs/Catalytic Fund
7	Tender for selection of third-party service providers (input dealer, equipment dealer) and selection of participating financial institution	LSP, Hub manager

Seq.	Activities	Responsibility
8	Assistance to Board to engage in contractual arrangement with input dealers, equipment dealers and participating financial institution (terms and conditions of respective lease contracts)	LSP and legal consultant
9	Training to hub lead members on innovative financing instruments promoted by the project (contract farming, warehouse receipt financing, leasing)	LSP and MFIs/Catalytic Fund

51. PROSUL will finance the following types of support:

feasibility studies: they will aim at adapting the framework and financial projections (in particular with regard to the structure of ownership, modalities and costs of services, modalities for cost recovery...) to the specificities of each single hub, building on information gathered during the scoping studies. They will be carried out by technical assistance as described below.

technical assistance: one international and one national consultants will be recruited by the PMT to assist in the creation and implementation of the hub limited liability companies⁴³. This will include in particular: (i) feasibility studies; (ii) preparation of a business plan; (iii) preparation of internal financial and administrative procedures to recover costs; (iii) accounting templates; (iv) activity and financial reporting. They will also train governing bodies members and the management team of each limited liability company with regard to procedures. In addition, they will design the procedures for the warehouse receipt financing mechanism. Finally, they will assist the hub manager in devising a manual of procedures based on a general template;

legal assistance: a legal advisor will be contracted by the PMT to assist in the legal aspects of the creation of each limited liability company (by-laws, registration, organisation of shareholders' general assembly and of Board of Directors meetings, election of the governing bodies members). S/he will also participate in the training of governing bodies members and management team with regards to legal, tax and social aspects of limited liability companies (LLCs).

selection of third-party service providers. The selection of the input dealer, mechanic/equipment dealer and microfinance institution for each hub will be carried out through a competitive process. The LSP will request each potential candidate identified in the scoping study to issue a business proposal. This business proposal will detail the type of products/services provided, the outlet *modus operandi* as well as the financial terms and conditions for their activity. The proposals will be reviewed and assessed by the LSP and the hub manager, who will select the most adequate bids. Final selection will be made by the hub Board of Directors and validated by the General Assembly. Contracts will be drafted with the assistance of the legal advisor contracted out by the PMT and signed between the selected service provider and the hub manager. For the microfinance institution, PROSUL PMT will issue a call for expression of interest to all MFIs willing to participate in the project. A selection panel composed of one representative from the Catalytic Fund, one representative from the United Nations Capital Development Fund (UNCDF) and the PROSUL Coordinator will select a maximum of three MFIs for the whole project. A due diligence exercise will be carried out on MFIs ranked first. The result of the due diligence exercise as well as the scoring of each selected MFI will be submitted to the PROSUL Investment Committee in the Catalytic Fund for the finalization of the selection and the attribution of selected MFIs to project-supported hubs. Details are provided in Annex 4, Section 4 – Financial Services.

study tours/exposure visits: two study tours/exposures visits will be organised and financed by the project for governing bodies members and management teams of hubs in Madagascar, where such hubs have been successfully implemented since several years (together with a warehouse receipt financing mechanism implemented at the level of savings and credit cooperatives network.) The objective of these study tours/exposure visits is to learn from

⁴³ Included in the cost tables for Component 4 – Financial services.

experience and identify possible procedures, mechanisms, activities that can be replicated in the LLCs created under PROSUL.

52. **Financing of the hubs.** The hub investment will be financed through a mix of grant, equity participation and long-term credit⁴⁴. Due to the presence of a private investor in the share capital of the hub, the financing package as well as the breakdown of the share capital may vary to take into consideration private investors' financial resources. Main elements of the financing package are:

grant: PROSUL will finance 30% of the cost of hub construction;

equity: the hub company's equity will be financed through a mix of: (i) *private investment*, as per participating private investors bids, up to a maximum of 70% of the total equity. It is anticipated that private investors will have their own connections to access credit if and as needed; (ii) *farmers' organisations:* 5% of total investment, to be paid through long-term credit extended by the MFI and that farmers will pay back using part of their dividends; (iii) *MFI:* depending on the portion financed by private investment, up to a maximum of 65%. The MFI will hold shares on behalf of farmers/farmers' organisations, who will progressively buy them using part of their dividends once they will have reimbursed all of the long-term credit;

long-term credit: in addition to the above, long-term credit will also be made accessible through MFIs to finance the purchase of equipment.

53. **Revenues.** Hub revenues will derive from: (i) sales of horticulture products or levies on sales; (ii) rental of space (MFI, input dealer, equipment dealer); (iii) rental of agriculture equipment; (iv) fee on input sales. As shown by the financial projections, the horticulture hub breaks even as of the first year, even though still operating at only 40% of their capacity. The feasibility study will help in adapting the projections to the actual situation of each and every hub.

54. **Joint Teams of Experts.** Joint Teams are a complementary way of providing technical assistance, training and advisory services based on value chain dynamics and necessary partnership between all its stakeholders. The Joint Team of Experts will be composed of the hub's technical advisor, the input dealer, a trader and a commercial farmer, who will be identified during the scoping study. There will be one Joint Team per horticulture hub. Main activities carried out by the Joint Team will include:

- Provision of training and advisory services on technical subjects to farmers and farmers' organisations;
- Organisation of demonstrations on new varieties, new techniques and innovations;
- Organisation of inputs supply planning;
- knowledge-sharing with farmers' and farmers' organizations;
- Capacity building of local traders. A substantial part of the farmers' production will still be sold on local markets by local traders. They will receive capacity building to get higher prices based on higher quality;
- Facilitation of relationship between all value chain stakeholders (empowerment of all stakeholders in order for them to engage into contractual arrangements according to value chain dynamics even without any input from the project or from any external third party).

55. The cost of Joint Teams will be limited to DSA. A small budget will be made available to hubs to support the Joint Team (mainly DSA for the commercial farmer and cost of demonstrations).

⁴⁴ Details in Section 4.

56. **Innovation.** Innovative agriculture practices will be promoted through the following instruments:

greenhouses: traditional farming on irrigated or rainfed lands results in similar harvesting periods for all farmers producing within the same area. Fluctuations on market prices range from 150 to 1,000% depending on the products. The project will address this issue by providing storage facilities through the service hubs, and by developing greenhouse seedling and wet season production to supply markets irrespective of seasons and harvest time and fetch higher market prices. Greenhouse farming will also increase the return and the net profit of the storage facilities implemented within the project, which will be operated all year round. Greenhouses and/or shade cloth greenhouses (assessment to be carried out by the LSP) will be financed through a mix of 30% grant, 5% beneficiary contribution and debt financing⁴⁵. Selection of the smallholders benefiting from a greenhouse will be based on the level of income and their ability to farm (physical ability) and maintain the equipment in good conditions. The project will ensure that poorest smallholders are prioritized for the greenhouse production facility. Technical assistance and training will be provided by the horticulture LSP (for technical skills) and by the MFI for bookkeeping, credit, cash-flow and financial management. The profitability of a greenhouse is very high (89.5%) and will significantly increase farmer's revenue. The pattern of implementation of greenhouses will be based on a first pilot phase during which 30 greenhouses will be implemented. The mid-term review will assess results, and, should the evaluation be positive, another 170 greenhouses will be implemented in the PROSUL area. Women should make up 50% of the beneficiaries;

start-up kits: as an incentive to introduce quality inputs, farmers operating in target irrigation schemes will benefit from a start-up kit. It will be financed by the project during the first year, which will enable farmers to test improved seeds and fertilizers at no cost on a maximum of 0.25 ha per household. It is expected that the following years, farmers will be able to gradually self-finance such improved inputs, to get access to a working capital loan from the hub, or to get these inputs through the commercial farmers (outgrowers scheme). The start-up kits provided by the project will contribute to intensification of agricultural production, and as such more efficient use of water and land resources. Their composition will be reviewed by the Horticulture LSP at project inception in collaboration with IIAM, including to reflect conservation agriculture and climate-resilient practices;

Farmers' Field Schools: group learning for enhanced production of quality vegetables on the basis of market requirements and through an agri-business orientation will be addressed through the Farmer Field Schools. The learning process will be supported in each of the associations involved for both male and female members and will build on existing MINAG experiences, as well as association experience with collective demonstration fields. The process will be developed in conjunction with IFAD-financed PRONEA. It will be facilitated by contracted FFS facilitators, who will train farmer facilitators for each of the farmers' organisations and provide some local funds for the FFS processes. At least 50% of FFS will be women and FFS will be organised in such a way as to facilitate women attendance.

climate resilient packages: cost-effective technological packages (including on-farm trials and demonstration plots) will be developed in conjunction with IIAM to ensure appropriate, climate-resilient crop and soil management practices. Joint Team of Experts will be trained to support the adoption of the technological packages and to facilitate access to inputs. Farmers' Field Schools will also be used as a main conduit to disseminate packages and good practices. National apices of farmers' organisations (UNAC, AMCPM, FENAGRI) are keen to be involved in organisational and agribusiness capacity development initiatives and the LSP will review possibilities to associate them.

⁴⁵ Details in Section 4.

57. **Capacity development of farmers' organisations**⁴⁶. The project will provide capacity building support to current farmers' associations (first and second tier), so that they can progressively develop into inclusive, well managed and profitable organisations that provide services to members, are able to exert their responsibilities as shareholders of the hub and are reliable business partners meeting their contractual obligations for producing and marketing. Capacity building support will be based on a capacity development plan, which will be tailor-made to the specific level of capacities, objectives and needs of each organisation (defined in production/business plans), in conjunction with the capacity building provided to WUAs. Capacity building plans will be based on capacity assessments (initial one to be carried out by the LSP, then by hub's technical advisor) in order to monitor progress and adjust programmes. They will cover training activities and coaching, as well as the provision of manuals and guidelines. Capacity building programme will make sure that organisations develop inclusive and gender equitable activities and services, that women constitute at least 40% of the participants in the training programmes and that these are organised in such a way as to facilitate women attendance. The LSP will bear overall responsibility for the capacity development programme for farmers' organisations, together with hubs' managers and technical advisors, and with irrigation staff (see above). National apices of farmers' organisations (UNAC, AMCPM, FENAGRI) are keen to be involved in organisational and agribusiness capacity development initiatives and the LSP will review possibilities to associate them.
58. **Access to markets.** As described above, main project-supported activities to develop market linkages for smallholders will be the promotion of outgrowers' schemes/forward contracting, the development of hubs, and the setting up of Joint Team of Experts. Additionally, the project will finance:

rehabilitation of access roads to hubs to secure all-year access of trucks (5 km per hub);

market promotion: once horticulture hubs and outgrowers schemes will be operating, the Service Provider will assist farmers' organizations and value chain stakeholders' platform to implement market promotion activities such as awareness campaigns, traceability, health certification mechanisms... These activities will be organised based on an assessment of hubs and outgrowers schemes achievements and further requirements, so most probably after the mid-term review.

Sub-component 1.3 - Value Chain Environment

59. **Value chain environment.** The following activities will be implemented within the project under the responsibility of the LSP:

Regional Value Chain Platform: a Regional Horticulture Value Chain Multi-Stakeholder Platform (VCP), will be developed in connection with the National Horticulture Group. The Horticulture VCP will gather the representatives of key stakeholders for the southern provinces, i.e. farmer organisations and their apex structures, service hubs managers and technical advisors, market agents (processors, traders and buyers), key service providers, financial institutions (including the BAGC Catalytic Fund and participating MFIs), agri-business education structures⁴⁷, DPA, IIAM's Southern Zonal Centre, CEPAGRI's Southern Delegation and national farmers' organisations. They will meet at least twice a year, prior to the meeting of the Project Steering Committee. They will provide a venue to discuss project achievements, identify successes and problems as well as good practices, discuss possible solutions including non-project based solutions, identify issues for further policy development, providing overall project guidance and coordinating interventions. Based on this overall dialogue, the VCPs will also be responsible for participating in the preparation of Value Chain Development Action

⁴⁶ Details in Section 7.

⁴⁷ Such as the Chibuto School of Business and Entrepreneurship (Gaza), Instituto Superior Politécnico de Chokwe (Gaza) and Instituto Superior de Vilanculos (Inhambane).

Plan (see below) and for approving component APWBs prior to submission to the Project Steering Committee. The Horticulture LSP will assist in setting up the VCP, establishing their internal rules and regulations and facilitating their work. It will also ensure gender-balanced participation in the VCP. Discussion on project performance will lead to discussing key issues linked to the value chain development (such as pricing, quality, access to services etc.) as well as to identify key policy areas that need to be addressed at national level. Interaction between stakeholders will help in devising coordinated and harmonised interventions, whereby each stakeholder would contribute along its role and capacities based on a shared vision of value chain potential and constraints. Such an approach should be conducive to the development of synergies and of alliances based on mutual interests among stakeholders in the value chain and contribute to developing value chain governance at the regional level. It is expected that the VCP progressively evolves into a permanent multi-stakeholder value chain platform at the regional level. The Mid-Term Review will specifically review achievements of VCPs and provide orientations as to whether and how it should evolve into a permanent structure.

Innovation Platforms: similarly, multi-stakeholder platforms will be established in each of the districts where PROSUL will develop activities, in connection with the hub. They will have a similar composition as the VCP for what regards private sector actors, and will also include the SDAE and locally-based IIAM researchers. Innovation Platforms will have a similar role as that of the VCP, but at the district level, i.e. discussing issues of common interest and possible solutions, both project and non-project based ones. They will have a key role in promoting project knowledge management and in disseminating good practices. They will be established with support from the Horticulture Lead Service Provider, building on the experience of ImGoats, an IFAD-financed grant supporting the development of the small ruminant value chain in the province of Inhambane, implemented by the International Livestock Research Institute (ILRI).

M&E, KM and communication: monitoring and evaluation, knowledge management and communication of the various innovative approaches and models developed through the component will translate into a set of tools to be used by CEPAGRI to replicate the approach in other areas of the province, including a monitoring and evaluation system with a database and tools for analysis, proof-of-concept business models and technical notes. Communication activities on project outcomes and lessons will also be carried out, based on a communication plan to be prepared and implemented by the LSP.

• IMPLEMENTATION OF THE COMPONENT

60. **VC DAP.** Every year, a Value Chain Development Action Plan (VC DAP) will be prepared by the Horticulture LSP together with value chain stakeholders, building on multi-stakeholders' platforms to be set up with PROSUL support at the local level (Innovation Platforms) and at the regional level (Regional Value Chain Platform) and in close collaboration with managers and technical advisors of the service hubs. In the first year of activities, the VC DAP will be based on the outcomes of the initial scoping study and on the Targeting and Gender Mainstreaming Strategy and Implementation Plan. It will detail actions required to improve production and develop market linkages as well as activities designed to expand women's and poorer households' access to and control over capital, land, knowledge, financial and non-financial support services. VC DAPs will include quantified targets and performance indicators, including with regard to gender and inclusion mainstreaming. VC DAPs will be reviewed every year by Regional Value Chain Platform with support from the Horticulture LSP, based on an assessment of past year achievements and an identification of challenges and constraints facing value chain actors. They will constitute the basis for the preparation of the AWPB for the component, which will be done by the LSP.

61. **LSP.** An international Lead Service Provider (LSP) contracted by the Project Management (PMT) through a competitive bidding process will bear overall responsibility for coordinating the implementation of Component 1, in collaboration with the PMT and CEPAGRI. Detailed terms of reference are provided in Annex 6, Attachment 4.
62. **INIR.** INIR will be responsible for the procurement and overseeing of a consulting firm to carry out the design and supervision of irrigation works and of private contractors to carry out the works. An MOU will be signed between INIR and the PMT.
63. **ANE.** The National Roads Authority (ANE) will be responsible for planning and overseeing road rehabilitation, along arrangements that have already been successfully applied by PROMER and PROPESCA. CEPAGRI/the PCT will sign an MOU with ANE defining responsibilities, deliverables and timeframe. Details are provided in Annex 6.
64. **Land tenure security.** As referred above, all activities related to land tenure security will be carried out by the Land Tenure Service Provider (LTSP), along the modalities detailed in Annex 4, Section 8 – Land Tenure Security, and in close collaboration with the LSP and INIR.

• MAIN INDICATORS AND TARGETS

65. The following indicators will measure the performance and impact of component 1. Indicators should be disaggregated by gender as appropriate. They should be reviewed at project inception as part of the modalities for setting up the Project Learning System (see Annex 11). Key indicators (see Logframe) are shown in italics. Targets to be achieved at project completion are shown in brackets.

Output indicators and targets

- a) Number of improved/rehabilitated irrigation schemes (19);
- b) *Area of improved/rehabilitated irrigation schemes (1,305 ha and 796 ha, respectively);*
- c) Number of farmers accessing support services (4,800 for the 20 schemes, of which 50% women) (RIMS 1.2.5 and COSOP indicator)
- d) Number of service hubs (7 hubs for the 20 schemes)
- e) Number of WUAs supported;
- f) Number of leaders and members of WUAs trained, by subject and by gender;
 - i. Organisational WUA training
 - ii. Technical WUA training
- g) Number of farmers with new greenhouses (200);
- h) Greenhouse area established (40,000 m²);

Outcome indicators and targets

- i) *3,840 farmers (50% women) adopting recommended climate-resilient technologies (RIMS 2.2.2, COSOP and ASAP indicator contributing to ASAP key indicator no. 1, goal-level) (for the 20 schemes, based on 80% adoption, assuming that all recommended technologies will be climate-resilient);*
- j) Number of functioning WUAs;
- k) Area covered by functioning WUAs (3,000 ha);
- l) Number of women in leadership position of WUAs;
- m) *WUAs granted DUATs and with documented rules for regulating members' parcel access and use (100% of the participating WUAs);*
- n) Number of households with sustainable access to irrigation water (4,800 households for the 20 schemes, of which 50% women);
- o) Average yield for selected vegetable production in both dry and wet seasons (increased by at least 100%) (ASAP indicator);
- p) Annual volume of production stored, percentage of total production in the perimeter stored in

- storage facility, and number of farmers using storage facility;
- q) Annual amount of fertiliser sold by hubs per year (600 t for the 20 schemes, estimated at 200 kg/ha)
 - r) Annual value of inputs sold by hubs per year (in MZM);
 - s) *Annual volume of produce sales by hubs (in t) (COSOP indicator);*
 - t) Annual value of produce sales by hubs (in MZM);
 - u) Annual profit per hub (in MZM);
 - v) Number of active contracts between smallholder organisations and buyers, per year (COSOP indicator);
 - w) % change in water use efficiency (in terms of water use per annual volume of sales by hubs (m³/t) (30% increase over baseline) (ASAP key indicator no. 7, outcome-level);
 - x) Farmers' share of wholesale produce price (in %).

SECTION 2 – CASSAVA VALUE CHAIN DEVELOPMENT

I. RATIONALE

66. **Target group.** Cassava is farmed by more than 75% of smallholders in the provinces of Inhambane and Gaza, which together account for 10% of the national production. Although poor in vitamins and proteins, it is rich in calories (2 to 3 times richer than maize), and it is the main calorie source in all three southern provinces. Additionally it is tolerant to drought, can be farmed even on marginal soils, requires little inputs, and can be gradually harvested, and thus stored in the ground over several months. It therefore plays a key role in terms of food security in the South. The rapid deterioration of cassava after harvesting, the difficulty of transporting the heavy tubers and, until recently, the lack of steady markets for processed cassava are the main reason that cassava remains a food crop. Over 99% of cassava is consumed directly by the household, either fresh or manually processed into *rale*, a fermented, precooked convenience food similar to West African *gari*. New market opportunities for processed cassava, most of which have been proof-tested in the north, open a range of possibilities to transform the current subsistence crop into one that can generate income for a large range of smallholders, including vulnerable rural households. Poorer producers that currently have no alternative than working as labour to meet their cash needs would gain from the development of cassava processing facilities, that could meet new market requirements and provide an outlet for smallholders' production, and of access to high yield planting material and support services.
67. While not part of the primary target group, a few commercial farmers and processors offer good opportunities to develop outgrowers' schemes that would open smallholders' access to knowledge, inputs, financial resources and markets, as already experienced in the north.
68. **Markets.** Recent developments point to considerable potential for the development of a range of new market outlets for cassava. Inhambane and the North of Gaza are particularly well positioned to take advantage of this potential because of their close location to Maputo. New market opportunities include the following: (i) the animal feed industry, with four companies established in Matola with an interest in substituting up to 20% of maize with cassava; (ii) Cleanstar, a company that is starting to produce cassava-based ethanol for domestic use as an alternative to charcoal in Dondo (Beira) and plans to open a much bigger plant in Inhambane in two years to serve the Maputo market; (iii) a major brewery, Cervejas de Moçambique/SABMiller, which has successfully developed the production of a low-cost cassava-based beer in Nampula, and is now taking steps to develop a similar product in the South. It is estimated that in the next 2-3 years, the market for cassava chips produced in the province of Inhambane could reach 20,000 t, representing 80,000 t of fresh cassava tubers, and would further grow in the following years. Furthermore, a number of initiatives both on government side and in the bakery sector, show significant potential for the development of high quality cassava flour in partial substitution of imported wheat. These new developments provide good grounds to develop PROSUL interventions in the cassava sector, which would also benefit from experience gained in developing appropriate business models in the North.
69. **Constraints.** To meet the demand of emerging industrial markets for cassava products, the production must be upgraded to reach higher productivity, larger volumes and adequate quality. This in turn requires to disseminate drought-resistant and high-yield varieties through rapid multiplication, improve soil fertility through the use of intercropping and a mix of compost and chemical fertiliser, develop sequential planting and harvesting, and expand cultivated areas through the use of animal traction and mechanised weeding. Another constraint is linked to cassava's perishability and the need to develop locally-based processing capacities to transform cassava into chips or flour that can be stored at collection points.

70. **National strategy.** Recognising the importance of cassava as a food security crop, but also its untapped marketing potential, a National Strategy for Cassava Development was prepared by the ministry of Agriculture in 2008. The strategy's objective is to transform the current rural staple food into a cash crop generating income for the rural population, through increased marketing into growing markets. Furthermore several research programmes are being supported by the government, including to release new improved cassava varieties, to develop new processing technologies and to test consumers' acceptability of bread incorporating cassava flour. Several donors are backing up government efforts, to promote cassava as a cash crop, including JICA, USAID, FAO and the European Union.
71. A detailed value chain analysis is provided in Working Paper 1.

• **OBJECTIVES AND APPROACH**

72. Cassava is farmed by a large majority of smallholders but returns to farmers are constrained by low productivity, unreliable supply of good quality cassava, lack of processing facilities, and a narrow, low quality range of traditional products. There are however a range of emerging markets for processed cassava with considerable potential for development that are expected to boost the demand of good quality cassava supplied at a competitive price. The component therefore aims at shifting cassava from a subsistence crop to a cash crop by developing a set of business models whereby smallholders would produce increased volumes of good quality cassava and would have access to new types of markets for cassava products.
73. **Phases.** The component focuses on five districts in the province of Inhambane and one district in the province of Gaza. The six districts were selected because they concentrate the largest number of both small and medium farms producing cassava in the Southern provinces, and because they are distributed along the main road (EN 1) leading to Maputo, thus providing easy market access to the main urban centre in the south. At this very initial stage of value chain development, the component is structured in two phases.
74. The first phase will aim at developing viable business models for the production and marketing of cassava, based on different forms of (i) business partnerships, including service hubs with varying forms of ownership associating smallholders and private investors, as well as forward contracts with processors or other buyers; and (ii) market outlets, primarily for cassava chips and flour. The first phase will target the districts of Inharrime (Inhambane) and Manjakaze (Gaza), and will be implemented along three major thrusts. *First, it will develop farmers' capacities to increase cassava productivity and quality*, by developing sustainable access to high yield cassava stems building on a commercially-run multiplication system, by promoting mechanization and building farmers capacities for improved, climate-resilient farming practices that will increase productivity and mitigate drought risks. *Second, it will develop linkages between smallholders and other players in the value chains*, to promote access to developing markets and ensure smallholders' access to support services so that production can meet market requirements. This will be achieved through innovative approaches, including through two professionally managed service hubs, one in each district, and the development of forward contracts with buyers. Hubs will be run on a cost recovery basis and will include cassava processing facilities. These will be organised so as to enable diverse lines of production to ensure stable income. The project will also build the capacities of farmers to engage with the markets and negotiate higher margins, based on enhanced quality and on regular supply. *Third, it will develop a favourable value chain environment*, by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation. These will be thoroughly documented to set the basis for scaling up in the second phase.

75. By the end of the third year, a detailed review of achievements, lessons learnt and of further market prospects would be carried out in conjunction with the project mid-term review. Building on outcomes, activities would be expanded to a larger range of production areas over four additional districts in the province of Inhambane, i.e. Jangamo, Massinga, Morrumbene and Zavala, where service hubs would also developed. In phase 1 districts, investments would be complemented with three smaller processing units, which would absorb increased production closer to production areas. Similar smaller units would be deployed as production increases throughout the project target area. Lessons learnt from the first phase will also help in determining a research and policy dialogue agenda to be supported in phase 2 to further develop a conducive environment for value chain development.
76. The component comprises two sub-components:
Strengthening linkages between value chain stakeholders including promoting smallholders' access to services and markets through service hubs and outgrowers' schemes, promoting innovation to develop production in accordance with market requirements and supporting farmers' organisations so that they can integrate the value chain;
Developing a conducive value chain environment by setting up multi-stakeholders' platform, supporting knowledge management and promoting an appropriate policy and legislative framework.
77. **Expected outcome.** The expected outcome of the component is that around 8,000 farmers in five districts of the province of Inhambane and one district of the province of Gaza sustainably increase their revenues out of cassava production, based on proof-of-concept innovative business models for the profitable production and marketing of cassava-based products. It is expected that an additional large population of farmers, including those cultivating other crops, will also be serviced by the hubs.

• DESCRIPTION OF THE COMPONENT

A. Sub-component 2.1 – Strengthening linkages between value chain stakeholders

78. An initial scoping study will review market opportunities for cassava processed chips and flour for different types of industries and will identify possible business models to link smallholders to other value chain stakeholders. Based on outcomes, the project will support the creation and development of professionally managed service hubs that will be co-owned by farmers and will offer a range of services in support to cassava production and processing. It will also provide assistance to the development of forward contracting to strengthen smallholders' access to markets and to build their capacities so that they can meet market requirements.
79. **Scoping study**⁴⁸. A participatory scoping study will be carried out at project inception to: (i) identify market opportunities mainly for cassava chips and flour and analyse market requirements to be addressed in the production and processing cycles to respond to market opportunities in such a way that it can allow increased value added to smallholders; (ii) identify value chain players that would participate in business development (farmer associations, emerging commercial farmers, processors, private investors); (iii) assess their capacities; (iv) assess most suitable production areas; and (v) make detailed proposals of possible business ventures to be supported by the project. The study will be carried out by the Cassava Lead Service Provider (LSP) in coordination with the targeting and gender studies (described in Annex 2), and with the mapping of existing and planned community and concessionary DUATs and investment hot spots (described below in Section 8). It will provide baseline data upon which to base monitoring and evaluation. Findings and recommendations will be presented to

⁴⁸ Detailed terms of reference for the scoping study to be carried out in each of the value chain-based components are proposed in Attachment II.

the Regional Value Chain Platform (see below) for discussion and validation, and they will form the basis for the preparation of the first Value Chain Development Action Plan (see Implementation arrangements below).

80. **Based** on the above, the Cassava Lead Service Provider (LSP) will identify for each of the two pilot districts a mix of settings testing several options for (i) business partnerships, including two service hubs with varying forms of ownership associating smallholders and private investors, as well as forward contracts with processors or other buyers; and (ii) market outlets, for cassava-based products (chips for the animal feed industry and ethanol production, and flour for the bakery industry) but possibly also for fresh tubers to supply mobile processing units linked to the brewery industry, or other types of processors. For each hub, the Cassava LSP would: (i) assist in developing the model and in promoting partnerships between buyers and farmers; (ii) support smallholders in developing cassava production so that they can sustainably deliver the volumes and qualities of cassava required to supply processing units, and access the right mix of services to this end ; and (iii) support the hub/processors to deliver a range of quality and attractive products targeting selected markets.
81. **Service hubs**⁴⁹. It is not expected in this incipient stage of value chain development, that there will be private investors who would be interested in setting up outgrowers' schemes, except maybe in the brewing sector. One service hub will therefore be established in each of the target districts. In the cassava value chain, the hub will be a physical construction where farmers can access services, including access to inputs, financial services, technical assistance, agricultural equipment, market linkages, processing and transport. This setting calls for specific provisions to regulate the ownership and management of the building and equipment, and to ensure that services can be made accessible in a sustainable fashion.
82. **Services.** Hubs in the cassava value chain will provide the following services:

input supply: in conjunction with IIAM, the LSP will identify the technological package to be made available to smallholders so that they can increase cassava productivity and quality⁵⁰. A key element in the package will consist of stems of high-yield and drought-resistant planting material. Improved cassava stems will be produced through a commercial, farmer-based system and will be sold by the hub. Another important element is compost, which will be produced and sold at the hub, using cassava processing waste, as well as directly by farmers. Only limited quantities of chemical fertilisers may be needed and the use of appropriate techniques would also reduce the need for pesticides. Against this background, the inclusion of an outlet for input selling, to be leased out to an input dealer who would run his/her own business at the hub as planned for the horticulture hub, may not be an appropriate solution as it might not generate sufficient returns. This would have to be reviewed as part of the feasibility study for the hub. An alternative option would be for the hub to establish contractual arrangements with an input dealer to supply inputs at the hub and recover their cost when purchasing cassava from the farmers.

equipment: mechanisation is a requirement to increase surface and to facilitate weeding. Hubs will include space for storing agricultural equipment to provide access to mechanised land preparation and weeding, either tractor-driven or through animal traction, transport equipment (refrigerated truck) and small agriculture equipment... This could be done either: (i) by leasing out space to an equipment dealer that would sell or lease agricultural equipment, and would provide repair and maintenance services; or (ii) by having the hub company purchasing equipment and leasing it out. Animal traction will be favoured where possible, either by arranging for it at the hub, or by sub-contracting the service;

financial services: as for horticulture, cassava hubs will enter into arrangements with a

⁴⁹ Details in Section 5.

⁵⁰ See below under Innovation.

microfinance institution⁵¹ (MFI) to secure access to financial services. The MFI will have a microfinance point of services in the hub's premises (through a lease contract) and will offer a wide range of financial products and services to farmers, including working capital and investment loans, leasing, savings deposits, remittances and transfers;

technical advisory services: cassava hubs will promote access to innovation and technical assistance affect productivity and quality by having a technical advisor⁵² who will provide services to farmers related to cassava production and harvesting, including the preparation of simple business/production plans, in accordance with market requirements. S/he will also be responsible for coordinating in the hub's catchment area all activities aimed at strengthening farmers' organisations and developed by the Cassava LSP, including Farmers' Field Schools. The hub premises will include a fully-equipped meeting room to carry out training of hub members;

processing: cassava hubs will include a processing unit, with an annual capacity of 7,000t, which will produce chips and high quality flour, in accordance with prior market exploration. They will be equipped with a borehole and eater tank for the washing operations of cassava tubers, and a source of water for the rapid multiplication of new cassava varieties. Cassava producers will supply their production to the hub, which will buy it at a pre-set purchase price. The microfinance institution will extend working capital loans for the hub company to purchase production from cassava producers;

market linkages: hubs will be organised as selling points. Building on the results of the scoping study, the Cassava LSP will help the hub manager in contacting buyers and in developing supply contracts with them.

83. To ensure sustainability, service hubs will secure service provision on a commercial basis, so that not only the cost of providing services is entirely recovered (including all of the hub's operation and management costs), but also that a profit can be generated and either reinvested to develop activities, or distributed to owners through the payment of dividends. Services will be provided against a fee or a payment, except technical advisory services, whose cost will be covered by the proceeds of other services run on a commercial basis. Through the hub, farmers will have access to short term credit allowing them to finance the cost of services until they get paid for their production.
84. Modalities for **hub governance, implementation of a hub, and hub financing** are the same as explained above for horticulture hubs and are further detailed in Section 5.
85. **Revenues.** Hub revenues will derive from: (i) sales of cassava chips and flour; (ii) rental of space (MFI, equipment dealer...); (iii) rental of agriculture equipment; (iv) sale of cassava stems; (v) sale of compost. As shown by financial projections⁵³, the horticulture hub breaks even as of the first year. The feasibility study will help in adapting the projections to the actual situation of each and every hub.
86. **Small processing units.** It is planned that in the second phase, once hubs will have attained 70% of their processing capacity, financing will be made accessible through MFIs for the installation of three smaller processing units per district, which will increase processing capacity at a lower cost once the market is developed. Smaller units will be established either by private investors or by farmers' organisations. They will produce cassava chips, with an annual capacity of 2,000 t, which they will sell to the hub. Based on the assessment planned at end of year 3, the exact capacity, type of product, number and location of the smaller units should be reviewed and adapted to market requirements.

⁵¹ Details in Section 4.

⁵² Terms of reference in Attachment 2.

⁵³ See Attachment. 4.

87. **Forward contracts/ outgrower schemes.** There are at the moment in the province of Inhambane a few semi-industrial processing businesses that process and package *rabe* for sale in urban supermarkets, as well as a couple of commercial-oriented farms that have started multiplying cassava planting material in anticipation of upcoming development of purchases for the beer industry. PROSUL will assist farmers in developing forward contracting with such players (whereby the buyer would purchase smallholders' production at a pre-set price, with the possibility of a premium to be paid in a second stage) or outgrowers' schemes if possible (same arrangements but with the buyer also providing technical assistance and inputs, an approach implemented in the scheme set up in Nampula province in connection with DATCO/SABMiller), along modalities ensuring fair contracting and enforcement to the benefit of smallholders. Similarly to what is planned for horticulture and described above, the project will finance support activities including:

information workshops: in collaboration with the PMT, the Cassava LSP will organise a workshop with interested buyers and smallholders' representatives to provide information on the various types of arrangements and support that could be provided by PROSUL;

technical and legal assistance: the Cassava Service Provider will provide assistance to buyers and smallholders for the negotiation drafting and monitoring of contractual arrangements. Specialised technical and legal assistance will also be made accessible through project financing (as part of Component 5). The monitoring of contract enforcement will be included in the obligations of the Lead Service Provider;

study tours: in addition, study tours of buyers/farmers' representatives will be organised to the northern part of the country and neighbouring countries (for example Uganda), to visit successful outgrowers' schemes.

88. **Innovation.** Innovative agriculture practices will be promoted through the following instruments:

Access to improved varieties. In collaboration with IIAM, the project will set up a system for the multiplication and selling new high-yield, drought and pest resistant varieties adapted to the characteristics of the southern provinces. The system will include three levels of organisation: (i) a rapid multiplication unit will be set up at IIAM's research station in Nhacoongo (Inhambane), which will provide virus free cuttings for further multiplication to hubs; (ii) each service hub will have about 0.25 ha with a nursery for the multiplication of planting material, which will use waste water from cassava processing for irrigation; (iii) farmers will be contracted by the service hubs for the ordinary multiplication of cuttings, which will be bought by the hubs and sold to the majority of farmers. The scheme will be implemented through a contract with IIAM and will be complemented with demonstration and communication activities. Improved material will be part of the starter-kits distributed to farmers in their first year of participation in the project (see below). Details are provided in Attachment 3 to this Annex;

Access to improved, climate-resilient technological package and practices. Cost-effective technological packages (including on-farm trials and demonstration plots) will be developed in conjunction with IIAM to ensure appropriate, climate-resilient crop as well as soil fertility management (including through intercropping practices and compost) and sequential planting and harvesting. Hub-related technical advisors will be trained to support the adoption of the technological packages and to facilitate access to inputs (stems of improved varieties, on-farm compost production and fertilisers). Farmers' Field Schools will also be used as a main conduit to disseminate packages and good practices;

start-up kits: as an incentive to introduce quality inputs, farmers operating in target areas will benefit from a start-up kit. It will be fully financed by the project during the first year, which will enable farmers to test improved cuttings and compost at no cost. It is expected that the following years, farmers will be able to gradually self-finance cuttings, produce on-farm compost and complement it with some chemical fertilizer, for which they will get access to

financing through the hub. The start-up kits provided by the project will contribute to intensification of agricultural production, and as such more efficient use of water and land resources. Their composition will include clean planting material derived from the multiplication system mentioned above and compost, and will be further reviewed by the Cassava LSP at project inception in collaboration with IIAM, including to reflect conservation agriculture and climate-resilient practices;

Farmers' Field Schools: group learning for enhanced production of quality produce on the basis of market requirements and through an agri-business orientation will be addressed through the Farmer Field Schools. The learning process will be supported in each of the associations involved for both male and female members and will build on existing MINAG experiences, as well as association experience with collective demonstration fields. The process will be developed in conjunction with IFAD-financed PRONEA. It will be facilitated by contracted FFS facilitators, who will train farmer facilitators for each of the farmers' organisations and provide some local funds for the FFS processes. At least 40% of FFS will be women and FFS will be organised in such a way as to facilitate women attendance.

89. **Support to farmers' organisations.** The project will provide capacity building support to current farmers' associations (first and second tier), so that they can progressively develop into inclusive, well managed and profitable organisations that are provide services to members, are able to exert their responsibilities as shareholders of the hub and are reliable business partners meeting their contractual obligations. Capacity building programmes will be based on annual capacity assessment and capacity development plans, along the same modalities as those described for the horticulture component above. National apices of farmers' organisations (UNAC, AMCPM, FENAGRI) are keen to be involved in organisational and agribusiness capacity development initiatives and the LSP will review possibilities to associate them.
90. **Land tenure security.** Land tenure-related risks include the allocation of cassava farmed land to outside investors for competing land uses as well as increasing competition for land suitable for cassava production. The project will support mitigation measures to secure farmers investments and income. Activities will include: (i) the mapping of existing and planned community and concessionary DUATs and investment hot-spots, in conjunction with the initial scoping study; (ii) farmers' organisation-based analysis of land access and tenure security issues and needs of their members; and (iii) based on the outcomes of such activities, support to registering rights for farmers' organisations in areas where there is a significant interest in external private sector investment or who are holding major shares in hubs. For cassava it is anticipated that the emphasis will either be on community land delimitation in cases where cassava fields are scattered over a wide area or on the issuing of formal DUATs for organisations where consolidated areas of cassava farming are identified and especially where there may be a higher demand for land. Consideration will be given to developing consolidated farming blocks, which would facilitate the expansion of cultivation, use of mechanisation and economies of scale. The whole process will be implemented by a Land Tenure Service Provider with the guidance of PROSUL Land Technical Advisor, under the Land Tenure Security Sub-Component in Component 5 - Institutional Support and Project Management (see Annex 4, Section 8 Land Tenure Security).
91. **Access to markets.** As described above, main project-supported activities to develop market linkages for smallholders will be the development of hubs and the promotion of forward contracting. Additionally, the project will finance:
rehabilitation of access roads to hubs to secure all-year access of trucks (5 km per hub);
market promotion, in particular to advertise the use of cassava flour and of cassava flour bread. Marketing activities will be undertaken in the second phase, based on the recommendations of the MTR.

Sub-component 2.2 – Value chain environment

92. **Regional value chain platform.** A Regional Cassava Value Chain Multi-Stakeholder Platform (VCP) will be set up. It will gather the representatives of key stakeholders for the southern provinces, i.e. farmer organisations and their apex structures, service hubs managers and technical advisors, market agents (processors and buyers), key service providers, financial institutions (including the BAGC Catalytic Fund and participating MFIs), agri-business education structures⁵⁴, DPA, IIAM's Southern Zonal Centre, CEPAGRI's Southern Delegation and national farmers' organisations. Activities and implementation modalities will be developed along similar lines as those described for the Horticulture Component above. The Mid-Term Review will specifically review achievements of the VCP and provide orientations as to whether and how it should evolve into a permanent structure.
93. **Innovation Platforms.** Similarly, multi-stakeholder platforms will be established in each of the districts where PROSUL will develop activities, in connection with the hub and with support from the Cassava LSP along similar modalities as those described above for the Horticulture Component.
94. **M&E, KM and communication.** The monitoring of business models performance, analysis of achievements and documentation of lessons learned and best practices with regard to both production and processing would bear particular importance to develop proof-of-concept business models and pave the way for the second phase. Close monitoring of market evolution and price will also be part of this activity. Knowledge management will translate into a set of tools to be used by CEPAGRI to replicate the approach in other areas of the province, including a monitoring and evaluation system with a database and tools for analysis, proof-of-concept business models and technical notes. Communication activities on project outcomes and lessons will also be carried out, based on a communication plan to be prepared and implemented by the in collaboration with IPs and the VCP. These activities will be carried out by the Cassava LSP, in conjunction with service hubs and in coordination with the PMT team.
95. **Policy and legislative environment.** In the second phase, and based on the recommendations of the Cassava VCP and of the mid-term review, the project will support key areas required to develop a conducive policy and legislative environment. These could include the development of quality standards to promote the use of high quality cassava flour in bread production with the National Institute for Standardisation and Quality (INNOQ) and related training of value chain players.

• IMPLEMENTATION ARRANGEMENTS

96. **VC DAP.** Every year, a Value Chain Development Action Plan (VC DAP) will be prepared by the Cassava LSP together with value chain stakeholders, building on multi-stakeholders' platforms to be set up with PROSUL support at the local level (Innovation Platforms) and at the regional level (Regional Value Chain Platform) and in close collaboration with managers and technical advisors of the service hubs. In the first year of activities, the VC DAP will be based on the outcomes of the initial scoping study and on the Targeting and Gender Mainstreaming Strategy and Implementation Plan. It will detail actions required to improve production and develop market linkages as well as activities designed to expand women's and poorer households' access to and control over capital, land, knowledge, financial and non-financial support services. VC DAPs will include quantified targets and performance indicators, including with regard to gender and inclusion mainstreaming. VC DAPs will be reviewed every year by the Regional Value Chain Platform with support from the Cassava LSP, based on an assessment

⁵⁴ Such as the Chibuto School of Business and Entrepreneurship (Gaza), *Instituto Superior Politécnico de Chokwe* (Gaza) and *Instituto Superior de Vilanculos* (Inhambane).

of past year achievements and an identification of challenges and constraints facing value chain actors. They will constitute the basis for the preparation of the Annual Work Plan and Budget for the component, which will be done by the LSP.

97. **LSP.** An international Lead Service Provider (LSP) contracted by the PMT through a competitive bidding process will bear overall responsibility for coordinating the implementation of Component 2, in collaboration with the PMT and CEPAGRI. Detailed terms of reference are provided in Annex 6, Attachment 4.
98. **ANE.** The National Roads Authority (ANE) will be responsible for planning and overseeing road rehabilitation, along arrangements that have already been successfully applied by PROMER and PROPESCA. CEPAGRI/the PCT will sign an MOU with ANE defining responsibilities, deliverables and timeframe. Details are provided in Annex 6.
99. **Land tenure security.** As referred above, all activities related to land tenure security will be carried out by the Land Tenure Service Provider (LTSP), along the modalities detailed in Annex 4, Section 8 – Land Tenure Security, and in close collaboration with the LSP.

• MAIN INDICATORS AND TARGETS

100. The following indicators will measure the performance and impact of the component. Indicators should be disaggregated by gender as appropriate and by type of model. They should be reviewed at project inception as part of the modalities for setting up the Project Learning System (see Annex 11). Key indicators (see Logframe) are shown in italics. Targets to be achieved at project completion are shown in brackets.

Output indicators and targets

- a) *8,000 farmers (50% women) accessing support services (RIMS 1.2.5 and COSOP) through outgrower schemes and service hubs;*
- b) Number of farmer associations strengthened (RIMS)
 - i. Organisational FO training
 - ii. Technical FO training
- c) Number of processing facilities supported

Outcome indicators and targets

- d) *4,800 farmers (50% women) adopting recommended technologies (defined as: involved in new business models or cultivating improved cassava varieties) (RIMS 2.2.2, COSOP) (based on 60% adoption);*
- e) 4,000 farmers (50% women) adopting recommended climate-smart technologies (defined as: using climate-resilient cassava cultivating practices) (ASAP indicator, contributing to ASAP key indicator no. 1, goal-level) (based on 50% adoption);
- f) *# increase in hectares of land managed under best practices (2,880 ha) (ASAP key indicator no. 6, outcome-level);*
- g) % increase in number of on-farm plant species per smallholder farm supported (in terms of average number of plant species cultivated by participating farmers in the cassava value chain) (30% increase over baseline) (ASAP key indicator no. 4, purpose-level);
- h) Number of active contracts between smallholders' organisations and buyers, by year (COSOP indicator)
- i) *Average cassava yield by participating households (increased from 6.5 t/ha to 11.0 t/ha, representing 70% increase)*
- j) *Annual volume of cassava purchased by processing units (defined as: by hubs or participating outgrower schemes) (COSOP);*
- k) Number of cassava FOs with land security (defined as: either covered by community land delimitations or granted DUATS and with documented rules for regulating members' parcel access and use) (25% of participating FOs);

- l) Number of functioning FOs;
- m) Number of women in leadership position of FOs;
- n) Annual volume of fresh cassava bought by participating processing facilities (defined as: by hubs or participating outgrower schemes) (in t) (COSOP indicator);
- o) Annual value of produce sales by hubs (in MZM);
- p) Annual profit per hub (in MZM);
- q) Annual amount of fertiliser sold by hubs per year (432 t for 2,280 ha, estimated at 150 kg/ha)
- r) Annual value of inputs sold by hubs per year (in MZM);
- s) Annual volume of cassava products sold by hubs per year (including cassava flour and chips) (in t);
- t) Annual value of cassava products sold by hubs per year (including cassava flour and chips) (in MZM);
- u) Farmers' share of wholesale produce price (in %)

SECTION 3 – RED MEAT

I. RATIONALE

101. **Target group.** The semi-arid areas of the interior parts of the southern provinces are amongst the poorest in the southern region and livestock is the only source of income and means by which poorer households can enter an agricultural value chain. Households have an average of 14 cattle and 13 goats, which contribute 80% of the cash income from agriculture and are the foundation of household livelihood strategies, as well as the main source of food security. For female-headed households in particular, livestock constitutes a primary source of cash. In these areas, improving livestock production and productivity constitutes one of the main opportunities to increase wealth. Smallholder farmers can keep animals from which they can obtain not only income and food in terms of meat, milk and eggs, but also manure and animal draught power to till their land and transport their farm produce to markets. Therefore, the livestock sector provides a good entry point to strengthen the agricultural sector, stimulate the socio-economic growth of rural farming communities and significantly contribute to poverty alleviation.

102. **Markets.** The red meat market chain is dominated by informal livestock traders who purchase livestock from the remote rangelands transport and resell them on urban markets. Sales by farmers are overwhelmingly per head rather than per kg, with little differentiation in price for weight, condition, age and sex. National commercial off-take remains very low, which is in part due to socio-cultural behaviours (whereby livestock is used as a cash buffer and sold only in time of cash need) and to a lack of trading attitude among small-scale producers. However it also derives from the lack of market linkages, including: (i) a lack of livestock markets or collection points for buyers and sellers to convene; (ii) poor condition and management of slaughterhouses; (iii) high cost and inappropriate conditions of transport for livestock to reach urban markets; (iv) lack of access to financial services in particular for market agents; and (v) lack of incentives for increased productivity or quality resulting from sales per head rather than per weight or condition. The majority of beef and other animal products are consumed in urban areas, with Maputo as the main market. Increases in production, trends in meat consumption, imports and projected urban population increase all point to a strong demand for ruminant meat over the coming years. This opens up a significant window of opportunity for small-scale producers, who constitute the majority of livestock breeders, to earn regular income out of a commercially-oriented livestock production, both for cattle and for goats.

103. **Constraints.** While they represent a significant economic potential for poorer households, animals are poorly tended, have high mortality rates, poor productivity and a reduced off-take. This is not only due to a low access to services (veterinary, breeding, communication, extension and credit) and inputs but also to a lack of incentives to sell on poorly organised markets. In addition to the lack of market linkages referred above, existing local slaughterhouses are a major hindrance to the development of the value chain due to their crude slaughter and unhygienic practices that entertain negative consumer attitude to local meat.

104. **National strategy.** Progressive integration of agriculture production sectors in profitable value chains is the approach retained by the Strategic Plan for Agricultural Development (PEDSA – 2011-2020), with four specific objectives for the livestock/meat sub-sector: (i) increase meat production; (ii) enhance the quality of livestock products in line with regional standards; (ii) promote market-oriented livestock production; and (iv) continue with animal restocking in both commercial and small scale farms. The National Livestock Strategy (2009-2015) reflects PEDSA's priorities and aims at increasing the contribution of livestock in the reduction of poverty and in the national economic growth. Its specific objective is to create a favourable environment for livestock development for all classes of producers. In an effort to increase the commercialization of livestock, the government has recently been promoting rural livestock fairs in areas of livestock concentrations. A detailed value chain analysis is provided in Working Paper 1.

• OBJECTIVES AND APPROACH

105. The component aims at enabling livestock producers to take advantage of market opportunities, by promoting improved production and enhanced linkages between value chain stakeholders. Such an approach is expected to stimulate farmers' investment in improved productivity and herd management, to raise income and to contribute to food security. Related activities will be developed in seven districts composing a 'meat corridor' running from Chicualacuala district, near the border with Zimbabwe, down to Maputo, which is the main meat market. The component will be implemented through three main strategic thrusts. *First it will foster production and farmers' access to production services* by empowering small-scale livestock producers to form profitable, inclusive organisations producing quality ruminants. This will be achieved by: (i) building the capacities of Livestock Producers' Organisations (LPOs) so that they can develop into well managed organisations that are reliable business partners; (ii) developing innovative models for breed improvement; (iii) improving production infrastructure and adaption capacity to drought; and (iv) developing access to support services located at cattle fairs, including to a private network of Livestock Vet Stores located at district level.

106. *Second, it will strengthen market linkages between smallholders and other stakeholders in the value chain*, by: (i) organising district cattle fairs; (ii) promoting Meat Traders' Organisations (MTOs) providing reliable market access, reducing transaction costs and allowing producers to fetch better prices; (iii) setting up a new slaughterhouse jointly owned by LPOs, MTOs and private investors, which will ensure efficient hygienic slaughtering and value addition to increase profit margins, food safety and consumer confidence to eat local meat. *Third, it will develop a favourable value chain environment* by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation. It will also support the government in developing an appropriate enabling framework for the development of the meat industry, including a simple standard system for meat quality.

107. Activities will start in three districts (Manhiça, Magude and Chicualacuala) in the first year. They will be expanded to Massingir and Mabalane in the second year, and to Chokwe and Guija in the third year. The component comprises three sub-components:

Developing a conducive value chain environment by setting up a multi-stakeholders' platform, supporting KM and promoting an appropriate policy and legislative framework;

Production improvement, including supporting farmers' organisations so that they can integrate the value chain, promoting innovative approaches to develop quality production, improving climate resilience and sustainable management of natural resources, and improving access to support services;

Market linkages through the better organisation of cattle fairs, the creation of Meat Traders' Organisations, the development of outgrowers' schemes and the establishment of a new slaughterhouse in the outskirts of Maputo.

Expected outcome. The expected outcome of the component is that around 3,400 smallholder livestock producers of ruminants (of 5,600 breeders reached by the project) located in the 7 target districts will raise their income through increased productivity and quality of livestock and improved market linkages. New private ventures including MTOs, Livestock Vet Stores and the slaughterhouse will benefit another 1,380 beneficiaries, including employment opportunities for women and young people. Furthermore it is estimated that at least another 10,000 beneficiaries will indirectly benefit from project activities and services, including in districts neighbouring project target districts. Complementary expected outcomes are (i) wider availability of hygienically handled and processed meat products, with significant reduction of public health hazards, as well as increased animal welfare and (ii) sustainable managed rangelands/grazing areas that provide carbon and water storage, and watershed protection for major river systems.

- **DESCRIPTION OF THE COMPONENT**

- A. Sub-component 3.1 – Value chain environment**

108. **Scoping study.** A participatory scoping study will be carried out during the initial phase of the project to identify value chain stakeholders that will participate in project implementation and to lay out business development opportunities that have potential for increasing the income of smallholders and farmers. Detailed terms of reference of the scoping study are presented in Attachment II. Specifically for the red meat value chain, the scoping study will: (i) map stakeholders involved in ruminant production and trading (women and farmers’ groups, commercial farmers, traders, slaughterhouses, input/service suppliers), and assess their performance, capacities and governance mechanisms so as to identify players that will participate in the project and related support; (ii) in collaboration with the International Livestock Research Institute (ILRI), assess the scale, nature and location of demand for meat products in the Southern provinces, and (iii) selecting project sites and identify the location for the construction of a slaughterhouse and meat processing facilities. The scoping study will supply baseline data upon which to base monitoring and evaluation and provide the basis for setting up Innovation Platforms. The study will be carried out by the Livestock Lead Service Provider in coordination with the targeting and gender studies (described in Annex 2), and with the mapping of existing and planned community and concessionary DUATs and investment hot spots (described further down in Section 8). Findings and recommendations will be presented to the Regional Value Chain Platform (see below) for discussion and validation, and they will form the basis for the preparation of the first Value Chain Development Action Plan (see Implementation arrangements below).

109. **Innovation platforms.** An Innovation Platform (IP) will be set up in each participating district, building on the approach of ImGoats, an EU/IFAD funded project that is implemented by ILRI and CARE. Innovation Platforms will be composed of key stakeholders in the ruminant value chain and will aim at collectively identifying specific, local opportunities and constraints to both production and marketing, promote collective options for improvement and for better aligning production with market demand, review achievements and track good practices. Innovation platforms will be facilitated by the Livestock LSP, who will be responsible for promoting linkages and networking, providing information and knowledge, and building the capacities of stakeholders to respond with innovative approaches to the bottlenecks affecting the development of their activities.

110. **Regional value chain platform.** Furthermore, a Regional Value Chain Platform (VCP) will be set up with similar functions at regional level and in connection with the recently established National Livestock Forum. The VCP will gather stakeholders from both the local/provincial and national level (including DNSV, ILRI, national farmers organisations...). It will also be responsible for participating in the preparation of Value Chain Development Action Plan (see below) and for approving component APWBs prior to submission to the Project Steering Committee. Activities and implementation modalities will be developed along similar lines as those described for the Horticulture Component above. The Mid-Term Review will specifically review achievements of VCPs and provide orientations as to whether and how it should evolve into a permanent structure.

111. **Monitoring, knowledge management and communication.** In this incipient stage of value chain development, monitoring and knowledge management are key to monitor performance, analyse achievements, identify successful business models and document lessons learned and best practices. Knowledge management will translate into a set of tools to be used by CEPAGRI to replicate the approach in other areas of the province, including documented, proof-of-concept business models, technical notes, a monitoring and evaluation system with a data base and tools for analysis. Communication activities on project outcomes and lessons will also be carried out, based on a communication plan to be prepared and implemented by the LSP, in collaboration with IPs and the VCP. These activities will be carried out by the Livestock LSP, in coordination with the PMT. Furthermore, a “Learning Route on Red Meat Value Chain Development” will be organised in Kenya, Tanzania and possibly Zambia, involving livestock producers, butchers, traders and technical staff

from the National Department for Veterinary Services (DNSV). The Learning Route will be organised in collaboration with PROCASUR⁵⁵ as part of Component 5.

112. **Policy development.** In connection with the National Livestock Forum, the project will support key areas required to develop a conducive policy and legislative environment in areas identified by the Innovation Platforms/ Regional VCP. These could include the development of regulations, enforcement mechanisms and related training of value chain players for hygiene practices in the meat industry, a certification process of local traders, a licensing system for meat transportation vehicles, and production and processing standards to be developed in partnership with the National Institute for Standardisation and Quality (INNOQ). These activities will be implemented under the responsibility of the LSP, with support from specialised short term technical assistance.

Sub-component 3.2: Production improvement

113. The subcomponent aims at empowering small-scale livestock producers to form inclusive, gender-balanced Livestock (cattle and shoats⁵⁶) Producers' Organisations, that develop production standards and efficiency in accordance with market requirements, are reliable business partners and have access to support services.

114. In fact, livestock owners of the rangelands of Gaza Province have a critical role to play in managing grasslands not only to support the development of the proposed livestock value chain but also for climate change and mitigation. Rangelands are a source of goods and services such as wild foods, energy and wildlife habitat. When well managed and conserved, they also provide carbon and water storage, and watershed protection for major river systems. Many management techniques intended to increase fodder production have the potential to increase soil carbon stocks, thus sequestering up to 0.35 t of atmospheric carbon per ha per year in the soils.

115. **LPOs.** Through the facilitation of the Livestock LSP, the identification of suitable and interested communities to form LPOs will be undertaken during the initial scoping study. It is expected that one LPO or LPO network (i.e. one single large LPO or several producer's organisations coming together) will be established per district, with an average of 560 breeders per LPO. However, as of year 5, credit repayments will become sufficient to support the expansion of LPOs in the larger districts (giving them further access to working capital loans).

116. The LSP will facilitate the development of specific work/business plans and capacity building programmes for each LPO, building on elements gathered during the scoping study. LPOs will be assisted in developing their internal capacity of providing services to members (i.e. access to inputs through bulk orders, support to marketing, channelling technical assistance and disseminating good practices, access to credit, linkages with Animal Health Agents (AHAs) and detection of diseases, organisation of transport...) where they would have a comparative advantage, based on sound business plans demonstrating the possibility of cost recovery. LPOs will include target at least 40% of women members. Furthermore, it is anticipated that LPOs would be responsible for:

- establishing and managing livestock treatment calendars to control tick-borne diseases and vaccinate herds;
- establishing and managing access to grazing-reserved areas and water points;
- operating fodder banks;
- establishing and managing a livestock holding and crush pen at the cattle fair, where animals will be treated and grouped before marketing (see Sub-component 3); and
- organizing livestock markets (*feiras pecuárias*) according to an agreed calendar established jointly with value chains stakeholders in order to facilitate livestock shipment and transactions.

⁵⁵ PROCASUR: www.procasur.org.

⁵⁶ Sheep and goat.

117. For managing specific and localised business operations, especially ones that require investment capital such as fodder banks, sub-groups of the LPOs may be formed to own and operate the enterprise. Such businesses would operate on strictly commercial terms. For managing public service operations, such as livestock markets and water points, the overall LPO will own the infrastructure and appoint a local management committee to oversee the functioning. The local management committee will appoint a manager, to be remunerated from part of the fees to be collected for services. The public service operations will operate on a basis of covering its costs.

118. Capacity building support will be based on a capacity development plan, which will be tailor-made to the specific level of capacities, objectives and needs of each organisation (see also Annex 4, Section 6 – Farmers’ Organisation and Access to Services). Capacity building plans will be based on capacity assessments to be carried out by the LSP in order to monitor progress and adjust programmes. They will cover training activities and coaching, as well as the provision of manuals and guidelines, both with regard to management and technical capacities (animal health, nutrition, breeding, and management). They will be complemented by inter-district exchange visits to share knowledge and good practices. Capacity building programme will make sure that organisations develop inclusive and gender equitable activities and services, that women constitute at least 40% of the participants in the training programmes and that these are organised in such a way as to facilitate women attendance.

119. The LSP will bear overall responsibility for the capacity development programme for farmers’ organisations. National apexes of farmer organisations (UNAC, AMCPM, FENAGRI) are keen to be involved in organisational and agribusiness capacity development initiatives and the LSP will review possibilities to associate them.

120. **Innovation.** Innovative practices will be promoted through the following instruments:

Farmer Field Schools. An FFS programme will be developed to promote farmers’ acquisition of technical and management skills in key identified areas, in support of capacity building plans. FFS in livestock production and marketing will be a first in Mozambique, and will build on successful experience in the region, notably in Zimbabwe. The process will be developed in conjunction with IFAD-financed PRONEA. It will be facilitated by contracted FFS facilitators, who will train farmer facilitators for each of the farmers’ organisations and provide some local funds for the FFS processes. At least 40% of FFS will be women and FFS will be organised in such a way as to facilitate women attendance;

*Natural Resource Management Plans*⁵⁷. LPOs, with the assistance of the LSP and in coordination with the Land Tenure Service provider (see below) will develop Community-based Natural Resource Management Plans in order to: (i) identify the amount of pasture land and water LPO members have access to; (ii) discuss ways to improve access to land and water; (iii) promote civic education on land and relevant natural resources policies and legislation; (iv) prepare community-based mapping of land and natural resource use areas and related infrastructure (e.g. grazing lands, forest reserves, crop land, settlement areas, water sources and access paths); and (v) establish community-based monitoring systems of improved natural resources management and public access of project infrastructure investments. Each plan will focus on the territory covered by the LPO, and thus may entail several communities. It will be an instrumental tools to improve LPO capacity to manage pasture land and to decide on the strategic location of watering facilities and fodder banks to be financed by the project (see below). Baseline assessments of soil carbon will be made and a subsequent monitoring plan agreed using the most cost effective practices (based on advice from the ICRAF Geoinformatics unit).

Access to climate-resilient practices. Building on ImGoats experience and using fast participatory assessment tools, an assessment of the quantity, quality and cost of feed and grazing resources will be carried out in project target areas (as part of the above NRM plans),

⁵⁷ Also see Section 8 below.

based on which a range of interventions to optimise available feed resources for goats and cattle and to build farmers' capacities will be promoted. Activities will concentrate on improving dry season feeding and climate-resilient technologies, which could include: better use of crop residues through improved processing and storage; increased availability and access to climate-resilient grass varieties and other fodder resources; and improved management of existing natural resources, including through better livestock management;

Fodder banks. As part of the above, the project will finance the establishment of fodder banks⁵⁸ for demonstration purposes. Fodder banks are closed areas with plantings of high-quality fodder species. Their goal is to maintain healthy productive animals. They can be utilized all year, but are designed to bridge the forage scarcity of annual dry seasons. Fodder banks therefore do not provide 100% of feed requirements, but supplement the available dry season forage. LPOs will establish and manage them to constitute grazing-reserved areas for improving the feeding of livestock during critical time. After initial demonstration, during which fodder will be made available at no cost, fodder banks will be organised as a business and fodder will be sold. It is anticipated that LPOs will expand the number of fodder banks after assessing the positive impact on body conditions/quality of animal receiving supplementary fodder. The project will finance the cost of seed and seedlings, fencing, pump and irrigation;

Breeding units. In order to produce quality livestock (cattle in good body conditions with a minimum live weight of 300 kg), there is a need to improve the genetic characteristics of local herds together with improved health and feeding practices. In the project areas there are commercial farms keeping good livestock breeds for beef production, such as Brahman cattle. The project will facilitate the establishment of breeding units with selected commercial farms interested in exchanging breeding animals against local livestock. Both small and commercial farmers have expressed an interest in establishing such livestock exchange programme: LPOs will have access to genetically improved animals, by exchanging their livestock against improved breeds according to well defined criteria such as age and weight. There are no financial transactions involved. Individuals, especially the members of LPOs, will have the opportunity to exchange their livestock against animals with improved or adapted genetic material according to well-defined criteria (for example, an old cow of more than 300 kg can be exchanged against a one-year old Brahman heifer). Commercial farmers have the capacity to keep such animals suitable for the “premium market” and in the interaction with LPOs they will transfer knowledge on how to improve cattle production in order to get on the *feiras* with more and more “market-suitable” animals.

Commercial farmers will sell the local livestock received from farmers and will later purchase the fattened animals from farmers and sell them to the market. Such exchange programme will be supported through credit (under Component 4), which will finance the purchase of improved breeding stock to be raised by commercial farmers for distribution purposes, the improvement of equipment and the establishment of feedlot facilities⁵⁹. Commercial farms will also provide extension services to LPOs, including demonstration on the formulation of balanced feed, forage production, hay making regular livestock treatment and best animal husbandry practices. Breeding units will therefore also constitute the basis for developing outgrower schemes with commercial farmers. The LSP will provide technical assistance to the setting up of breeding units, in collaboration with the Chobela Zootechnic Research Station (for capacity building and knowledge management);

Start-up kits. As an incentive to adopt regular animal treatment and use related medicines, farmers operating in target areas will receive a start-up kit of veterinary drugs. Start-up kits will be made available to farmers for up to 5 cows and 8 goats (i.e. half of average herds). Start-up kits will be financed by the project during the first year and their distribution will be managed by LPOs with support from the Livestock LSP., and through credit thereafter⁶⁰. The

⁵⁸ The estimated surface for one fodder bank is 4 ha.

⁵⁹ See Section 4 Financial Services and related attachments below.

⁶⁰ See Attachment IV.

kit will include essential medicines for goats and cattle. Its exact composition will be determined by the LSP at project inception.

121. **Access to services.** Support services will be made accessible to LPOs at a central location, which will be the cattle fair, where both producers and traders are already used to meet. Services will be promoted at the cattle fair and will include the following:

Livestock Vet Stores (LVSs). While farmers have limited access to inputs, field observations also revealed that Community Animal Health Workers established in the context of previous projects often lack access to essential medicines, simple equipment (e.g. syringes) and transport, and are demotivated by the low and insecure income generated by their work with farmers. However, innovative approaches that have proved significant degrees of effectiveness⁶¹ exist and are characterized by the following common features: (i) veterinary products and livestock inputs and equipment are sold in village pharmacies that are privately owned; (ii) such village pharmacies have reliable and constant access to vet products stores located in main urban centres enjoying good communication; (iii) a number of private veterinarians and paravets operate in the same location as village pharmacies; (iv) smallholder farmers recognize the importance of treating animals because it translates in better conditions, therefore in a better price on the market. PROSUL will support the development of an innovative approach that attempts to capture the abovementioned features. A public tender will be launched to identify a private pharmaceutical company interested in developing a commercial network of Livestock Vet Stores (LVSs) located in each target district. The project will facilitate the access to credit (through Component 4) to build LVSs and equip them and facilitate access to working capital⁶². Furthermore LVSs will employ Animal Health Agents (AHAs) to deliver products and provide treatment services (at cost) close to farmers' needs and locations. AHAs could be existing Community Animal Health Workers reprofiled and trained by the LSP, jointly with the private company running the network and with DNSV. Revenues generated by the sale of drugs will cover the cost of AHAs, who will receive a base remuneration and will be paid on commission on products sold. It is further expected that LPOs could enter into contractual arrangements with LVSs for the purchase of bulk quantities of veterinary products (e.g. acaricides for the treatment of ticks) and small equipment (e.g. pumps for livestock treatment) at a fair price;

Financial services. Financial services will be offered by MFIs participating in project implementation, either in a fixed location at the cattle fair or through mobile banking. Equity financing by the Catalytic Fund to MFIs participating in the project will be used by the latter to expand their network either by opening point of services or by developing branchless expansion including mobile banking units or mobile phone banking facility⁶³.

Technical advisory services. Technical advisory services will be provided through AHAs attached to Livestock Vet Stores as well as through the cattle breeding units. In addition the Livestock Lead Service Provider will assign one technical expert in each of the target districts, who will also be available for the provision of technical services. Based on outcomes as well as on market development and requirements, the project Mid-Term Review will assess the opportunity of setting up permanent technical advisors financed by the proceeds of the slaughterhouse that will be financed by PROSUL;

Access to water. The project will finance the establishment of water access in the areas where LPOs and communities herds/flocks graze, at locations selected through the scoping study. The exact number and locations of water facilities will be finalised in coordination with AfDB-funded Sustainable Land & Water Resources Management Project. The cost estimate for this activity has been calculated on the basis of one small earth dam and three multifunction boreholes with water troughs for livestock per district. Water infrastructure will be managed by LPOs, who will receive appropriate capacity building from the Livestock LSP.

⁶¹ E.g. Sindai Company in Kenya – www.siddai.com

⁶² See details of financial model in Attachment IV.

⁶³ See Annex 4, Section 4, Financial Services.

122. **Land tenure security.** As explained above, Natural Resource Management Plans will be developed with a view to establish and enforce community and livestock association grazing / browsing and water use regulations and by-laws. The whole process will be implemented by a Land Tenure Service Provider with the guidance of PROSUL Land Technical Advisor, under the Land Tenure Security Sub-Component in Component 5 (see Annex 4, Section 8: Land Tenure Security).

Market linkages

123. Investments in this sub-component are designed to develop sustainable market access and better prices through: (i) the organisation of cattle fairs, (ii) the creation of Meat Traders’ Organisations and the development of contracting and outgrower schemes that would reward cattle productivity and quality gains, and (iii) the setting up of a new slaughterhouse in the outskirts of Maputo. Better prices to farmers will also result from heavier, better treated animals (Sub-component 3.2) and the development of quality standards (Sub-component 3.1).

124. **Cattle fairs.** The project will finance the improvement of cattle fairs, which will offer farmers an alternative to selling at farm gate by accessing a secured market place with a larger range of buyers, while buyers will reduce transaction costs. In each target district, the cattle fair will be equipped with steady water supply (through a borehole), a holding and crush pen to facilitate livestock handling, and scales. Facilities will be owned by districts and managed by LPOs according to modalities which will ensure sustainable operation and foster price transparency. Technical assistance will be made available by the LSP, with technical expertise from DNSV to design and implement the model according to the various site locations. LPOs will also receive project assistance to develop capacity building with regard to contracting processes and sales mechanisms.

Table 1: Phasing of cattle fairs

2013	2014	2015	2016
-	Manhiça Magude	Massingir Mabalane	Chokwe Guijá

125. **Meat Traders’ Organisations.** PROSUL will facilitate the formation of Meat Traders Organisations (MTOs) to provide reliable market access to farmers, remove barriers and reduce transaction costs in the red meat market chain. MTOs will be composed of traders and butchers. Given the strong representation of women in the meat trading sector, it is expected that at least 30% of MTO membership will be constituted by women. Main MTO clients will be livestock producers (smallholder and commercial livestock farmers), slaughterhouse managers, other traders and butchers. The project will finance credit (through Component 4) allowing MTOs to access working capital for purchasing animals, which at present is the major limiting factor hampering their capacity to purchase large quantities of livestock for trade. With the assistance of the LSP, MTOs will develop business plans in order to facilitate the implementation of the following activities:

Brokerage of livestock. Livestock traders need to reduce transaction costs by accessing consistent quantities of quality livestock (minimum 25 heads of cattle since this is the normal capacity of the most common trucks) on a regular basis. The LSP will assist LPOs and MTOs to enter into contractual arrangements ensuring farmers a fair price and a reward for quality. Access to credit for traders will be facilitated through Component 4.

Transport of livestock. MTOs will have access to credit to purchase appropriate vehicles for the transport of livestock (through Component 4), which will ensure better final quality and improved welfare of animals;

Contracting. MTOs will be encouraged/assisted to develop contracts to supply meat to institutional buyers (hospitals, schools, prisons) and enterprises (i.e. mines);

Certification. The LSP will help MTOs in developing a traders’ identification and certification system, which will contribute to strengthening traders professionalism and enhancing the trust

of livestock producers vis-à-vis traders. Livestock producers often report that cases of livestock thefts increase after the visit of unknown livestock traders scouting for animals suitable for slaughtering. A certification process will imply the development of national appropriate policies, rules and regulation. This would be a matter for discussion and conveyance to the policy level at the VCP in connection with the National Livestock Forum.

126. **Outgrower schemes.** Commercial farmers involved in breeding units described above (Sub-component 3.2) will purchase fattened animals from farmers and sell them at higher prices to traders or slaughterhouses.

127. **Slaughterhouse.** A new slaughterhouse will be built in the outskirts of Maputo (for example in Maffeteng). It will be equipped with cold storage, meat processing and packaging facilities. It will include a waste disposal system connected to a bio-digester for the production of biogas, which will be used to generate electricity. Improved slaughterhouse waste management will result in reduced public health and environmental hazards and reduced gas emissions from livestock slaughtering operations. The slaughterhouse will have a total capacity of 20,000 cattle and 10,000 sheep and goats per annum, of which 70-75% will accommodate animals supplied by project-supported LPOs, while the remaining 25-20% will cater for animals from other origins. The project will also finance the rehabilitation/construction of a 5 km access road to the slaughterhouse.

128. The slaughterhouse will be set up under the form of a limited liability company (LLC), with joint ownership by LPOs, MTOs and private investors and will be financed by a mix of grant, equity and long term debt financing as explained in Section 4. LPOs shares will be financed by PROSUL through the Catalytic Fund (see Component 4) on behalf of LPOs, who will gradually buy them using part of their dividends. A full feasibility study for the slaughterhouse will be carried out at project inception, building on the result of the scoping study.

129. The LSP will provide capacity building to the slaughterhouse Board of Directors and management team. An essential element will be the training of management personnel and slaughter attendants, which would result in the adoption of HACCP⁶⁴ compliant practices and quality standards and ensure operational efficiency of the slaughterhouse. In addition, PROSUL will fund the organization of vocational skills training sessions on good practices in the meat industry, targeting informal meat operators/enterprises (rural butchers, managers of rural slaughterhouses, informal market retailers) to increase technical capacity and awareness on hygiene, thereby assisting in realizing better margins along the meat processing chain with less product wastage and assured food safety to consumers. This will also include a study tour of slaughterhouse operators to South Africa, Swaziland or possibly Zambia, to receive “hands on” training in a very well operated slaughterhouse. Alternatively, should no hosting slaughterhouse be found to organise such activity, training would be provided by an international consultant in Mozambique. Training will mainly target youth and women entrepreneurs in meat trade. The LSP will also provide assistance to explore new market opportunities and develop market linkages with wholesalers and supermarkets. Finally capacity building will be provided to LPOs and MTOs so that they can exert their responsibilities of shareholders.

• IMPLEMENTATION ARRANGEMENTS

130. **VC DAP.** Every year, a Value Chain Development Action Plan (VC DAP) will be prepared by the Livestock LSP together with value chain stakeholders, building on multi-stakeholders’ platforms to be set up with PROSUL support at the local level (Innovation Platforms) and at the regional level (Regional Value Chain Platform). In the first year of activities, the VC DAP will be

⁶⁴ HACCP stands for Hazard Analysis and Critical Control Points. HACCP is an industry-wide effort approved by the scientific community as well as regulatory and industry practitioners. This effort is designed to focus specifically on food safety, including food safety in retail establishments.

based on the outcomes of the initial scoping study and on the Targeting and Gender Mainstreaming Strategy and Implementation Plan. It will detail actions required to improve production and develop market linkages as well as activities designed to expand women's and poorer households' access to and control over capital, land, knowledge, financial and non-financial support services. VC DAPs will include quantified targets and performance indicators, including with regard to gender and inclusion mainstreaming. VC DAPs will be reviewed every year by the Regional Value Chain Platform with support from the Livestock LSP, based on an assessment of past year achievements and an identification of challenges and constraints facing value chain actors. They will constitute the basis for the preparation of the Annual Work Plan and Budget for the component, which will be done by the LSP.

131. **LSP.** An international Lead Service Provider (LSP) contracted by the Project Management (PMT) through a competitive bidding process will bear overall responsibility for coordinating the implementation of Component 3, in collaboration with the PMT, CEPAGRI and DNSV. Detailed terms of reference are provided in Annex 6, Attachment 4.

132. The LSP will coordinate and create synergies with the ImGoats project through sharing of best practices and up-scalable models in the field of goat development and organising participation in events (training opportunities, seminars and workshops) supported by either projects. In addition, linkages will be built with IFAD-funded grant to ILRI "Innovative Beef Value Chain Development Schemes in Southern Africa", which will create opportunities for regional sharing of best practices and knowledge in workshops and seminars.

133. **ANE.** The National Roads Authority (ANE) will be responsible for planning and overseeing road construction/rehabilitation. CEPAGRI/the PCT will sign an MOU with ANE defining responsibilities, deliverables and timeframe. Details are provided in Annex 6.

134. **Land tenure security.** As referred above, all activities related to land tenure security will be carried out by the Land Tenure Service Provider (LTSP), along the modalities detailed in Annex 4, Section 8 – Land Tenure Security, and in close collaboration with the LSP.

• MAIN INDICATORS AND TARGETS

135. The following indicators will measure the performance and impact of the component. Indicators should be disaggregated by gender as appropriate. They should be reviewed at project inception as part of the modalities for setting up the Project Learning System (see Annex 11). Key indicators (see Logframe) are shown in italics. Targets to be achieved at project completion are shown in brackets.

Output indicators and targets

- a) *5,600 herders (50% women) accessing support services (defined as: animal health services) (RIMS 1.2.5 and COSOP);*
- b) 7 NRM plans developed and adopted
- c) Number of herders trained (m/f) - RIMS
- d) Livestock Producer Organisations (LPOs) formed and registered
- e) Number of leaders and members of LPOs trained, by subject and by gender:
 - i. Organisational LPO training
 - ii. Technical training
- f) 7 Meat Traders' Organisation formed and registered
- g) Number of water facilities constructed or renovated
- h) 7 Livestock Vet Stores established (with infrastructure and Animal Health Workers (AHAs) fully operational)
- i) 7 cattle fairs organised and equipped
- j) 1 new slaughterhouse established
- k) Soil carbon stock increased

Outcome indicators and targets

- l) 3,360 herders (50% women) adopting recommended technologies (RIMS 2.2.2 and COSOP) (based on 60% adoption);
- m) 2,800 herders (50% women) adopting recommended climate-smart technologies (defined as: using climate-resilient management of grazing areas) (ASAP indicator, contributing to ASAP key indicator no. 1, goal-level) (based on 50% adoption);
- n) Number of cattle exchanged per year at all supported Breeding Units (750 in project year 5);
- o) Total annual water use charge collected at participating water structures (in MZM)
- p) Number of water facilities in use
- q) Animal productivity and health:
 - r) mortality rate: cattle adults from 6% to 3%; goat adults from 8% to 4%
 - s) mortality rate: calves from 25% to 10%; goat kids/sheep lambs from 40% to 15%
 - t) calving rate from 40 to 60%; kidding rate from 90 to 140%
 - u) calving interval from 36-24 months to 18 months; kidding/lambing interval from 9 months to 6 months
 - v) slaughter weight: cattle carcass weight from 120-150 kg to 180-200 kg; shoats carcass weight from 8-10 kg to 12-15 kg
 - w) growth rates achieved: cattle ready to be slaughtered from 36 months to 24 months; shoats from 18-24 months to 12 months
 - x) *Off-take rate of livestock (increased from current 5% to 10%)*
- y) Tenure protected area for LPOs (defined as: demarcated grazing and browsing area with documented rules for regulating members' parcel access and use) (in ha)
- z) *# increase in hectares of land managed under best practices (defined as: Tenure protected area for LPOs with documented improvements in vegetative coverage) (ASAP key indicator no. 6, outcome-level)*
- aa) Change in grazing areas soil carbon stock (1.2 t of additional C / ha by project end; to be measured at baseline, after 4 years and at project end) (ASAP indicator)
- bb) Annual number of animals sold by LPOs:
 - i. Cattle (at least 15,000 by project year 4)
 - ii. Shoats (at least 6,000 by project year 4)
- cc) Annual number of animals sold at cattle fairs:
 - i. Cattle (at least 18,000 by project year 4)
 - ii. Shoats (at least 8,000 by project year 4)
- dd) Annual number of animals slaughtered by the new slaughterhouse:
 - i. Cattle (20,000 by year 3 of slaughterhouse operations)
 - ii. Shoats (10,000 by year 3 of slaughterhouse operations)
- ee) Annual profit by the slaughterhouse (in MZM)
- ff) Annual value of sales by Livestock Vet Stores (in MZM)
- gg) Farmers' share of wholesale price (increased by 10%)

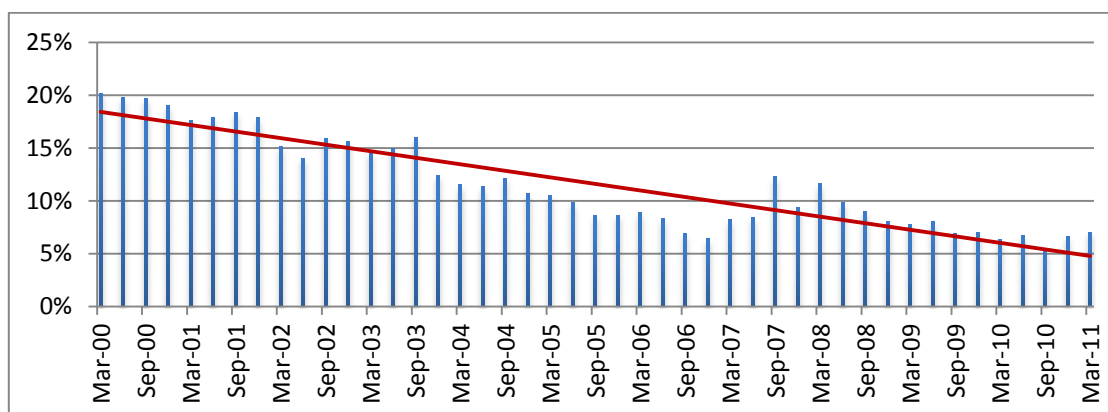
SECTION 4 – FINANCIAL SERVICES

I. BACKGROUND AND RATIONALE

A. Overview of the financial sector

136. **Lending to the agricultural sector.** Lending to the agricultural sector represents a very small proportion of the total amount of loans in Mozambique, especially considering the contribution of the agricultural sector in the GDP (around 25%)⁶⁵. The proportion of commercial loans to the agricultural sector is in fact declining relative to other sectors. Between 2000 and 2010, the share of loans provided to the agricultural sector decreased from 20% to 6.5% of the total lending of commercial loans in Mozambique (see graph 1).

Figure 1 - Agriculture lending as % of total commercial bank lending 2000-2010



Source: Bank of Mozambique

137. Between 2005 and 2011, the total volume of lending to the economy in Mozambique expanded by a factor of five in local current terms, while the lending to agriculture only tripled during the same period of time. However, in constant value (base: year 2000), lending to the economy only tripled, increasing from MZM 108 000 million in 2000 to MZM 333 000 million in 2011, while lending to agriculture remained the same with MZM 21 363 million to MZM 21 439 million⁶⁶.

138. Financial resources are extended to farmers by different sources: commercial banks, agricultural development banks, microfinance institutions, credit unions and input providers but also by governmental programmes such as the Agricultural Development Fund (FDA) or by other informal channels including family and friends. Due to a lack of information, the exact breakdown of financing sources cannot be estimated. However, as illustrated by table 3, access to financial resources for small and medium farmers is quite a challenge and is still very restricted.

139. Some of the reasons given by financial sector stakeholders for their low level of investments in the agricultural sector include:

- Difficulties in securing access to reliable markets;
- Low technical knowledge of farmers and rural entrepreneurs;
- Lack of business and entrepreneurial skills (quality control and cost-efficient production, limited ability to prepare and follow investment and business plans);
- Lack of business development services and technical support;
- Limited cultivated land owned by smallholders and thus lack economies of scale;
- Lack of collateral;

⁶⁵ 31% according to the World Bank (2009) and 25% according to the Bank of Mozambique (2009).

⁶⁶ Teyssier.

- Loans required below banks' perceived viable amount.

140. The agricultural sector, in general, is characterized by the following factors: (i) little diversification in production; (ii) most products are marketed at the same time (harvest time or shortly after) when supply is high, hence low prices; (iii) lack of storage facilities that would enable farmers to wait for higher market prices; (iv) small plots of land unsuitable for a profitable crop farming activity; (v) low level of mechanization; (vi) irrigation schemes not- or badly maintained especially when maintenance is vested with farmers' groups; (vii) lack of production of quality preventing farmers to compete with imported agricultural products from South Africa, Zimbabwe or Zambia; (viii) in Gaza and Inhambane districts, agricultural value chains are not structured (only around some advanced farmers that are assisting their neighbours with inputs, production and marketing), preventing most smallholders to access large urban markets and forcing them to sell their production in local markets; (ix) low level of infrastructure allowing cost-efficient transportation of goods from production areas to markets, and (x) poor access to inputs at affordable price. All these factors contribute to the perception by financial institutions of agriculture and rural areas as 'highly risky sectors' for financing.

141. **Commercial banks.** According to the FINSCOPE survey, the financial sector in Mozambique is vastly dominated by the commercial banks holding more than 90% of the total assets in the sector, and the two largest banks accounting for 70% of the market. The commercial banks are relatively well capitalized, are long in liquidity and have in recent years become comparatively profitable due to high interest rates and service charges. This has also been motivated by a steady decline of non-performing loans in the bank's balance sheet from 22% of total loans in 2003 to 8% in 2006, and more recently around 3%.

142. However, bank credit is almost exclusively channelled to low risk clients, which can be defined in three groups: large companies (investment loans), trade and traders (short-term working capital loans), and salaried employees (consumption and housing loans). Commercial banks' portfolio with agriculture and rural areas remains very small. Activities with agriculture are essentially focused on agricultural processing companies and large farmers (commercial farmers) who can provide the necessary collateral and guarantees against loans extended by commercial banks. Collateral requirement against loans still constitute an almost insurmountable barrier for most rural and poor households (in most commercial banks the value of collateral to provide against any loan totals 150% of the loan amount, and can go up to 250%). Due to their minimal presence in rural areas preventing them to assess and control their value, commercial banks tend not to accept land and/or livestock as collateral, which constitute the major assets of most rural households.

143. Interest rate is normally calculated from the banks' prime rate at 2 to 5 percentage point higher than the Permanent Lending Facility rate of the Bank of Mozambique, in addition to other percentage points calculated on the basis of expected risks. Depending upon the level of risk associated with, market interest rates range from 24% to 40% which, although is lower than the interest rates applied by most microfinance institutions, is still excessively high. There are no signs suggesting there will be any significant changes within the commercial sector to make affordable loans available to the rural poor households within the timeframe of the project.

144. **Microfinance institutions.** The microfinance industry in Mozambique is comparatively small even though it has grown substantially over the past few decades. By the end of 2011, the ten largest operators had just over 150 000 borrowers, about 200 000 savers and an outstanding loan portfolio of about USD 91 million⁶⁷.

145. **The** vast majority of microfinance lending has historically been to retailing and commodity lending. Although there have been noteworthy developments in methodologies and products starting around the year 2000, the gain in agricultural lending has not been significant. Microfinance

⁶⁷ Discussions with Micro-Finance Institutions Association.

institutions visited by the mission have small agricultural portfolios comparative to the other sectors. Interest rates charged by MFIs range from 24% to as much as 120%, with the majority of MFIs positioned at the higher end of the spectrum. With a few exceptions, repayment rate is low (commonly ranging from 50 to 75% - well below microfinance industry standards) and most institutions have limited resources to further expand the portfolio. With low repayment rates, many MFIs are struggling to reach sustainability. External resources like savings and deposits would be particularly unwise to develop considering these low repayment rates, the inefficient management of most MFIs and the absence of credit and repayment culture among the population. In addition, subsidized governmental programmes with unsustainable interest rates add to the difficulty in maintaining a sound microfinance sector. Finally, despite their rural network, most MFIs have still not adapted the terms and conditions of their loan products to the needs of small and medium-size farmers and needs of agricultural financing. This inadequacy between terms proposed and productions and cash-flow cycles is also contributing to the below-the-average repayment rate.

146. Many microfinance institutions have or are launching an “agricultural product”, which primarily tends to differ only on the interest rate applied, with a rate ranging from 3% to 3.5% per month, compared to the current 4.5% to 6% a month. This rate is still excessively high, and does not include additional costs such as application fees or compulsory savings as a substitute for collateral, which are also applied. Even with a cash-flow cycle of 6 to 8 months, such interest rates are still unaffordable for most small and medium-size crop farmers. In addition, such rates of interest prohibit long-term investment loans.

147. Microfinance staff, especially loan officers, are insufficiently trained and their capacities need further building. Most of them have little knowledge of the specific production and cash-flow cycles related to agricultural financing. To avoid risks, credit officers tend to focus their clientele on the trading sector.

148. **Demand.** The demand for agricultural loans is high and a range of financial products are critical in order to successfully facilitate small farmers’ access higher value added markets. Below are a list of financial services which have been identified as needed within the value chains in order to successfully integrate smallholders.

149.

- **Short term loans** that can provide working capital to small farmers and traders. Two issues need to be addressed with working capital loans: a/ the timing of the loan disbursement, and b/ the loan amount. Disbursement timing is of crucial importance as in most cases financing is not timely made available by financial institutions. Working capital loans finances inputs, external labour, transportation, but also land preparation, planting materials. Any delay in the disbursement of the loan proceeds or any reduction in the loan amount requested by the farmer (as it is often the case by financial institutions to reduce their risks) puts the whole production in jeopardy by minimizing its potential yield.
- **Medium and long term loans** that can enable smallholders, emerging and commercial farmers, traders and agro-processors to expand their activities. This primarily relates to the financing of productive/processing equipment but can also include other needs such as transport and infrastructural investments as well as marketing and commercialization equipment.
- **Alternative financial instruments.** Most rural enterprises are family-owned businesses and have limited share capital (all available family’s resources have generally been invested in the company). Considering the lack of collateral but also a conservative debt to equity ratio, these family-owned businesses have limited access to loans, especially when needed for investment. Alternative financing instruments such as equity financing or leasing are not widespread and are mainly reserved for large urban-based companies. However, within a few structured value chains, investments could be financed through such an alternative mechanism. In addition, leasing should also be further promoted by both commercial banks and microfinance institutions as it reduces the risk for the lending institution.

- **Warehouse receipt financing.** Since most farmers are selling their production to intermediaries or on the markets when prices are at their bottom low, and considering the small number of storage facilities especially in rural areas, financial institutions should consider: a/ financing storage facilities, and b/ introducing warehouse receipt financing. This would allow farmers to store their production while waiting for higher market prices. During that period, household expenses would be financed by a financial institution based on the production stored in the storage facility.

B. Unfavourable terms and conditions from the financial sector

150. **Inadequate bank financing activity.** Commercial banks are long in liquidity but are not willing to extend loans in rural areas or for primary agriculture production. Very rare exceptions are to be found (Standard Bank or Banco Terra) but they are limited to commercial farmers for well-marketed products or well-structured value chains. Smallholders or their organizations have no access to commercial banks' financial resources.

151. On-lending from commercial banks to microfinance institutions (MFIs) does not constitute a viable alternative as interest rates charged on refinancing loans by commercial banks would put the interest rate for end-borrowers at an unaffordable level, especially for financing primary agriculture production (from 2.5% to 10% per month.)

152. **Inadequate MFI financing activity.** Several issues are hampering the development of the microfinance sector in Mozambique and its involvement in financing rural areas and agriculture-related activities:

- *Single source of financing.* Most MFIs have no legal authorization to mobilize savings and deposits, hence they rely on banks to finance their lending activity. However their poor performance does not encourage commercial banks to increase the amount of their credit/refinancing lines.
- *High cost of resources.* MFIs rely on credit/refinancing lines extended by commercial banks that bear an interest rate ranging from 15% to 20%, depending on bank perception of the risk associated with the MFI and its financial performance. However, some donors such as UNCDF and government agencies such as the Agriculture Development Fund (FDA) have recently started to provide financial resources to selected MFIs at a very low interest rate or with conditions on the interest rate to be applied to on-lending: UNCDF extends its resources in the form of a loan at 0% interest rate, which is converted in quasi-equity at its maturity; FDA caps at 10% per year the interest rate to be applied on loans extended by financial institutions financed from its resources.
- *Poor performance.* Most MFIs are reporting poor performance in terms of loan recovery (repayment rate at 90 days is around 50 to 60% and average portfolio at risk stands above 40%) and commercial banks are not willing to extend refinancing loans to MFIs unless improvements have been demonstrated. Besides, current MFIs repayment rates and portfolio at risk ratios are unsustainable. Drastic improvements should be implemented in: (i) loan assessment procedures; (ii) loan portfolio monitoring and follow-up, and (iii) overdue recovery procedures. In addition, training should be provided to credit officers in risk management and in understanding the requirements of activities financed. Training should be also provided in financial, cash and credit management to minimize the risk of non-payment.
- *High staff turnover.* Many MFIs are experiencing a high staff turnover and difficulties to maintain a high level of trained and skilled staff. Such a situation increases MFIs operating costs, alters their efficiency and hampers their activity.

- *Inadequate loan terms and conditions for the agricultural sector.* Terms and conditions applied to loans are not in adequacy with cash-flow and production cycles of agricultural activities. Repayment periods are not considering enough time after harvest to enable farmers to reach higher market prices, and repayment schedules are generally on a monthly basis, which is inadequate for agriculture-related activities. Loan products such as warehouse receipt financing are not promoted by MFIs, mainly because of a lack of adequately managed storage facilities in rural areas. Such financial instruments coupling storage and microfinance would enable farmers to store their production, access fully-collateralized bridge financing and wait for higher market prices. Finally, collateral requirements constitute another serious hurdle for smallholders to access financing, as most of them are unable to meet them. Farming contracts (forward contracts) are not extensively developed in Mozambique (only in the case of a few outgrower schemes.) Such contracts would constitute an alternative to the requirement for formal collateral and guarantee imposed by financial institutions.

153. Furthermore, microfinance institutions are short in long-term resources, and their inability to extend long-term investment loans prevents farmers and small rural entrepreneurs to finance investments required to upgrade the quality and increase the quantity of their production.

- *Targeting.* Due to a lack of resources, MFIs are targeting the better-off clientele, i.e. the one that can afford paying high interest rates.
- *Unaffordable interest rates.* Interest rates charged by MFIs operating in rural areas reflect: (a) the high cost of their resources; (b) high operating costs considering the expensive nature of their delivery mechanism in rural areas, and (c) perceived high risk of rural activities. Consequently, interest rates for short-term credit are ranging from 2.5% per month up to 10% per month, which is unaffordable and inappropriate for the financing of agriculture-related activities. The proportion of loans to traders and trading activities exceeds 80% in most MFIs portfolios. Current interest rates applied by MFIs on short-term credit cannot be considered as market interest rates. They are rather trading activities market rates, and should leave the possibility to determine different interest rates to be applied to agriculture and agriculture-related activities. Current high interest rates are also totally unsustainable for financing long-term investments as they would endanger the profitability of the activity they finance.

C. Need for innovative financial instruments

154. **Equity financing.** Any new investment for any given activity to increase production, increase quality, adopt new technologies, enter new markets through product diversification, and/or comply with new standards and regulations, is generally debt-financed. However, with interest rates currently prevailing, the service of the debt hinders the profitability of any activity and contributes to a lack of competitiveness, which further affects profitability.

155. To avoid creating an excessive financial burden on newly created companies developing activities related to PROSUL-supported value chains such as storing or processing, alternative financing mechanisms to debt financing should be promoted under PROSUL. Such instruments should give the possibility to companies to differ the reimbursement of their loan and to modulate the service of related interest in accordance with the amount of profit generated. In that respect, equity financing represents a financially viable alternative to debt-financing: (i) equity financing comes with no-predetermined reimbursement schedule; (ii) the service of equity financing is strictly linked to the annual profit of the company, and (iii) the increase of share capital enables the company to leverage additional resources to finance its investments. Furthermore, shares subscribed by a third-party financier can be purchased by the other shareholders under either a call- or a put-option scheme.

156. Equity financing should not substitute debt-financing: both should come together in a package. Careful consideration should be given to: (i) financing investment through a balanced proportion of equity financing and debt financing (equity financing should not represent more than

60% of the total investment cost), and (ii) ensuring that the third-party financier does not hold the majority in the share capital.

157. Equity investments have been developed in Mozambique in recent years, in particular through the following two remarkable initiatives:

- *The Beira Agricultural Growth Corridor (BAGC) Initiative.* BAGC is a public-private partnership between the government of Mozambique, private investors, donors (DFID and the Netherlands), and regional organizations. The aim of BAGC is to promote commercially viable and environmentally sustainable agricultural development in the Beira corridor. At the end of 2011, BAGC had raised a total of USD 23.2 million with an additional USD 32 million having been committed by AGRA over the next five years. BAGC has filed for incorporation and is expecting the approval shortly (end of April 2012.) All activities are being managed by AgDevco, which is a not-for-profit organisation with its head office in the United Kingdom.

158. Main activities supported under BAGC are the Catalytic Fund, which provides equity and debt financing, and the Smallholder Support Facility, which provides grants for the implementation of sustainable models to integrate smallholder farmers into mainstream commercial agriculture. The Catalytic Fund is placed under the supervision of the Central Bank of Mozambique.

159. The Catalytic Fund fills a gap by providing early-stage, low cost risk capital (between USD 100,000 and USD 1,000,000) and project development support for agricultural enterprises which are unable to tap commercial markets. In doing so it helps Mozambican farming and agri-processing companies reach a stage of maturity where they are financially viable and are capable of attracting debt and equity for expansion, from local and international sources. When this has been achieved, the Fund's aim is to sell out and recover its capital with a 5%-10% return on investment. This not only helps create a profitable farming sector, but it also stimulates wider capital markets development in Mozambique by increasing the supply of 'bankable' investment opportunities and introducing new funding structures. The Catalytic Fund has the flexibility to structure investments to match the requirements of the investee company while providing an adequate financial return to the fund. These types of investment structures – while commonplace in venture capital and private equity generally – are almost entirely new in Mozambique, certainly in the agriculture sector.

160. To date the AgDevCo Investment Committee has approved debt and/or equity investments in 14 Mozambican farming and agri-processing businesses totalling USD 2.3 million. It is considering another 4 investments of USD 1.3 million subject to further development of the business plans. In addition AgDevCo has a strong pipeline of investment opportunities.

- *The Eco-Micaia initiative.* A honey processing plant owned by a honey company has been financed by three different shareholders: (i) a processor who owns 45% of the share capital; (ii) honey producers who similarly own 45% of the share capital and (iii) Eco-Micaia, a private venture capital company, which owns the remaining 10%. Since honey producers do not have sufficient financial capacity to pay for their 45% share in the company, Eco-Micaia has financed their shares and producers are gradually buying them back out of dividends distributed by the honey company. The company's technical activity and management are vested with the processor, while Eco-Micaia controls and supervises its financial aspects. The processor and producers have signed a yearly renewable contract farming arrangement, which predetermines the purchase price of honey for the next campaign depending on its quality. SNV provides technical assistance for the improvement of honey producers' technical skills. As a result, honey of better quality reaches higher market prices when processed, and income of honey producers has been substantially increased.

161. **Outgrower schemes.** Given the lack of willingness of financial institutions to finance rural areas as well as the poor performance of many microfinance institutions when lending to both rural

and urban areas, consideration should also be given to non-financial partners for lending activities. In many developing countries, including Mozambique, outgrower schemes have been successfully tested, particularly with cash crops such as cotton, tobacco or rice. Commercial farmers have access to larger markets and are interested to market larger volumes. In an outgrower scheme, a commercial farmer borrows from a commercial bank, purchases and delivers the necessary inputs to outgrowers (participating smallholders), buys their produce withholding the cost of inputs delivered, and pays back the bank's loan. The bank's risk is on the commercial farmer's loan, who can provide sufficient collateral to the bank. Repayment of inputs used by smallholders is facilitated by the fact that the commercial farmer can sell their production at a higher price than that they would be able to get should they sell their production directly. For smallholders, participation in an outgrower scheme leads to: (i) access to better quality inputs with an increase in yield as a direct consequence; (ii) access to technical support, advisory services and technical innovations, thus also contributing to the improvement of production quality and quantity, and (iii) access to higher prices on more diversified markets. Consequently, the net profit generated per ha under production is substantially increased.

162. **Branchless delivery mechanisms.** Very few branches and points of services are available in rural areas. Microfinance institutions are generally covering a few provinces or even only districts and large commercial banks rural networks do not go beyond province capitals. Innovative approaches to delivery mechanisms should be tested or replicated with the assistance of the project (such as the mini-bus bank units by Opportunity Bank, enabling the bank to visit clientele in more remote places.)

Investment Fund

163. Project reviewers of the PROSUL draft design report at IFAD and in Mozambique agreed that supporting smallholder inclusion in the target value chains requires a range of financial instruments to meet value chains specificities and needs. Further analysis, including of market demand, confirms that there is a need to facilitate access to financial services not only of small producers, but also of other players in the value chains, such as commercial farmers (who would run the livestock breeding centers), Livestock Vet Stores, Meat Trader Organizations and cassava processors. These stakeholders require access to working capital as well as investment loans (or leasing) for mechanization, transport or processing equipment, at an interest rate allowing the development of remunerative agriculture activities. Service hubs and the new slaughterhouse additionally require patient equity financing. There is currently no bank or microfinance institution that is in a position to provide the whole range of such financial instruments on their own resources and at an affordable rate.

164. Consequently, project financial resources will be extended to an investment fund, which will on-lend them to microfinance institutions (MFIs) selected on the basis of competitive bidding, allowing them to provide the range of financial services required. To make sure that they can do this at an affordable interest rate for value chain stakeholders, the investment fund should take an equity position in the share capital of selected MFIs, which will open the possibility to also make a long-term deposit in their shareholders' account. Equity resources will be used to finance the expansion of MFIs rural networks (preferably to finance innovative delivery mechanisms such as mobile bank units, as already successfully experimented by Opportunity Bank), while the long-term deposit resources will be used for extending loans to project clients at an affordable final interest rate. Consultations with stakeholders in Mozambique demonstrate that this approach is in line with that practiced by MINAG (that extends resources to FDA for the provision of loans to farmers and producers through commercial banks capped at 10% maximum) and donors (especially UNCDF that provides resources to MFIs at 0%).

165. With regards to the hosting institution, several options have been examined. The creation of a new investment fund has been ruled out, mainly due to the time necessary to create a company and have it licensed by the Central Bank of Mozambique as a financial institution. The delay would prevent the implementation of most activities in PROSUL other components. Consequently, the investment fund should rather build on an existing institution. The option consisting in the attribution

of the responsibility to the Fund for the Support of Economic Rehabilitation (FARE) was not retained considering:

- weaknesses in FARE's management as identified by the Tri-Term Review of the IFAD-funded Rural Finance Support Programme (January 2012) and lack of evidence that such weaknesses would be redressed by early 2013 when PROSUL is due to start;
- FARE's extension of credit to microfinance institutions at a rate of 12%, without any control over the rate subsequently charged by these to smallholders, leading to average final interest rates of 80-90% per year that are unsustainable for the agricultural sector;
- FARE's lack of financial sustainability, even under such terms and conditions (it has been recommended by the Tri-Term Review mission that FARE should increase the interest rate applied on its loans to microfinance institutions to reach sustainability);
- lack of FARE's experience in the financing of value chain development, which would require setting up a whole new department at a time when the institution should rather concentrate on improving performance of its current operations;
- the fact that it is not appropriate to entrust the financing of private sector-driven value chain development to a public financial institution;
- the fact that microfinance institutions identified by the mission as possible candidates to participate in the component implementation indicated that they would not accept that a public institution holds equity in their capital.

166. The only institution able to take positions in financial institutions is the Catalytic Fund set up in the framework of the Beira Agriculture Growth Corridor initiative. It is a limited liability share company that was created under the laws of Mozambique with the objective to invest in and provide financial resources to agribusiness, including smallholder operations. Its bylaws leave open the possibility of extending its activities beyond the Beira Corridor and the Catalytic Fund has expressed an interest to participate in the project along the approach developed in the project report, subject to approval by its Board.

• **OVERALL DESCRIPTION OF THE COMPONENT**

167. The objective of the 'Financial Services' component is to enable stakeholders of PROSUL-supported value chains to access a wide range of financial services and products provided at an affordable cost by sustainable MFIs using innovative delivery mechanisms to increase their outreach.

168. The component includes two sub-components: (i) Financial services, and (ii) Capacity building.

A. Financial services

169. **Equity and debt financing.** PROSUL will finance a small department within the BAGC Catalytic Fund. The Fund will take a minority equity participation in up to three microfinance institutions, which will be selected based on a call for expression of interest, a due diligence exercise and a financial and operational audit. Attached to the minority equity participation, the Catalytic Fund will have a seat in MFIs Board of Directors, with the possibility to influence decisions and to promote pro-poor policies. The equity position will also give the possibility to the Catalytic Fund to extend additional resources to each MFI in the form of a long-term deposit, the interest rate of which will be negotiated among shareholders.

170. Equity participation will result in an increase of the share capital of the MFI and will be used to finance increased outreach through the expansion of its network. Such an expansion will preferably be achieved through innovative features such as non-permanent points of services in the PROSUL project area or branchless expansion including mobile banking units or mobile phone banking facility.

171. The long-term deposit made by the PROSUL department of the Catalytic Fund in each MFI will be used to finance PROSUL-supported value chains stakeholders. The following table shows the different types of financial products that will be extended by participating microfinance institutions to the various types of value chain stakeholders supported by PROSUL.

Table 1: Different financial products for each value chain stakeholder

Stakeholders	Financial instruments
Slaughterhouse LLC	Equity financing Debt financing (investment and working capital) Leasing <i>Grant financing</i>
Horticulture hub LLCs	Equity financing Debt financing (investment and working capital) Leasing Warehouse receipt financing <i>Grant financing</i>
Cassava processing hub LLCs	Equity financing Debt financing (investment and working capital) Leasing <i>Grant financing</i>
Producers' associations	Debt financing (investment and working capital) Leasing
Livestock Producers Associations	Debt financing (working capital) <i>Grant financing</i>
Meat Traders Associations	Debt financing (investment and working capital) Leasing <i>Grant financing</i>
Breeding units	Debt financing (investment) <i>Grant financing</i>
Vet franchisees network	Debt financing (investment and working capital) <i>Grant financing</i>
Cassava producers	Debt financing (investment and working capital) <i>Grant financing</i>

172. These financial products (detailed in Attachment 4) will generate different types of revenues:

- *net dividends from equity participation in hub companies, together with interests from investment loans, working capital loans and leasing* will be used by microfinance institutions to cover their operating costs, especially incremental costs related to PROSUL activities;
- *the purchase price of shares held by MFIs in hub companies and bought by hub shareholders, together with the repayments of loan principal* will form a revolving fund that will be used by MFIs for further investments to the benefit of value chain stakeholders.

173. The Catalytic Fund will use dividends earned from its equity participation in microfinance institutions to cover its operating costs, especially those related to the PROSUL department.

174. In addition to an equity participation held in selected microfinance institutions, the Catalytic Fund will also take an equity position in the limited liability company that will own the slaughterhouse financed by PROSUL (Slaughterhouse LLC), which it will hold on behalf of Livestock Producers Organizations (LPOs) co-owning the slaughterhouse. LPOs will gradually buy back the shares held by the Catalytic Fund once the long-term investment loan extended by a microfinance bank will be fully reimbursed. The net amount of dividends earned by the Catalytic Fund from the Slaughterhouse LLC investment will be used to cover the Catalytic Fund operating costs (especially those related to the PROSUL department) while the purchase price paid by LPOs for the Slaughterhouse LLC shares held by the Catalytic Fund will be used for further investments in PROSUL-supported value chains.

175. **Grant financing.** Grant financing will be used to reduce the cost of building construction to be supported by the owners of horticulture hubs, cassava processing hubs, Livestock Vet Stores, and slaughterhouse. The grant represents a maximum of 30% of the cost of the building, including studies and supervision costs.

176. **Outgrowers' schemes.** Outgrowers' schemes will be developed with selected commercial farmers, who generally have access to good inputs and supplies, to profitable markets, to new technologies and equipment, as well as, through commercial banks, to short-term and long-term credit. PROSUL will promote outgrower schemes through forward contracts linking smallholders to selected commercial farmers. There will be two types of forward contracts:

- in the most developed form, the commercial farmer will provide technical assistance to smallholders to improve yields and quality, will supply them with inputs and equipment, and will buy their production. Smallholders will follow the management plan agreed with the commercial farmer and they will sell their production to him/her. Forward contracts will stipulate a pre-agreed purchase price for smallholders' production (specifying quantity, quality and time of delivery), as well as modalities for paying them a bonus, should the commercial farmer get a higher price on the market. Legal assistance will be provided through component 5 to assist both smallholders and commercial farmers to elaborate forward contracts. The cost of inputs and equipment released to smallholders will mainly be financed through a loan that the commercial farmer will take with his/her bank, using the forward contract as a collateral/guarantee. S/he will pay back the loan by deducting the cost of inputs and equipment from the price paid to smallholders. Alternatively, smallholders' needs might also be financed through microfinance institutions participating in PROSUL;
- in the likely event that commercial farmers would not want to provide assistance or inputs to smallholders, these could access them through the service hubs. In such case, the forward contract would only consist in an agreement by the commercial farmers to purchase smallholders' production at a pre-set price, with the possibility of a bonus.

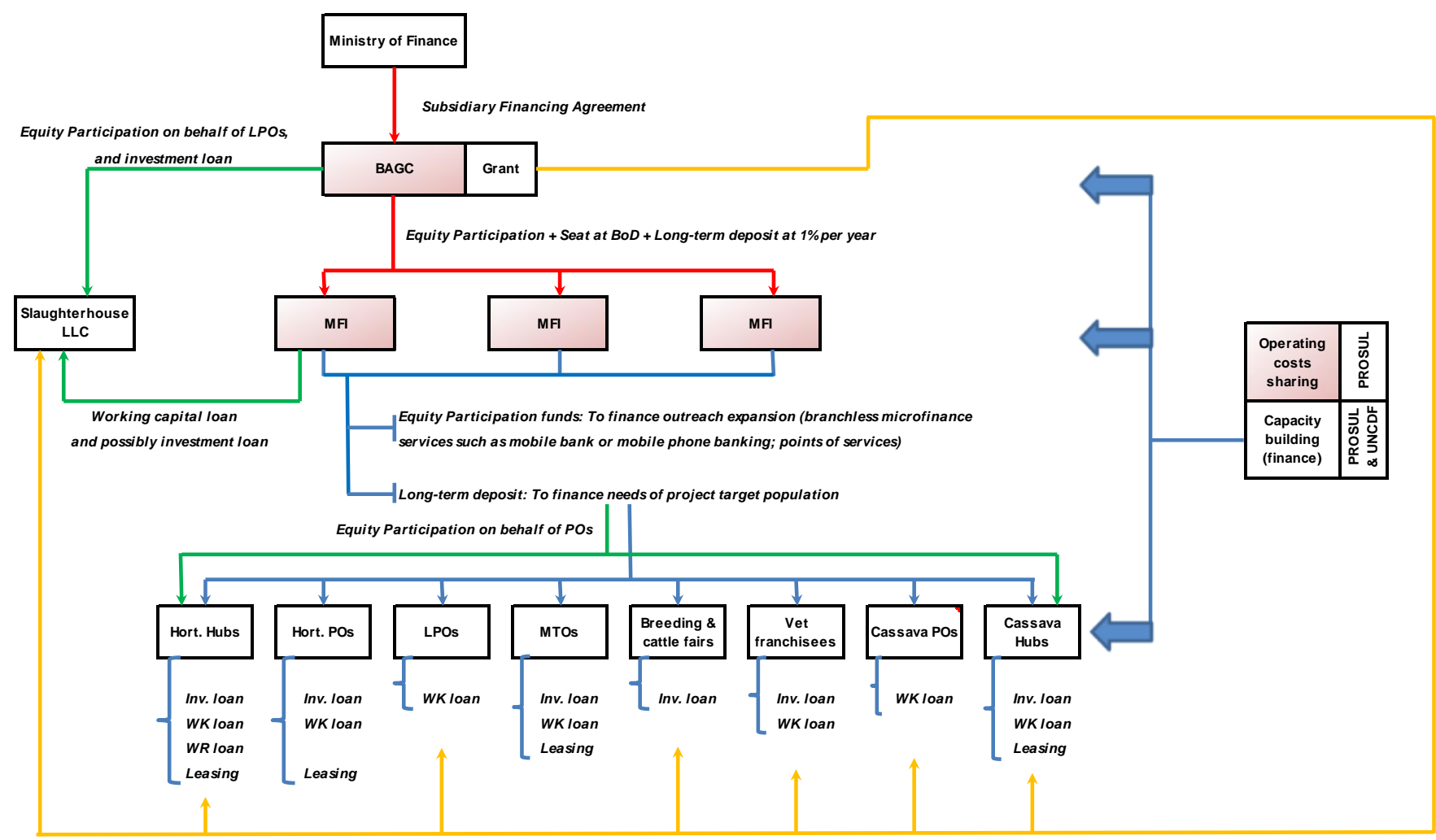
B. Capacity building

177. Capacity building activities will be carried out to the benefit of the following stakeholders:

- *Catalytic Fund and microfinance institutions in which the Catalytic Fund holds equity:* capacity building will mainly be provided to the additional staff of microfinance institutions that will be recruited as a result of their participation in PROSUL to support the implementation of related activities. It will include: (i) training, (ii) technical assistance to design and implement new financial products and services, to implement new delivery mechanisms, and to adapt their MIS and accounting/financial systems to their new activities, (iii) study tours and exposure visits, (iv) the financing of investment costs related to staff recruitment, and (v) decreasing financing of their operating costs;
- *SMEs created under PROSUL:* these include the slaughterhouse and the service hubs that will be created under the form of limited liability companies (LLCs.) Capacity building will be provided to Boards of Directors and to management teams. It will include: (i) training on various subjects related to company's management, financial and cash management, as well as accounting; and (ii) study tours and exposure visits;
- *other loan beneficiaries:* they will receive training on financial, cash and credit management and on basic bookkeeping.

178. Figure 3 shows the different activities implemented under the 'Financial Services' component.

Figure 3 - Activities implemented under Component 4



• DESCRIPTION OF ACTIVITIES

179. The component is organized in two sub-components: (i) Financial services, and (ii) Capacity building. The first sub-component ‘Financial services’ relates to the flow of additional resources allocated to microfinance institutions, which these will disburse to PROSUL target beneficiaries through different financial instruments. The second sub-component ‘Capacity Building’ relates to building the capacities of participating financial institutions to manage and monitor the financial activities implemented under the first sub-component.

A. Sub-component 4.1 - Financial services

180. Activities carried out under this sub-component will mainly concern two types of institutions: (a) the Catalytic Fund, and (b) microfinance institutions in which the Catalytic Fund will hold equity.

Activity 1 - Catalytic Fund

181. **Approval.** As previously mentioned, the Beira Agriculture Growth Corridor (BAGC) Catalytic Fund represents the best option for the implementation of PROSUL financial activities⁶⁸. The participation of the Catalytic Fund will be subject to:

- *formal approval by its Board of Directors* to participate in PROSUL and to implement the financial activities according to PROSUL’s framework;
- *a due diligence exercise* to be carried out at project inception by an independent audit firm acceptable to IFAD and to the government of Mozambique. The independent local audit firm will have to be a member of an international audit firm network, and will be contracted by the Programme Management Team (PMT) of PROSUL under the ‘*Consultants’ qualifications*’ procurement procedure. The due diligence exercise will mainly focus on the following aspects: (i) governance; (ii) financial statements; (iii) operational capacity, and (iv) compliance with legal, tax and social regulations.

182. Based on the conclusions of the due diligence exercise, the participation of the BAGC Catalytic Fund in PROSUL will be formally approved by IFAD and the Government of Mozambique. The selection of the audit firm, the due diligence exercise and its final approval should be completed no later than 3 months after the PROSUL inception workshop.

183. **Legal arrangements.** The participation of the Catalytic Fund in PROSUL will be materialized through the following instruments:

- *Subsidiary Financing Agreement (SFA)*: it will be signed between the Ministry of Finance and the Catalytic Fund, represented by the Chairperson of its Board (with prior IFAD no objection). It will stipulate the terms and conditions under which PROSUL resources will be transferred to the Catalytic Fund, i.e. in the form of a loan with a maturity of minimum 20 years and an interest rate not exceeding 1% per year⁶⁹. A grace period of 7 years will be given on interest payment, while the loan principal will be paid back in one single instalment at maturity. Interest payment will be due twice a year. Resources will be transferred based on PROSUL Annual Work Plans and Budgets (AWPBs) and formal requests for additional resources from the microfinance institutions in which the Catalytic Fund will be holding equity. The SFA will include an indicative breakdown of the global amount of the line of

⁶⁸ Two other options were considered: (a) creation of a new investment fund, and (b) build on FARE. See section I C.

⁶⁹ 0.25% will be added to the 0.75% charged by IFAD on its loan to the Government of Mozambique. This 0.25% will cover handling charges incurred by the Ministry of Finance as well as the exchange rate risk.

credit attributed to the Catalytic Fund, based on the assumptions considered in the Project Design Report

- *Memorandum of Understanding (MOU)*: it will be signed between the PMT of PROSUL and the Catalytic Fund. It will detail the role and responsibilities of both the Catalytic Fund and the PMT in the execution of activities related to the project, which include:
 - *for the Catalytic Fund*: creation of an adequately staffed specific department for PROSUL activities; implementation of PROSUL activities in compliance with its AWPB (requests for additional resources to be transferred to participating microfinance institutions in which it holds equity); monitoring of participating microfinance institutions and other SMEs; quarterly reporting to the PMT on activities, financial progress and achievements; provision of technical assistance to microfinance institutions and SMEs in which it holds equity; attending microfinance institutions Board meetings as a member;
 - *PMT*: elaboration of its AWPB together with the Catalytic Fund based on demand for additional resources emanating from participating microfinance institutions; facilitation of timely and fast transfer of resources; supervision of the specific department created within the Catalytic Fund to be dedicated to PROSUL activities.

184. The MOU will also stipulate that the PROSUL Coordinator will have a seat at the Board of Directors of the Catalytic Fund or at its Supervisory Board.

185. Both the SFA and the MOU should be signed no later than 1 month after the due diligence exercise on the Catalytic Fund has been approved by both IFAD and the Government of Mozambique.

186. Resources transferred to the Catalytic Fund will be used for four types of financing: (i) equity participation in microfinance institutions; (ii) long term deposits in microfinance institutions; (iii) equity participation in SMEs; and (iv) grant financing. They are detailed hereafter.

187. **Equity participation in microfinance institutions.** The Catalytic Fund will take an equity participation in one to three microfinance institutions. The percentage of equity held by the Catalytic Fund is not of paramount importance – regardless of its amount, it gives the Catalytic Fund the possibility to make a long-term deposit bearing a very low interest rate in the MFI it holds equity in.

188. The microfinance institution will increase its share capital to allow the Catalytic Fund to buy and hold about 10% equity. The MFI will use this fresh injection of long-term resources to finance its geographical expansion through innovative delivery mechanisms (branchless delivery mechanism such as mobile banking units or mobile phone banking possibility) or through points of services with temporary attendance (2-3 days per week) at the hubs.

189. Equity participations will be taken during PROSUL's first three years.

190. Further to the due diligence exercise and the selection process, a specific investment committee (called PROSUL Investment Committee) will be created within the Catalytic Fund and will be vested with the responsibility to finalize the equity participation deal with each MFI. The PROSUL Investment Committee will be composed of senior managers from the Catalytic Fund (same members as for the Investment Committee ruling the other activities of the Catalytic Fund) and of PROSUL Coordinator. It will negotiate with each MFI Board the percentage of equity as well as its value. Each equity participation deal will be subject to: (i) approval by each MFI Board; (ii) approval the Catalytic Fund Board, and (iii) IFAD no-objection.

191. A global amount of USD 450,000 is earmarked for equity participation in MFIs. It has been assumed that MFIs in which the Catalytic Fund holds equity will not distribute dividends during PROSUL's seven years of implementation, but that they will re-invest their profit in their activity.

192. **Long-term deposits in microfinance institutions.** Attached to its shareholder status, the Catalytic Fund will have the possibility to extend additional resources to each MFI in which it holds equity. The provision of additional resources will take the form of a long-term deposit. Its maturity will not be determined and its interest rate will be negotiated between shareholders. It is expected that the interest rate on deposits will not exceed 2% per year on amounts received. Interest will be paid on a quarterly basis.

193. Long-term deposits made by the Catalytic Fund in MFIs will be used to fund financing needs of PROSUL target beneficiaries. The amount of each deposit will be annually determined based on the incremental demand for loans from PROSUL stakeholders, within the financial framework of the PROSUL Annual Work Plan and Budget. Financial instruments to be used by MFIs will include equity financing, long-term investment loans, short-term working capital loans, warehouse receipt financing, leasing.

194. The interest rate charged by each MFI will reflect the low interest rate charged by the Catalytic Fund on its deposit. Over and above the maximum 2% per year charged by the Catalytic Fund, each MFI will add: (i) its operating costs, taking into consideration incremental costs related to PROSUL activities; (ii) its risk margin, considering an incremental risk because of the profile of the additional PROSUL clientele, and (iii) its profit margin. It is expected that interest rates charged by participating MFIs will range from 15 to 18% per year (compared to a current minimum 2.5% up to 10% per month⁷⁰.)

195. Each request for additional resources will be approved by the PROSUL Investment Committee previously mentioned and will generate an increase in the current account held by the Catalytic Fund in each participating MFI. Requests submitted by MFIs will include an analysis of their current portfolio and a projection of the portfolio deriving from the requested additional resources.

196. A global amount of USD 6.72 million is earmarked for long-term deposits in the participating MFIs in which the Catalytic Fund will be holding equity. Tentatively, the breakdown of this amount is as follows: USD 3.76 million for the horticulture value chain; USD 1.65 million for the cassava value chain, and USD 2.13 million for the red meat value chain (excluding the equity participation in the Slaughterhouse LLC held by the Catalytic Fund directly). Contributions from third parties including PROSUL beneficiaries (producers' organizations and meat traders' organizations) and external private investors amount to USD 2.95 million (USD 2.04 million and USD 0.9 million respectively).

197. **Equity participation in SMEs.** The installation of a slaughterhouse in the vicinity of Maputo is planned in the red meat value chain. The slaughterhouse will be created as a limited liability company (LLC), for a global investment of USD 862,729, including equity of USD 150,547 and an investment loan of USD 334, 549. Considering this high amount, it is the Catalytic Fund (and not any of the MFIs) that will be vested with the responsibility of taking the equity position in the Slaughterhouse LLC. The equity position will be held on behalf of livestock producers organizations (LPOs.)

198. Dividends earned by the Catalytic Fund will be split in two equal parts: one part will be kept by the Catalytic Fund to cover its operating expenses (primarily operating expenses related to the PROSUL department), while the other will be transferred to LPOs so as to increase their income and

⁷⁰ See above Section I, A.

to create an incentive to participate in the investment. Shares held by the Catalytic Fund will be gradually purchased by LPOs at their nominal value plus the official inflation rate, using dividends earned on equity shares. LPOs will be allowed to purchase the shares of the Slaughterhouse LLC held by the Catalytic Fund once they will have entirely paid back their portion of the investment loan (extended by a participating MFI.)

199. Amounts received by the Catalytic Fund for the sales of its shares in the Slaughterhouse LLC will be added to the resources allocated to long-term deposits in participating MFIs, according to the demand for loans emanating from stakeholders in each target value chain.

200. Equity participation will give the Catalytic Fund a seat at the Board of the Slaughterhouse LLC. Once all the shares held by the Catalytic Fund will have been purchased by LPOs, this seat will be transferred to them (rotating representation.)

201. The investment of the Catalytic Fund in the share capital of the Slaughterhouse LLC will be reviewed and approved by PROSUL Investment Committee, based on a business and investment plan jointly prepared by PROSUL PMT, PROSUL Department of the Catalytic Fund and the Livestock Value Chain Service Provider, within the financial framework of the PROSUL Annual Work Plan and Budget. The amount of the equity participation is subject to: (i) the approval of the Catalytic Fund Board, and (ii) IFAD no-objection.

202. In addition to the equity investment in the Slaughterhouse LLC, an amount of USD 200,000 is earmarked for other investments in existing or to-be-created SMEs within the PROSUL-selected value chains. The possibility will be given to the Catalytic Fund to identify investment opportunities that comply with the objective of PROSUL and that will impact on smallholders and small producers in PROSUL area. Each equity investment identified by the PROSUL department, by the Catalytic Fund or submitted by PROSUL value chain service providers will be analyzed and approved by PROSUL Investment Committee, and will be subject to IFAD no-objection.

203. **Grant financing.** Grants will be disbursed to several stakeholders to cover 30% of the cost of building construction planned for the slaughterhouse LLC, Horticulture hub LLCs, Cassava processing hub LLCs, Livestock Vet Stores and Cassava small processing units, so as to reduce the financial burden of the related investment loan.

204. The same mechanism as that of the Smallholders Support Facility funded by the Dutch Government will be implemented and managed by the Catalytic Fund. A PROSUL Grant Approval Committee will be implemented at the Catalytic Fund. It will be composed of one representative from the senior management of the Catalytic Fund, the PROSUL PMT Coordinator and one representative of the relevant Lead Service Provider (depending on the value chain). It will be vested with the responsibility of reviewing the financing applications submitted by PROSUL beneficiaries to the participating MFIs, and of approving the grant amount. Investment opportunities will be submitted to the Catalytic Fund by microfinance banks/institutions in which it holds equity.

205. In case of approval, the grant will be disbursed in several tranches in accordance with the building construction progress reports. Each tranche will be transferred by the Catalytic Fund to third party constructing companies once each progress report has been approved by the beneficiary of the investment to which the grant is related (Chairman of the Board and manager for the LLCs or manager for associations.)

206. An amount of USD 1.43 million is allocated for grant financing.

Table 2: Grant allocations by type of activity (USD)

Activity	Amount (USD)
A. HORTICULTURE	
Hub offices & shop areas	64 286
Hub dry and cold storage, incl. equipment	752 143
Greenhouses	242 931
Subtotal	1 059 360
B. CASSAVA	
Chips processing unit	84 857
Flour processing hubs	84 857
Subtotal	169 714
C. LIVESTOCK	
Slaughterhouse	26 357
Breeding centers	108 000
Vet Franchisee Network	67 500
Subtotal	201 857
Total	1 430 931

207. **Business ventures.** Attachment IV details the business ventures financed under PROSUL through the Catalytic Fund and microfinance banks/institutions and mentioned throughout this section. For each business venture, details include: the investment cost; the financing structure including the determination of the necessary working capital; the financial projections for the next 10 years; the cash-flow projections for the same period; the distribution of profit for the same period; the purchase of shares held by the Catalytic Fund in LLCs.

208. Table 3 summarizes for each LLC the resources invested by participating financial institutions (MFI in which the Catalytic Fund holds equity), by PROSUL target beneficiaries and third-party investors; the dividends expected during the first 10 years of operations as well as the Return on Investment.

Table 3: Investments - dividends earned over 10 years by each category of stakeholders (USD)

Investments	Microfinance institution			Beneficiaries			Private Investors		
	Investment	Dividends	Rol	Investment	Dividends	Rol	Investment	Dividends	Rol
Horticulture hub LLC	4 551 676	10 620 966	24.7%	350 129	32 534 624	212.4%	2 100 774	20 703 418	60.0%
Cassava processing hub LLC	1 435 851	3 667 608	39.4%	143 585	13 075 622	499.5%	1 292 266	14 873 794	94.7%
Slaughterhouse LLC	4 215 312	11 285 485	36.7%	702 552	57 056 617	207.2%	9 133 176	134 749 484	84.1%
Regadio de Baixo Limpopo LLC	8 717 565	16 174 813	15.4%	670 582	41 018 876	169.3%	4 023 491	28 247 680	44.5%

209. Returns on Investments (ROI) for beneficiaries are extremely high as: (i) during the first 3 to 4 years of operations, beneficiaries are receiving 50% of the dividends earned by the MFI over and above the dividends earned by their shares, and (ii) they gradually become major shareholders of each LLC (owning 35 to 70% of each LLC).

210. **Loans.** The Catalytic Fund may also use a part of the long-term investment to provide investment loans to project partners, particularly for the slaughterhouse installation, for which a loan of about USD 330,000 is foreseen. Such credit would be made in local currency on market terms, i.e. about 15% interest per year.

Activity 2 - Microfinance institutions

211. Three MFIs will be selected to participate in PROSUL. Their participation will result in the Catalytic Fund taking an equity stake in their share capital, a representative of the Catalytic Fund sitting at their Board, and the Catalytic Fund depositing additional resources to be on-lent to PROSUL beneficiaries through different financial instruments.

212. The selection process of MFIs will include the following steps:

- *Call for expression of interest.* The PMT will issue a call for expression of interest to all MFIs willing to participate in the project. The call will indicate the three project provinces and stipulate that participating MFIs should be ready to increase their share capital and have the Catalytic Fund as a minority shareholder in return for access to additional resources at a low interest rate (2% per year), to be further extended to project target beneficiaries. Documents to be submitted by each MFI include: (a) a brief description of its activities (lending methodology, current terms and conditions, breakdown of the portfolio per type of activities and per province, portfolio performance indicators including repayment rate at 0 and 90 days, portfolio at risk at 90 days, loan loss rate); (b) financial projections for the next 3 years indicating possible gap in resources; (c) its current network of branches, its current branchless network, projected expansion of either network as well as resources to finance this expansion and possible gap; (d) its human resources and the need for additional staff in case of an increase in the loan portfolio and of a diversification of financial products offered, and (e) the projected range of interest rates for loans extended to PROSUL target beneficiaries in the case of resources allocated by Catalytic Fund at a yearly cost of 2%. In addition, each MFI will provide the PROSUL PMT with audited financial statements and auditor reports for the last 3 years (auditor reports should be unqualified.)

213. A first call for expression of interest will be issued once the SFA and the MoU have been signed with the Catalytic Fund. MFIs will have 30 days to submit their application and relevant documents. Two MFIs will be selected following this first call for expression of interest.

214. A second call for expression of interest will be issued during the second year of operation of the PROSUL department in the Catalytic Fund with the objective to select a third microfinance institution.

- *Selection of microfinance institutions.* A specific selection panel composed of one representative from the Catalytic Fund, one representative from UNCDF (see next section), and the PROSUL PMT Coordinator will be vested with the responsibility to select participating MFIs. Selection criteria are detailed in Table 4.

Table 4: Selection criteria for microfinance institutions

Criteria	Scoring	Remarks
Projected interest rate for PROSUL target beneficiaries	20	
Current portfolio performance		
- Portfolio at risk	5	
- Repayment rate at 90 days	5	
- Loan loss rate	5	
- Non-performing loan portfolio	5	
Current lending procedures, terms and conditions	5	
Current financial performance		
- Return on Equity (income/shareholders' equity)	5	
- Conversion ratio (resources to loans)	3	
- Debt-to-equity ratio (debt/equity)	2	
- Risk coverage (net non-performing loan portfolio/equity)	5	
Projected portfolio (with possible financing gap)	3	
Portfolio in PROSUL-selected value chains/total portfolio	3	
Portfolio in PROSUL area/total portfolio	1	
# of branches in PROSUL area	2	
Existence of branchless delivery mechanism	3	
Additional staff to be recruited	1	
Financial statements posted on the MIX-Market	1	
Unqualified auditor's opinion	1	if 0 then eliminated
Total	75	

215. **Due diligence exercise.** A due diligence exercise will be carried out on MFIs ranked first and second under the first call for expression of interest and on the MFI ranked first under the second call for expression of interest. It will be implemented by a local audit firm, which should be member of an international audit firm network, and which will be contracted by the PROSUL PMT. It will focus on the following aspects: (i) governance; (ii) compliance with tax, legal and social regulations, and (iii) evaluation of staff skills.

216. The result of the due diligence exercise as well as the scoring of each selected MFI will be submitted to the PROSUL Investment Committee in the Catalytic Fund for the finalization of the Catalytic Fund equity participation (see above.)

B. Sub-component 4.2 - Capacity Building

217. Activities carried out under this sub-component will mainly concern three types of institutions: (i) the Catalytic Fund; (ii) MFIs in which the Catalytic Fund is holding equity, and (iii) the limited liability companies (slaughterhouse LLC, horticulture hub LLCs, and cassava processing hub LLCs.) In addition, activities carried out under this sub-component will also concern borrowers such as Livestock Producers Organizations, Meat Traders Organizations, Producers Groups, Vet Franchisees Network, and breeding farmers.

Activity 1 - Catalytic Fund

218. To implement the financial activities described in the previous sub-component, a specific department will be implemented at the level of the Catalytic Fund. This department will be located in the project area (probably in the same city where the PROSUL PMT is located). This department will be staffed with one manager, who will be responsible for the implementation and monitoring of PROSUL activities. The manager of the PROSUL department will be recruited by the Catalytic Fund under its own procedures, with IFAD no-objection. The terms of reference for the position of manager of the PROSUL department are shown in Annex 6 – Institutional arrangements, Attachment 3.

219. Capacity building activities for the manager and the PROSUL department comprise of:

- *Training for the manager.* The project will finance a training course from Boulder University for the PROSUL department manager at the ILO Training Centre in Turin, Italy. This training will take place as soon as the manager has been recruited. Training courses will focus on financing instruments such as equity participation, risk management, follow-up on financial investments, audit and analysis of financial statements, performance indicators.
- *International technical assistance.* The project will finance 3 months of an international expert that will assist the manager in implementing the PROSUL department procedures for monitoring and supervision of its activities. The expert will work closely with the senior staff of the Catalytic Fund as well as its technical assistance company, AgDevCo, to ensure complete compliance of the PROSUL department procedures with those of the Catalytic Fund, especially with regards to accounting and follow-up. The international expert will be contracted by PROSUL PMT under the ‘consultant’s qualification’ procedure and his/her mission should start once the manager has been trained at the ILO Centre.
- *Equipment.* For the implementation of the PROSUL department, the project will finance: (i) one vehicle for the manager; (ii) one set of computer equipment comprising a laptop, a printer, a copier/scanner, internet connection and some other minor office equipment, and (iii) a set of office furniture.
- *Study tour and exposure visit.* One study tour/exposure visit will be organized and financed by the PROSUL PMT in a neighbouring country where similar financial instruments are operational (South Africa, Kenya, Zambia). The manager of the PROSUL Department as well as the PROSUL PMT Coordinator and the PMT Financial Services Expert will participate in this study tour/exposure visit. Objective of this tour/visit is to learn from the experience of investment funds and analyse the possibility to replicate their procedures, controls and reporting features.
- *Audit of the PROSUL department.* The project will finance the yearly financial audit of the PROSUL department or will share the audit cost of the Catalytic Fund up to a yearly amount of USD 15,000. The auditor of the PROSUL Department will be contracted by the PROSUL PMT on a yearly basis with IFAD no-objection. The auditor will also be responsible for evaluating the portfolio of equity participations the Catalytic Fund holds in each MFI and in each SME under PROSUL.

220. Operating costs will gradually be borne by the Catalytic Fund from dividends earned from equity participation and interest earned on long-term deposits. However, as the financing operations from the PROSUL department will only be gradually implemented, revenues generated by investments under PROSUL will not be sufficient to cover operating costs during the first years. Considering a risk factor in the evaluation of dividends and interests earned by the Catalytic Fund on PROSUL investments, the project will cover operating costs (comprising of the manager’s salary, vehicle costs, stationeries and utilities, vehicle operation and maintenance, and miscellaneous costs) of the PROSUL department as well as a percentage of the Catalytic Fund overheads⁷¹ (services rendered by other departments of the Catalytic Fund such as accounting, human resources or IT departments) and a percentage of the Catalytic Fund service provider cost⁷² (AgDevCo) as follows: 100% during its first year of operations; 80% during its second year; 50% during its third year, and 25% during its fourth year of operations.

221. The supervision of the PROSUL department activities will be ensured by: (i) the PROSUL PMT Financial Services Expert who will analyse the monthly financial and activity reports submitted by the Catalytic Fund (PROSUL department) and conduct spot checks; (ii) the PROSUL Coordinator

⁷¹ Estimated at 15% of salaries.

⁷² Estimated at USD 75,000 during the first three years and then USD 50,000.

who will be sitting at the Board of the Catalytic Fund and will have the possibility to question its management; (iii) the auditor who will review the PROSUL department annual financial statements as well as evaluate the equity participations held by the Catalytic Fund under PROSUL, and (iv) IFAD Implementation Support Missions.

Activity 2 - Microfinance institutions

222. The participation of the selected MFIs in PROSUL will significantly diversify their activity because they will operate with new financial instruments such as equity participation in SMEs, warehouse receipt financing or leasing. It will also increase their portfolio because of the addition of PROSUL target beneficiaries. It is therefore necessary to increase their number of staff and strengthen their capacity. It is assumed that 2 additional staff (loan officers) will have to be recruited by each MFI selected to participate in PROSUL, which will be done according to their own procedures. Once the staff is recruited, the following activities will be financed by the project for each MFI:

- *Technical assistance.* On the job training and assistance will be provided by a team of international and national financial experts to newly recruited staff MFI as well as to existing loan officers and managers. Both experts will be contracted by the UNCDF country team under its programme for strengthening microfinance institutions. The Manager of the PROSUL department of the Catalytic Fund will also collaborate with the team of experts for the provision of training, technical assistance and advisory services. Services to be provided by the experts will include:
 - *Training:* it will mainly focus on the following subjects: portfolio and risk management; loan application and business evaluation; performance indicators; delinquency management (including legal aspects and recovery mechanisms); review and analysis of financial statements (in case of equity financing). It will also ensure that MFIs staff have the required capacities to facilitate access to financial services specifically to women and poorer farmers, with a target of 50% women clients;
 - *Interest rate:* experts will assist the MFI management to determine the interest rate to be charged to PROSUL target beneficiaries, considering the low cost of Catalytic Fund resources, but also increased operating costs and risk.
 - *Terms and conditions:* experts will assist the MFI to adapt products and services to the effective needs of rural entrepreneurs (loan maturity and repayment schedule, grace period, collateral requirements)
 - *Management systems:* experts will assist the MFI to review its management information system and accounting system in light of the new products, services and activities carried out under PROSUL. Especially, the MIS will be adapted so as to issue the necessary information needed for the monitoring and evaluation of PROSUL activities. The accounting system and financial statements will have to show PROSUL activities separately from the rest of the MFI activities.
 - *MIX-Market:* experts will assist each participating MFI to have its financial statements posted on the MIX-Market website (registration, presentation of the financial statements, reporting.) .
- *Equipment.* For each selected MFI, the project will finance: (i) two motorcycles for the recruited staff; (ii) two sets of computer equipment (laptop/desktop, printer, one copier/scanner for two, minor office equipment), and (iii) two sets of office furniture.
- *Study tours/exposure visits.* Three study tours/exposure visits will be financed by the project in neighboring countries (Madagascar, South Africa/Swaziland, Kenya/Zambia). MFIs newly recruited staff as well as a third staff member (manager or supervisor) of each MFI will participate in one study tour/exposure visit to learn from experience and identify the areas that

can be replicated in their institution. Study tours will commence during the second year of the project and will go up to the fourth year.

223. Operating costs will gradually be borne by each MFI from dividends earned from equity participation and from interests earned on loans extended. However, as revenues generated by investments under PROSUL will only gradually increase and will not be sufficient to cover the incremental operating costs related to the additional staff recruited as of the first year, the project will cover their operating costs (comprising of the recruited staff salaries, their transport costs, stationeries and utilities, operation and maintenance, and miscellaneous costs) and a percentage of MFI overheads⁷³ (services rendered by other departments such as IT, accounting, human resources) as follows: 100% during its first year of operations; 66% during its second year, and 33% during its third year.

224. The supervision of MFIs will be ensured by: (i) the PROSUL PMT Financial Services Expert who will analyze the monthly financial and activity reports submitted by each MFI and conduct spot checks; (ii) the Manager of the PROSUL department who will also receive the monthly financial and activity reporting of each MFI, will be sitting at each Board and will have the possibility to question MFI management; (iii) the auditor who will review the PROSUL department financial statements as well as evaluate the equity participations held by the Catalytic Fund under PROSUL, and (iv) IFAD Implementation Support Missions.

Activity 3 - Limited liability companies

225. Several limited liability companies (LLCs) will be created under PROSUL: a Slaughterhouse LLC with the Catalytic Fund holding shares on behalf of LPOs; horticulture service hub LLCs; and cassava processing hub LLCs with an MFI holding the shares on behalf of producers' groups/associations. Apart from technical skills, their governing bodies and management teams will be provided with specific business and financial management training. These trainings will be conducted by the recruited staff of each MFI and the PROSUL PMT Financial Services Expert and will mainly focus on the following subjects: business management; financial and risk management; accounting; legal, tax and social regulations; credit and cash-flow management; performance indicators and prudential ratios.

226. In addition to trainings, the project will also finance:

- *Technical assistance.* One international and one national experts will be recruited by the PROSUL PMT to assist in the creation and implementation of the limited liability companies, which will include: carrying out a feasibility study for each LLC; developing internal financial and administrative procedures to recover costs, accounting templates determining the cost of services rendered by the LLC to its members; organizing activity and financial reporting. They will also train governing bodies members and the management team of each limited liability company with regards to procedures, paying specific attention to the participation of women. In addition, they will design the procedures for the warehouse receipt financing mechanism to be used in horticulture service hub LLCs. Finally, they will assist the management team to finalize their manual of procedures.
- *Legal assistance.* A legal advisor will be contracted by the PROSUL PMT (as part of Component 5) to assist in the legal aspects of the creation of each limited liability company (by-laws, registration, organization of shareholders' general assembly and of Board of Directors meetings, election of the governing bodies members). S/he will also participate in the training of governing bodies members and management team with regards to legal, tax and social aspects of LLCs.

⁷³ Estimated at 15% of salaries and other expenses.

- *Study tours/exposure visits.* Two study tours/exposures visits will be organized and financed by the project for governing bodies members and management teams of horticulture service hubs LLCs and cassava processing hubs LLCs in Madagascar, where such hubs have been successfully implemented since several years (together with a warehouse receipt financing mechanism implemented at the level of savings and credit cooperatives network.) The objective of these study tours/exposure visits is to learn from experience and identify possible procedures, mechanisms, activities that can be replicated in the LLCs created under PROSUL.

227. LLCs operating costs will be entirely borne by the LLCs as their revenues are sufficient to cover them, even during the first year of operations. In case the LLCs activity would not reach the level assumed in the financial projections (models), the repayment of the investment loan would be postponed to maintain a positive cash-flow and profitability.

228. Supervision of the LLCs will be achieved through: (i) monitoring of the equity investment and of the loans extended to each LLC (investment loan and working capital loans) by MFI newly recruited staff; (ii) presence of a representative from the MFI at each LLC Board of Directors; (iii) the external audit firm nominated to audit LLCs financial statements, and (iv) monitoring from the PROSUL PMT Financial Services Expert.

Activity 4 - Other stakeholders

229. On demand from the LSPs implementing the value-chain based components, MFI newly recruited staff could participate in training of loan/project beneficiaries management skills. Areas of focus will include: credit management, bookkeeping, cash-flow management, determination of cost of production, margin and sale price.

230. In addition, the legal advisor (see above) will also assist producers' groups and third parties to finalize forward contracts, especially in the case of outgrowers' schemes with commercial or advanced farmers. Such an assistance will be made available on demand from the value chain service provider.

- **IMPLEMENTATION ARRANGEMENTS**

231. **Catalytic Fund.** The component will be implemented by the Catalytic Fund of the Beira Agriculture Growth Corridor. The Catalytic Fund and the Government of Mozambique will sign a Subsidiary Financing Agreement to transfer financial resources allocated in PROSUL (interest rate charged by the Government of Mozambique should not exceed 1% per year.) The Catalytic Fund will operate as an investment fund on behalf of PROSUL. It will hold equity in at 3 MFIs and will provide them additional resources bearing interest at a maximum of 2% per year to be on-lent to PROSUL target beneficiaries. It will also hold equity on behalf of livestock producers in a limited liability company whose asset will consist of a slaughterhouse.

232. The Catalytic Fund will open a specific department adequately staffed with an experienced manager to manage and monitor investments made under PROSUL, with an office in the project area. Staff of its PROSUL department will be provided with adequate training to maximize the efficiency of implementation and monitoring. The Manager of the department will also participate in the capacity building activities for MFI staff, together with international and national consultants and trainers.

233. A seat at the Catalytic Fund Board of Directors (or Supervisory Board) will be given to the PROSUL Coordinator.

234. The Catalytic Fund will also be vested with the responsibility of managing the grant element related to some of the proposed investment. Grants will cover around 30% of the cost of construction (to decrease the financial burden of investors/borrowers) . Different approval committees for

investments and grants will be set up at the level of the Catalytic Fund, with the participation of PROSUL Coordinator and third-party experts, to avoid conflict of interest.

235. In addition to the Subsidiary Financing Agreement, an MOU will be signed between the PMT and the Catalytic Fund spelling out the role and responsibilities of both parties.

236. **MFIs.** Three MFIs will participate in PROSUL. They will increase their share capital to allow for an equity participation from the Catalytic Fund. The equity participation should remain around 10%. Equity resources injected by the Catalytic Fund in each MFI will be used to finance the expansion of their network in the project's area (mainly branchless) in accordance with their development plan. Additional resources extended by the Catalytic Fund in the form of a long-term deposit at maximum 2% interest per year will be used by MFIs to on-lend to target beneficiaries and also to take equity participation on behalf of producers in either horticulture service hubs or cassava processing hubs created in the form of limited liability companies. Interest rate to be charged by MFIs will consider the low cost of resources extended by the Catalytic Fund as well as the increase in their operating costs and risk. Interest rates should however be affordable for agriculture and agriculture-related activities and be set at around 15 to 18% per year. Shares held by the MFIs in limited liability companies will be gradually purchased by producers or their associations, through a specific financial mechanism based on dividends distributed.

237. The equity position in each MFI will come together with a seat at their Board of Directors. A tri-partite MOU will be signed between the MFI, the Catalytic Fund and PROSUL PMT spelling out the roles and responsibilities of each party, as well as quantified deliverables to be achieved by the MFIs.

238. **Service providers.** Capacity building for the different institutions participating in the Financial Services component will be provided by various service providers, as follows:

- International consulting firm for the Manager of the PROSUL Department of the Catalytic Fund, who will also benefit from training courses at Boulder/ILO Training Center and from exposure visits in neighboring countries;
- UNCDF together with the Manager of the PROSUL department of the Catalytic Fund for recruited staff of participating MFIs, who will also benefit from study tours in neighboring countries;
- Recruited staff from MFIs, national and international consultants, as well as a legal advisor for governing bodies and management team of limited liability companies, who will also benefit from study tours in neighboring countries;
- Recruited staff from MFIs for PROSUL-supported borrowers;
- International and national consultants together with Manager of PROSUL department of the Catalytic Fund for the governing bodies and management of the limited liability company in which the Catalytic Fund is directly holding equity (slaughterhouse LLC).

239. An MOU will be signed between UNCDF and the PMT to define the role and responsibilities of each party. Recruitment of consulting firms whether national or international will be the responsibility of the PMT except for consultants and consulting firms to train and build up the capacity of MFIs that will be selected and contracted by UNCDF.

240. **AWPB.** Every year, the Catalytic Fund as well as the three participating MFIs will take part in each one of the three Regional Value Chain Development Platforms gathering the value chain stakeholders. These platforms will generate a Value Chain Development Action Plan (VC DAP), which will identify measures to be taken over the year to support value chain development, including those that would be supported by the project. Based on the three VC DAPs, the Manager of the PROSUL Department in the Catalytic Fund will prepare the Component 4 AWPB in collaboration

with participating MFIs and the PMT Financial Services Expert. The Component 4 AWPB will be integrated in the project AWPB by the PMT, and become effective upon approval by the project steering committee and the IFAD no-objection.

241. **PMT Financial Services Expert.** The PMT will include a Financial Services Expert, who will be responsible for the general overseeing of the component, including the overall coordination of the preparation and implementation monitoring of the AWPB, monitoring of performance of the various service providers intervening in the component implementation, and knowledge management. Detailed terms of reference are attached in Annex 6.

242. **Inception workshop.** A Financial Services consultant⁷⁴ will attend the project inception workshop to familiarize participants with the content and implementation arrangements of Component 4. S/he will also carry out the due diligence exercise of the Catalytic Fund and provide assistance in preparing the Subsidiary Financing Agreement to be signed between the Minister of Finance and the Catalytic Fund.

- **M&E AND KNOWLEDGE MANAGEMENT**

- **A. Monitoring**

243. Activity and financial reporting is a key element to evaluate the progress made under the component through the set of performance and impact indicators developed by the PMT. Reporting will be made by each financial institution on a monthly or quarterly basis, as well as through comprehensive annual reports. Annual reports will also be presented every year to each Regional Value Chain Platform, along a format to be agreed with respective LSPs. In addition to the reporting described in this section, financial audit reports will also be submitted on a yearly basis to the Catalytic Fund (PROSUL department) and to the PROSUL PMT (Financial Services Expert).

244. **Microfinance banks and institutions.** On a monthly basis, each MFI in which the Catalytic Fund is holding equity will submit a financial and activity report detailing:

- *Loan portfolio with PROSUL beneficiaries.* It will be presented in the form of an ageing balance detailing each and every loan extended by the MFI under PROSUL (name of borrowers, location and activity, loan amount, amount to be paid back, amounts repaid, amounts undue, amounts in arrears, type of guarantee/collateral, actions undertaken to recover past due amounts, provision.) In addition, it will indicate the amount of the non-performing loan portfolio and its related provision and the amount of loan written-off. It will also indicate the interest revenue generated by the lending activity under PROSUL (year-to-date and cumulative).
- *Equity investments made under PROSUL.* Each investment will be evaluated based on the latest financial statements and documents issued by the limited liability company in which the MFI is holding equity. For each investment, the MFI will also present the situation regarding the purchase mechanism of its shares by PROSUL beneficiaries as well as the net amount of dividends earned (year-to-date and cumulative.)
- *Operating costs of the recruited staff.*

245. Each MFI will submit its report no later than the 10th day of the following month to the Catalytic Fund (PROSUL department.)

246. **Catalytic Fund.** The PROSUL department will consolidate the financial and activity reports submitted monthly by each MFI in one and single table summarizing each report: loan portfolio and

⁷⁴ To be paid through the budget line allocated for due diligence and financial audit for the Catalytic Fund in the cost tables of Component 4.

equity investments. In addition to the consolidated report on MFIs, the PROSUL Department of the Catalytic Fund will also issue its own financial and activity report as follows:

- *Deposits in microfinance banks/institutions.* For each MFI, the PROSUL department will detail the amount deposited, the loan portfolio of the corresponding MFI, its repayment rate and portfolio at risk, the amount of the non-performing loan portfolio and its related provision, the amount of loans written-off, as well as the amount of interest from deposits (year-to-date and cumulative.)
- *Equity investments in MFIs.* Each investment will be evaluated based on the latest financial statements and documents issued by the limited liability company in which the Catalytic Fund is holding equity. For each investment, the Catalytic Fund will also indicate the net amount of dividends earned (year-to-date and cumulative.)
- *Operating costs of the PROSUL department.*
- *Revenues.* Year-to-date and cumulative revenues of the Catalytic Fund under the PROSUL investments (showing separately dividends earned and interests generated by deposits) and year-to-date and cumulative revenues of each MFI in which the Catalytic Fund holds equity (same breakdown.)

247. The PROSUL department of the Catalytic Fund will submit its financial statements, the consolidated data from MFIs as well as reports from each MFI to PROSUL PMT no later than the 15th day of each following month.

248. **PMT Financial Services Expert.** The PROSUL PMT Financial Services Expert, in collaboration with the M&E/KM Expert, will have the overall responsibility for setting up the M&E/KM system for the component, oversee its implementation, identifying areas for improvement and discussing corrective measures with the Catalytic Fund.

Performance and impact indicators

249. The following table details the performance indicators (RIMS 1st and 2nd level) to be used.

Table 5: Performance indicators

1st level RIMS	2nd level RIMS
# of financial institutions participating in PROSUL	# of new clients of participating financial institutions (by loan size as a proxy for poverty level)
# of staff of financial institutions trained	
# of active borrowers	
Value of gross loan portfolio	Portfolio at risk
# of beneficiaries trained in financial subjects	# of jobs created by SMEs
# of people trained in business and entrepreneurship	
# of enterprises accessing facilitated financial services	# of enterprises operating after 3 years

250. Impact will be measured and analyzed through a sample of investments and borrowers during the lifetime of the project. The sample will include: (i) each and every limited liability company created under the project (slaughterhouse, cassava processing hubs and horticulture service hubs) as well as a few borrowers in each type of activities financed (LPOs and other producers' organizations, Meat Traders Organizations, Breeding centers, Vet franchisees network.) The size of the sample will be determined by the PROSUL PMT M&E/KM officer at project inception. The sample should integrate LLCs and borrowers from the first three years of the project. Tentatively, the phased sample could be as shown in Table 9.

Table 9: Tentative sample for impact assessment

Activities	PY1	PY2	PY3	PY4	PY5	PY6	PY7	TOTAL	Comments
Horticulture service hub LLC		10	20					30	2 hubs in PY2 and 4 hubs in PY3 for around 2 400 HHs
Cassava processing hub LLC		10		20				30	2 hubs in PY2 and 4 hubs in PY4 for around 2 500 HHs
Producers under greenhouse	5		10					15	200 greenhouses financed
Cassava producers		10	10					20	around 8 000 producers
LPA's members		10	10	10				30	around 3 500 livestock raisers
MTA's members	10		10					20	around 350 traders, butchers
Vet franchisees	1		1					2	7 vet franchisees
Breeding centers		1	1	1				3	7 commercial/advanced cattle raisers
Total	16	41	62	31	-	-	-	150	

251. The following table details the impact indicators to be collected by the PROSUL PMT Financial Services Expert, the Catalytic Fund PROSUL department, the MFIs, as well as the LSPs.

Table 6: Impact indicators

Component	Activities	Indicators (per unit)
Horticulture component	Horticulture service hub LLC	Total investment costs of which: private investment cost Total annual turnover (in MZM) Total annual profit (including dividends) Total annual dividend Annual dividends distributed per producer
	Greenhouses	Total investment costs Total investment costs per m2 Total annual turnover (in MZM) Total annual profit
Cassava component	Cassava processing hub LLC	Total investment costs of which: private investment cost Total annual turnover (in MZM) Total annual profit (including dividends) Total annual dividend Annual dividends distributed per producer
Red Meat component	LPA's	Total investment costs of which: private investment cost Total annual turnover (in MZM) Total annual profit (including dividends) Total annual dividend Annual dividends distributed per producer
	MTA's	Total investment costs of which: private investment cost Total annual turnover (in MZM) Total annual profit (including dividends) Total annual dividend Annual dividends distributed per producer

- **Knowledge Management**

252. Equity financing coupled with debt financing constitutes a challenge and an innovation for PROSUL, especially when considering that this financial instrument will be applied to newly created limited liability companies. To a lesser extent, horticulture service hubs that are connected with a microfinance institution that will extend warehouse receipt financing to members of the hubs can also be considered as an innovative financial instrument. Such innovative experiences should be documented by both the participating MFIs and the Catalytic Fund. In addition, the development of such financial instruments is also possible given the capacity building provided by UNCDF to participating MFIs.

253. The PMT will share the results, performance and impact of these innovative financial instruments applied to the agricultural sector. In addition knowledge management is to constitute a tool to improve project performance. The Knowledge Management (KM) strategy that will be prepared at project onset in collaboration with project stakeholders will provide guidance as to how information is to be obtained, analysed, and disseminated across the project (see Annex 11). Knowledge management for the Financial Services component will be developed in accordance with the strategy under the overall coordination and guidance of the PMT M&E/KM and Financial Services Expert. Important elements in this endeavour will include the following.

254. The Manager of the PROSUL department of the Catalytic Fund will be responsible to collect all information necessary for the elaboration of case studies and publications. S/he will rely on information gathered from and by participating MFIs. MFIs will also be responsible for collecting the necessary data and information from beneficiaries through participatory investment assessment meetings. A questionnaire will be issued by the Manager of the PROSUL department of the Catalytic Fund and forwarded to relevant third-party institutions and beneficiaries.

255. Case studies on innovative experiences will be elaborated based on achievements and clients' feedback, especially through the Regional Value Chain Platforms. They will also compare the changes due to new financial instruments to more traditional financing approaches. They will address the following issues: (i) operational and implementation mechanism; (ii) financial performance; (iii) impact on PROSUL target beneficiaries, and (iv) the way to up scaling.

256. Publications will encapsulate main conclusions of the case studies and will be used for: (a) further building up the capacity for participating MFIs; (b) raising awareness of other MFIs operating in Mozambique; (c) sharing experience and communicating with other financial institutions that have developed similar instruments such as the African Agriculture Fund (AAF) or the Africa Agriculture and Trade Investment Fund (AATIF).

257. Publications and case studies will be posted on the IFAD rural finance/ microfinance portal. At IFAD level, the results, performance and impact of PROSUL equity investments could be integrated in a wider publication together with other investment funds developed under IFAD programmes including Yemen and Armenia. Such experiences could pave the way for the elaboration of IFAD guidelines for equity investments and investment funds.

SECTION 5 – SERVICE HUBS

I. RATIONALE

258. **Low access to services.** Only a very limited fraction of smallholders have access to agriculture support services throughout Mozambique, and particularly in the Southern Provinces. Less than 7% of smallholders in the South have access to extension services (4% in Inhambane, 4.6% in Gaza and 6.8% in Maputo). Access to financial services is barely better (9.8% in Inhambane, 7.6% in Gaza and 12.3% in Maputo, due to limited outreach of financial institutions in the rural areas but also to unaffordable interest rate. Between less than 1% (Inhambane) and 8.6% (Maputo) of farmers use fertilisers and pesticides⁷⁵.

259. Yet to integrate the target value chains and to increase their income, smallholders will require a range of services allowing them to target profitable markets and to deliver the right volume and quality of produce at the right time. These services need to be available as a package, whereby the full combination of financial and non-financial services is made accessible according to the specific needs of each value chain.

260. **Horticulture.** In the horticulture value chain, producers have difficulties to timely access inputs of quality and in sufficient quantity. They farm small plots, have more or less the same production, with little diversification in terms of varieties. Mechanization is very limited (lack of tractors and tillers). They sell their production at harvest time, either to collectors/intermediaries or to local markets, fetching very low prices. They cannot wait for higher market prices because of both a lack of storage facilities and a lack of credit. Transportation to markets is done mostly individually and under poor conditions affecting product quality. Access to financing is extremely low, as well as to technical advisory services.

261. To improve productivity, quality and profit, horticulture producers need the following services:

- Timely access to agricultural inputs of good quality;
- Access to mechanisation, as well as repair and maintenance of agricultural equipment;
- Access to working capital at an affordable interest rate;
- Technical advisory services;
- Business development services;
- Market information;
- Both dry and cold storage facilities.

262. **Cassava.** In the cassava value chain, producers have similarly no access to good varieties or other inputs and no access to financial services. In addition, cassava is mainly commercialized by smallholders as a fresh product, with high perishability, and only a few processors are operating in the project area. While at the moment the production of fresh cassava bears little economic justification for inputs and mechanization, market opportunities for processed cassava for both industrial and domestic are developing.

263. To take full advantage of them, cassava production will need to increase both in volumes and in quality. Cassava producers will require similar services as those listed for horticulture. In addition, cassava processing facilities need to be made available, together with packaging and storing facilities.

264. **Red meat.** In the red meat value chain, small scale livestock breeders have poorly tended animals, with high mortality rates and low off-take rates. This derives from the lack of market linkages, as well as from low access to animal drugs and veterinary services, to affordable financial

⁷⁵ All figures from *Trabalho de Inquérito Agrícola*, Ministry of Agriculture, 2008.

services and to technical advisory services. To increase cattle off-take and profitable marketing, cattle and sheep/goat producers will need to improve their access to quality inputs and animal health services, to working capital and to technical support.

265. **Improved access to services.** There are two ways for farmers to access the full range of services required to boost production, access markets and increase their income: (i) enter in an agreement with a commercial farmer, trader or a processor through an outgrower scheme; (ii) or through an agribusiness centre or service hub providing the full range of required services.

266. **Outgrower schemes.** The design mission found that, while there are opportunities for developing outgrowers' schemes, with interest expressed by commercial farmers and processors across the three value chains, the modality is almost non-existent in the project area so far. Scoping studies to be carried out in the three value chains at project onset will further identify such opportunities and the project will provide support to farmers to develop outgrower schemes along modalities ensuring fair contracting and enforcement to the benefit of smallholders. However, it is not expected that outgrowers' schemes will provide access to services and markets to the majority of the target group. Details on PROSUL support to outgrower schemes are provided in Section 6.

267. **Service hubs.** Where outgrower schemes are not possible, service hubs constitute an alternative model to provide the core set of services that farmers will require to integrate value chains, retain part of the added value and generate remunerative income. Service hubs are promoted, under different names and along varying types of ownership, financing and organisation modalities, in a number of recent national strategies, including the National Programme for Agribusiness Development (draft, CEPAGRI 2011), National Mechanisation Strategy (CEAGRI, 2011), National Strategy of the National Farmers' Union (UNAC, 2011). A first model has been developed with AfDB financing in the Baixo Limpopo Irrigation Scheme: *casas agrárias* are owned and managed by farmers and offer, with varying degrees of efficiency, some access to inputs and to mechanisation. Insufficient support to farmer organisations in charge of management have led to mixed performance and sustainability of these centres, which however do not provide the full range of services that would be required to adequately support producers in the irrigation scheme. There are also a few examples of cooperatives and associations that provide a limited range of services to their members, yet at a very small scale⁷⁶.

268. Building on the demand that exists both on the side of government authorities and of farmers, to develop service hubs, as well as on the experience gained so far in Mozambique and elsewhere, PROSUL proposes an innovative approach to the integrated provision of support services to farmers through the development of service hubs.

• **SERVICE HUBS: THE CONCEPT**

269. **Access to services.** Service hubs are to provide farmers with a range of services needed to develop production and marketing. In each value chain, the hub is to provide a core set of services required to expand volumes and quality of production in accordance with identified market requirements. Some services are common to all the value chains, such as financial services, access to inputs or technical advisory services, while others are specific to a value chain, such as storage (horticulture) or processing (cassava). This core set of services could be later expanded according to needs.

270. In the horticulture and cassava value chains, some services require a specific construction: dry and cold storage for horticulture, a processing unit and storage for cassava. In the red meat value chain, the provision of services does not require a particular construction, but producers need access

⁷⁶ See Annex 4, Section 6, Farmer Organisations and Access to Services.

to a bundle of services at a single location. The concept of the service hub therefore differs for the horticulture and cassava value chains, and for the red meat value chain:

- *in the horticulture and cassava value chain*, the service hub is a physical construction where farmers can access services, including access to inputs, financial services, technical assistance, agricultural equipment, market linkages, storage, processing and transport. This setting calls for specific provisions to regulate the ownership and management of the building and equipment, and to ensure that services can be made accessible in a sustainable fashion;
- *in the red meat value chain*, no service hubs are foreseen. Instead, Livestock Producers' Organisations will provide key services, and Livestock Vet Stores will provide essential veterinary drugs.

271. **Clients.** Clients are primarily smallholders and emergent farmers. It is assumed that commercial farmers do not need access to service hubs because they have their own arrangements to secure the services they require, including market linkages.

272. **Ownership.** Each service hub will be established as a limited liability company, which asset consists of the equipment and infrastructure that will generate value added (for example processing equipment, storage facility, refrigerated trucks). This option has the following advantages:

- *mix of farmers' and private sector ownership*: it allows bringing together farmers and private sector investors in one single structure. The inclusion of private investors as shareholders, in addition to giving access to private capital and decreasing the extent of public financing (through PROSUL), is also expected to increase hubs' sustainability by drawing on private investors' interest and competences;
- *flexibility*: it provides flexibility in the ownership structure, as new partners can easily join the company, preferably through capital increase;
- *farmers' share of value added*: as equity shareholders, farmers will benefit from the profit generated by hubs through the distribution of dividends;
- *security*: it provides security to shareholders (and particularly to smallholders) in so far as in case of bankruptcy, their liability will be limited to the amount subscribed in the capital of the company, as opposed to a cooperative structure in which members' liability is equal to the amount of the debt (unlimited liability);
- *access to credit*: a company will have an easier access to credit because it will be able to offer the company's assets as a collateral.

273. **Shareholders.** Shareholders will comprise: (i) producers (either individually or through their organisations), and (ii) private investors (including traders, processors, collectors, exporters or any other third party). Scoping studies will help in identify potentially interested private investors, based on which tenders will be organised to further select private shareholders. At any rate, a minimum of 30% of the shares will be owned by smallholders, to ensure that they have a meaningful voice in the company's board. Where few or no private investors are interested, farmers can own up to 100% of the company's equity.

274. Even though the minimum share capital of a limited liability company is quite low, smallholders will not have the financial resources to subscribe their percentage of the share capital. It will therefore be financed by the microfinance institutions in which the Catalytic Fund is holding equity (through funds provided by PROSUL), which will hold the shares on their behalf until such time that they can buy them by using part of their dividends to this effect.

275. **Commercial orientation.** To ensure sustainability, service hubs must secure service provision on a commercial basis, so that not only the cost of providing services is entirely recovered (including all of the hub's operation and management costs), but also that a profit can be generated and either reinvested to develop activities, or distributed to owners through the payment of dividends.

Profitability is required to attract private investors in the ownership structure. Most of the services are provided against a fee or a payment, except technical advisory services, whose cost is supported by the proceeds of other services run on a commercial basis. Through the hub, farmers have access to short term credit allowing them to finance the cost of services until they get paid for their production.

276. **Management.** The company’s management will be entrusted to a professional manager, who will be contracted by the company and will be accountable to the company’s Board of Directors. Smallholders are therefore not expected to take charge of management functions, for which they do not have the required competences. However they will have at least one seat at the Board of Directors and will participate in the Shareholders’ General Assembly. Support will be financed by PROSUL so that farmer shareholders build the capacities required to participate in the company’s governance structures.

277. **Linkage with SDAEs.** It has been agreed with the National Directorate for Agriculture Extension (DNEA) that extensionists of the District Service for Economic Activities (SDAE) cannot specialise in all the value chains, so they will not be directly used to provide technical advisory services in our value chains/in the hubs. However there will be linkages between hubs and SDAEs, mainly: (i) SDAEs will have an extensionist come once a week at the hub to attend farmers looking for advice on other crops, especially food crops; (ii) extensionists will be invited to attend trainings and other special events at the hub, so that they can also build their knowledge; (iii) hub managers will keep SDAEs informed about hub plans, activities and achievements.

• **ACCESS TO SERVICES**

A. Horticulture and Cassava Service Hubs

278. Horticulture and cassava service hubs will provide a range of services, of which some are common to both types of hubs. Table 1 summarises the range of services provided in each type of hub.

Table 1: Services provided by horticulture and cassava hubs

Horticulture hub	Cassava hub
<i>Common services</i>	
Input supply	
Agriculture equipment	
Financial services	
Technical advisory services	
Market linkages	
Transport	
<i>Specific services</i>	
Cold and dry storage	Cassava processing
Warehouse receipt loans	Land preparation and weeding

279. It is expected that the full range of services indicated in Table 1 will be required in all of the hubs as they are needed to support increased volumes and quantity of produce in accordance with market requirements and increased profitability to farmers (storage for horticulture and processing for cassava hubs). Furthermore, storage and processing play a key role in ensuring the overall hub profitability.

280. Other services could be provided by the hubs or the core services could be extended to benefit other types of crops. For example the input dealer could sell inputs, or the financial point of service extend credit required for other types of crops (see modalities below). Such an expansion would be conditional upon the following:

- additional services were identified by farmers or other relevant value chain stakeholders in the scoping studies or through multi-stakeholder value chain platform (Regional Value Chain Platform or Innovation platform(s));
- they do not hamper the provision of the core services indicated in Table 1;
- they are approved by the hub's General Assembly;
- they are approved by the Lead Service Provider in charge of implementing the relevant value chain component;
- if they require access to credit to ensure their financing (payment), credit is made available through other sources than the financing line made available by PROSUL for the target value chains.

281. The modalities whereby services will be provided may vary according to hubs, notably based on the availability of private service providers to participate, on the findings of the scoping studies, and on a detailed feasibility study to be carried out for each hub (see below Implementation arrangements).

Common services

282. **Input supply.** The hub will provide access to inputs required to improve the productivity, quality and seasonality of produce:

- *the horticulture hub* will include a small storage facility for agricultural inputs (improved seeds, pesticides and fertilisers), which will be leased out to and managed by a local input dealer. S/he will organise the demand for inputs in the hub's catchment area, building on farmers' organisations and with support from the hub's manager, and will organise distribution. It is expected that the input dealer will have access to a working capital loan, through which s/he could extend supply credit to farmers, who would pay it back at harvest. The incentive for the input supplier for extending credit would lie in that it would help building the market, and credit could be recovered on the production delivered at and sold through the hub. Where credit would not be made accessible through the input dealer, farmers would receive working capital loans through the hub (see below);
- *the cassava hub* will provide access to drought resistant high yield cassava stems, which will be supplied through the commercially-based multiplication system set up with IIAM assistance. It will also sell locally-made compost using cassava processing waste and give access to chemical fertilizers and pesticides through an arrangement with an input dealer.

283. **Equipment.** Hubs will include space for storing agricultural equipment to provide access to mechanised land preparation and weeding, either tractor-driven or through animal traction, transport equipment, small agriculture equipment such as pumps. This could be done either: (i) by leasing out space to an equipment dealer that would sell or lease agricultural, and would repair and maintain farmers or farmers' organisations equipment, including water pumps; or (ii) by having the hub company purchasing equipment and leasing it out. In either case credit to farmers would be made available along similar arrangements as those planned for accessing inputs.

284. **Financial services.** Hubs will enter into arrangements with a microfinance institution (MFI - see details in Annex 4, Section 4) to secure access to financial services. The MFI will either have a microfinance point of services in the hub's premises (through a lease contract) or will provide its services through alternative delivery mechanism such as mobile bank units. The microfinance institution will play a key role in the financing of the hub's and value chain stakeholders' activities. It will:

- extend investment and working capital loans to the hub company. The working capital loan will be used to purchase farmers' production. It can also be used to pre-finance the purchase

of inputs/rental of agricultural equipment where the input/equipment dealer does not provide supply credit to farmers, as well as the cost of any service accessed by farmers at the hub (for example water pump repair or maintenance). The hub will recover the credit at the time of harvest by deducting the cost from the price paid to farmers for their produce;

- extend credit to the hub company to acquire agriculture equipment through leasing;
- extend loans to farmers or farmers' organisations for other equipment such as greenhouses and drip irrigation;
- extend warehouse receipt loans to users of storage facilities (horticulture hub, see below);
- offer savings deposits, process transfers and receive remittances.

285. **Technical advisory services.** A technical advisor (see terms of reference in Attachment 2) will be based at the hub and provide services to farmers related to horticulture/cassava production and harvesting, including the preparation of simple business/production plans, in accordance with market requirements (see below), and support for the preparation of financing requests. S/he will also be responsible for coordinating in the hub's catchment area all activities aimed at strengthening farmers' organisations and developed by the Lead Service Providers, including Farmers' Field Schools. The hub premises will include a fully-equipped meeting room to carry out training of hub's members. Finally, the technical advisor will organise a Joint Team of Experts, which will provide training and advisory services on technical subjects to farmers, and organise demonstrations on new varieties, new techniques and innovations. The Joint Team of Experts will be composed of the Technical Advisor, the input dealer, a trader and a commercial farmer, which will be identified during the scoping study. A small budget will be made available to hubs to support the Joint Team (mainly DSA for the commercial farmer and cost of demonstration⁷⁷).

286. **Market linkages.** Hubs will be organised as selling points. Building on the results of the scoping study, the Lead Service Provider will help the Hub Manager in contacting buyers (traders, processors, supermarkets etc.) and in developing supply contracts with them. Contracts/purchase could be either between farmers and buyers, or between the hub company and buyers. Furthermore, hubs will have access to financing for market promotion/exploration for activities that would be identified/validated by the local Value Chain Innovation Platform and the Regional Value Chain Platform. Such activities would either be implemented by the Lead Service Provider to the benefit of the whole lot of hubs in the value chain, or by hub companies directly.

287. **Transport.** Hubs will provide fee-based transport services to farmers, for which they will own transport equipment (refrigerated truck in horticulture hubs and small truck for the transport of fresh tubers and processed cassava products in cassava hubs).

Services specific to horticulture hubs

288. **Storage.** The storage facility of the horticulture hub will include dry storage and cold storage. It will allow producers to store part of their production while waiting for higher market prices instead of selling at harvest time when the market prices are at their lowest. The hub manager will be responsible for organising a proper storage system, i.e. allowing to record quantities and grades brought by each single farmer and to store them until they can be sold at a good price.

289. **Warehouse receipt loans.** Storage will be coupled with access to warehouse receipt loans. The microfinance institution located at the hub will extend a working capital loan to the hub company to buy farmers' production at harvest time and price. The hub's manager will sell the stored production when market prices are high. With the proceeds, the microfinance institution's loan is paid

⁷⁷ Financed by Component 1 – Horticulture Value Chain Development. It is expected that input dealers will bear the cost of demonstrations involving the products they sell as those would have a positive return on their turnover. PROSUL financing would therefore be available only for other types of demonstrations.

back, the operating costs of the storage facilities and a small profit for the hub are covered and the balance is distributed to farmers in proportion to quantity stored.

290. **Price information.** PROSUL will finance a system to secure price information. In a first stage hub managers, with help from the Lead service Provider, will arrange a small network of informants at main markets. Once hub owners and farmers will have understood the benefit of accessing price information, PROSUL will finance the cost of setting up a more formal system, including short-term technical assistance, development of hub-managed data base and provision of mobile phones to informants. These will receive a small subsidy, which will be financed by the hub.

Services specific to cassava hubs

291. **Processing.** Cassava hubs will include a processing unit that will produce chips and high quality flour. They will be equipped with a borehole and eater tank for the washing operations of cassava tubers, and a source of water for the rapid multiplication of new cassava varieties.

292. Cassava producers will supply their production to the hub, which will buy it at a pre-set purchase price. The hub will also purchase chips produced from smaller processing units set up with PROSUL financing. The microfinance institution will extend working capital loans for the hub company to purchase production from cassava producers. The profit generated by the processing activity will be distributed among shareholders (third-party investor and smallholders/producers) after paying back the working capital and investment loans and offsetting the hub operating costs and a small profit.

Red Meat Service Provision

293. The specificity of the red meat service provision is that they are not embodied in a physical construction. Rather there will be the cattle fairs, where farmers can access a bundle of services along sustainable modalities. The cattle fair will be a regular meeting point for producers wanting to sell their animals. Services provided at this single location include the following.

294. **Animal drugs and health services.** Access to low-cost veterinary products, inputs supply and small equipment will be ensured through privately owned Livestock Vet Stores, which will be set up with PROSUL support as limited liability companies. Revenues generated by the sale of drugs will cover the cost of Animal Health Agents (AHAs) who will deliver products and animal health services close to farmers' needs and locations.

295. **Financial services.** Financial services will be offered by MFIs participating in project implementation, either in a fixed location at the cattle fair or through mobile banking. Equity financing by the Catalytic Fund to MFIs participating in the project will be used by the latter to expand their network either by opening point of services or by developing branchless expansion including mobile banking units or mobile phone banking facility⁷⁸.

296. **Technical advisory services.** Technical advisory services will be provided through AHAs attached to Livestock Vet Stores as well as through the cattle breeding units, which however are not located at the cattle fairs but at commercial farms (see Annex 4, Section 3). In addition the Red Meat Lead Service Provider will assign one technical expert in each of the target districts, who will also be available for the provision of technical services. Based on outcomes as well as on market development and requirements, the project mid-term review will assess the opportunity of setting up permanent technical advisors financed by the proceeds of the slaughterhouse that will be financed by PROSUL.

⁷⁸ See Annex 4, Section 4, Financial Services.

297. **Market linkages.** Local Producers Association supported at each of the cattle fair hubs will own sprayers, dip tanks and weighing scales, which will facilitate sales. Furthermore PROSUL will support the formation of Meat (Traders and Butchers) Traders Organisations (MTOs) to operate as market makers providing reliable market access services to remove the barriers and reduce transaction costs in the livestock market chain. Their main clients will be livestock producers (smallholder and commercial livestock farmers); slaughterhouse managers; other traders and butchers. The project will support associated traders/butchers to access financial resource to increase their working capital that at present is the major limiting factor that hamper their capacity to purchase large quantities of livestock for trade.

- **OWNERSHIP AND FINANCING OF HUBS**

- A. Ownership**

298. **Limited liability company.** The hub will be implemented as a limited liability company, whose shareholders would comprise any combination of: (i) producers (either individually or through their organisations), and (ii) private investors (including traders, processors, collectors, exporters or any other third party). The scoping study carried out at project onset for each value chain will identify private investors and farmers/farmers' organisations that would be interested in becoming shareholders in the hub company. Private investors having expressed an interest would then be shortlisted and further selected based on competitive bidding.

299. Depending on the response of private investors, farmers/farmers' organisations would own from a minimum of 30% (part of ownership reserved to farmers) to 100% (if no private investor interested) of the company's shares. The minimum part allocated to farmers aims at ensuring that they can have a meaningful voice in the Board of Directors and at the General Assembly (including a blocking minority) and that the hub responds to their needs and expectations. By holding equity in such limited liability companies, farmers will also benefit from the profit through the distribution of dividends, which will add up to revenues earned from their farming activity.

300. **Governing structure.** The limited company governing structure includes:

- *the Shareholders' General Assembly:* it approves annual financial statements, appoints the Board of Directors, defines the company's overall strategy and vision, and approves hubs' operating modalities as proposed by the Board of Directors;
- *the Board of Directors:* it defines the company's internal rules and regulations, details the company's strategy and related activities based on the orientations of the General Assembly, and appoints and supervises the Hub Manager. It also makes proposals to the General Assembly with regard to hub's operating modalities, including fees charged to service users;
- *the Hub Manager:* s/he manages the daily activity of the company, together with its staff, and is accountable to the Board of Directors. To avoid conflict of interest, it is advisable that the management of these limited liabilities companies is vested with a manager specifically contracted by the company. The contracted manager will focus on the profitability and growth of the company irrespective of its ownership. S/he will recruit the other staff of the company, depending of the activities to be carried. It is also advisable that the staff is recruited on the basis of a one-year renewable performance-based contract. It will be the responsibility of the Board of Directors to evaluate the performances of the staff and of the Manager and to renew their contracts.

301. Farmers will not be involved in the management of the company, which will be entrusted to a professional manager, but they will have at least one seat at the Board of Directors and will participate in the Shareholders' General Assembly. Support will be provided by the Lead Service Provider to farmer shareholders so that they can access technical assistance to help them in reading and

interpreting annual balance sheets and management reports, as well as to build the capacities required to participate in the company's governance structures.

302. **Staffing.** Hubs will be staffed as indicated in Table 2.

Table 2: Staffing of horticulture and cassava hubs

Horticulture hub	Cassava hub
1 Manager	1 Manager
1 Technical Advisor	1 Technical Advisor
1 Accountant	Workers for washing, peeling and operating machines, as well as for tending the nursery and producing compost
2 Warehouse men	1 Driver
1 Driver	

303. Staffing costs are included in the hub's operating costs and are paid for by the benefits generated by hub's activities.

Financing

304. **Investment.** The size of each hub and related investment, will depend on each single hub's catchment area, number of horticulture/cassava producers in the catchment area, maximum expected yields and production volume and shareholders' decisions. A detailed feasibility study will be carried out by technical assistance for each hub, to adapt indicative features described in the financial projections shown in Attachments 3 and 4.

305. Indicative investments considered for the horticulture and cassava hubs are shown in Table 3.

Table 3: Indicative investments for horticulture and cassava hubs

Items	Horticulture hub	Cassava hub
Building	Around 700 m ² , of which: - 500 m ² for cold and dry storage facility - 200 m ² to be used as outlets for input dealer, mechanic/equipment dealer, MFIs, office and meeting room	Around 200 m ² , including space to be used as outlets for input dealer, mechanic/equipment dealer, MFIs, office and meeting room
Equipment	Tractor, rotary cultivator, refrigerated truck, motorcycle	Mechanized equipment (tractor-driven or animal traction), 1 small truck, 1 motorcycle
Office equipment	Furniture and computer equipment	Furniture and computer equipment
Security equipment	Safe box	Safe box
Power equipment	1 generator	Borehole 1 generator
Processing equipment	Packaging machine	4-5 processing machines,
Land	Considered as a contribution by district/community	Considered as a contribution by district/community

306. The hub investment will be paid through a mix of grant, equity participation and long-term credit. Table 4 shows the distribution between the three financing instruments, with indicative distribution of the equity shares (assuming that private investors finance 45%).

307. **Grant.** PROSUL will finance a grant of 30% of the cost of hub construction.

308. **Equity.** The hub company's equity will be financed through a mix of:

- *private investment*, as per participating private investors bids, up to a maximum of 70% of the total equity. It is anticipated that private investors will have their own connections to access credit if and as needed;

- *farmers’ organisations*: 5% of total investment (around USD 12,000 for the horticulture hub and USD 5,000 for the cassava hub, actual amount depending on actual amount of total investment), to be paid through long-term credit extended by the MFI and that farmers will pay back using part of their dividends;
- *MFI*: depending on the portion financed by private investment, up to a maximum of 65%. The MFI will hold shares on behalf of farmers/farmers’ organisations, who will progressively buy them back using part of their dividends once they will have reimbursed all of the long-term credit.

309. **Dividends.** The mechanism through which smallholders and producers will buy company’s shares held by the third-part financial institution is based on company’s profit and dividends. Farmers will partly use annual dividends to gradually purchase company’s shares held by the third-party financial institution. Purchase of company’s shares can only take place when the company is breaking-even and makes profit. It is advisable that, besides legal reserve, the company does not distribute 100% of its profit net of legal reserve transfer, but keeps part of it as retained earnings. In case of losses, retained earnings could be integrated into the share capital of the company avoiding any additional cash injection from shareholders.

310. Farmers or their organisations will purchase the shares back from the Catalytic Fund at their nominal value, without taking into account any capital gain resulting from the capitalisation of undistributed profit (retained earnings), and at a discounted price of 70% of the nominal value. For example, if the equity held by the Catalytic Fund consists of 1,000 shares with a nominal value of MZM 400 and if the portion of the retained earnings attached to these 1,000 shares amounts to MZM 200 per share, the price that smallholders should normally pay for the company’s shares held by Catalytic Fund should be MZM 600,000. However, considering the twofold grant mechanism applied (i.e. no reflection of retained earnings and discounted purchase price of shares), the total purchase price to be paid by smallholders will only be MZM 280,000. Such a mechanism ensures that farmers can become owners of the hub company’s shares as early as possible, and subsequently increases their income through dividends.

311. **Long-term credit.** Long-term credit will be made available through participating MFIs for the financing of equipment to the benefit of farmers or farmers’ organisations.

312. **Revenues.** Appendixes 3 and 4 show the financial projections respectively for a horticulture and a cassava hub. Data used in the projections have been collected by the mission through interviews and visits to markets, suppliers and stakeholders. The feasibility study will help in adapting the projections to the actual situation of each and every hub.

313. As shown by the financial projections, both the horticulture and the cassava hub break even as of the first year, even though they are still operating at only 40% of their capacity (horticulture). Sources of revenue are shown by Table 4.

Table 4: Sources of revenue of horticulture and cassava hubs

Horticulture hub	Cassava hub
Sales of horticulture products or levies on sale	Sales of processed cassava
Rental of space (MFI, input dealer, equipment dealer)	Rental of space (MFI, input dealer, equipment dealer)
Rental of agriculture equipment	Rental of agriculture equipment
Fee on input sales	Sale of compost
	Sale of quality stems

314. **Sales.** The main source of revenue for the horticulture hub is the storage and selling of horticulture products. Storage of dry products (onions, potatoes, cabbage, beans) allows to differ selling by several weeks/months after harvest, when prices are higher. For other vegetables cold

storage allows only a few more days of conservation, which is enough to bulk produce and get better prices as well. The hub company withholds a storage fee on the selling price. The remaining profit is either distributed under the form of dividends, when the production is sold by the hub (with the provisions outlined above), or accrues to farmers/farmers' organisations when they retain production ownership and take care of selling directly. The storage fee should cover: (i) the salary of handlers; (ii) electricity; (iii) small furniture such as storage pallets; (iv) chemical products against rodents; (v) insurance premium (the whole building should be insured at least against floods and fire); (vi) miscellaneous expenses; (vii) and overhead expenses including the salaries of the manager, technical adviser, accountant, driver guards. At the beginning of each year, the projected amount of operating costs is divided by the projected volume to store to determine the storage fee per kilo/bag. At the end of the year, before the distribution of dividends the storage fee is adjusted based on the actual operating costs. It is estimated that an acceptable level of storage fee for users should not exceed 10% of the profit generated by the storage activity.

315. A similar approach will apply to the cassava hub, except that sales will be for processed products, compost and stems of quality cassava. Fees will be charged to recover the same kind of costs than the storage fee in the horticulture hub.

316. **Rental of space.** The hub company will sign lease contracts with the MFI, input dealer and equipment dealer, whereby these will pay a rent for the space they will use for their activities inside the hub.

317. **Fee on input sales.** Input dealers will benefit not only from space but also from the whole hub venture and activities to develop their business. This would warrant the payment of a fee on their sales to the hub company, for example as of the fourth year.

• **IMPLEMENTATION ARRANGEMENTS**

318. **Phasing.** Table 16 shows the phasing of hub installation in the three value chains.

Table 5: Phasing of hub installation

Value chain	2013	2014	2015	2016
Horticulture	-	Moamba Chokwe BaixoLimpopo	Marracuene Namaacha Manjakaze Chibuto	
Cassava	-	Manjakaze Inharrime		Massinga Morrumbene Jangamo Zavala

319. **Implementation steps.** The implementation steps for horticulture and cassava hubs are described in Table 17.

Table 6: Implementation steps for horticulture and cassava hubs

Seq.	Activities	Responsibility
1	Scoping study to identify private investors, farmers' organisations, market and business opportunities, existing ventures that the hub could build on	Lead Service Provider (LSP)
2	Awareness campaign for farmers' organisations on: - role and benefits of horticulture/cassava hubs; - role, responsibilities and duties of hub company membership	LSP
3	Feasibility study	Technical assistance
4	Assistance to private investors and farmers' organisations for: - creation and registration of the limited liability company (LLC)	LSP, technical

Seq.	Activities	Responsibility
	<ul style="list-style-type: none"> - elaboration of internal rules - setting up a management information system, an accounting and reporting system and related manuals - negotiation of equity participation holding by a participating financial institution - selection of Board members - selection and contracting of the Hub Manager - recruitment of staff 	assistance, legal assistance
5	Launching of a tender for the construction of the horticulture hub (design, construction and supervision) and contracting	LSP with support from PMT
6	Management training for hub staff (manager, technical advisor, accountant)	LSP and MFIs/Catalytic Fund
7	Tender for selection of third-party service providers (input dealer, equipment dealer) and selection of participating financial institution	LSP, Hub manager
8	Assistance to Board to engage in contractual arrangement with input dealers, equipment dealers and participating financial institution (terms and conditions of respective lease contracts)	LSP and legal consultant
9	Training to hub lead members on innovative financing instruments promoted by the project (contract farming, warehouse receipt financing, leasing)	LSP and MFIs/Catalytic Fund

320. **Feasibility studies.** Feasibility studies aim at adapting the framework and financial projections described in this Annex (in particular with regard to the structure of ownership, modalities and costs of services, modalities for cost recovery, etc.) to the specificities of each single hub, building on information gathered during the scoping studies. Terms of reference for the feasibility studies will be prepared by LSPs. The feasibility studies will be carried out by technical assistance as described below.

321. **Technical assistance.** One international and one national consultants will be recruited by PROSUL Project Management Team (PMT) to assist in the creation and implementation of the hub limited liability companies. This will included in particular: (i) feasibility studies; (ii) preparation of a business plan; (iii) preparation of internal financial and administrative procedures to recover costs; (iv) accounting templates; and (v) activity and financial reporting. They will also train governing bodies members and the management team of each limited liability company with regard to procedures. In addition, they will design the procedures for the warehouse receipt financing mechanism to be used in horticulture hubs. Finally, they will assist the Hub Manager in devising a manual of procedures (based on a general template).

322. **Legal assistance.** A legal advisor will be contracted by the PMT to assist in the legal aspects of the creation of each LLC (by-laws, registration, organisation of shareholders' general assembly and of Board of Directors meetings, election of the governing bodies members). S/he will also participate in the training of governing bodies members and management team with regards to legal, tax and social aspects of LLCs.

323. **Selection of third-party service providers.** The selection of the input dealer, mechanic/equipment dealer and microfinance institution for each hub will be carried out through a competitive process.

324. For input/equipment dealers, the LSP will request each potential candidate identified in the scoping study to issue a business proposal. This business proposal will detail the type of products/services provided, the outlet *modus operandi* as well as the financial terms and conditions for their activity. The proposals will be reviewed and assessed by the LSP and the Hub Manager, who

will select the most adequate bids. Final selection will be made by the hub Board of Directors and validated by the General Assembly. Contracts will be drafted with the assistance of a legal consultant contracted out by the PMT and signed between the selected service provider and the Hub Management.

325. For the microfinance institution, the PMT will issue a call for expression of interest to all MFIs willing to participate in the project. A selection panel composed of one representative from the Catalytic Fund, one representative from the United Nations Capital Development Fund (UNCDF) and the PROSUL Coordinator will select a maximum of three MFIs for the whole project. A due diligence exercise will be carried out on MFIs ranked first. The result of the due diligence exercise as well as the scoring of each selected MFI will be submitted to the PROSUL Investment Committee in the Catalytic Fund for the finalization of the selection and the attribution of selected MFIs to project-supported hubs. Details are provided in Annex 4, Section 4 – Financial Services.

326. **Study tours and exposure visits.** Additionally, two study tours and exposure visits will be organised and financed by the project for governing bodies members and management teams of horticulture service hubs LLCs and cassava processing hubs LLCs in Madagascar, where such hubs have been successfully implemented since several years (together with a warehouse receipt financing mechanism implemented at the level of savings and credit cooperatives network.) The objective of these study tours/exposure visits is to learn from experience and identify possible procedures, mechanisms, activities that can be replicated in the LLCs created under PROSUL.

SECTION 6 – OUTGROWERS’ SCHEMES

I. BACKGROUND AND RATIONALE

327. **General.** In an outgrowers’ scheme, farmers deliver their production to a trader, commercial farmer or processor, along contractual arrangements specifying a pre-determined price and a predefined quantity, quality and timing (price varying with the quantity and the quality delivered). The contract also includes the provision by the buyer of agricultural inputs that farmers require to deliver the agreed production, as well as technical extension and possibly mechanisation. The buyer borrows from a commercial bank, purchases quality inputs and delivers them to outgrowers (participating smallholders) at a reasonable price. At harvest, s/he buys their produce withholding the cost of inputs delivered, and pays back the bank’s loan. The bank’s risk is on the commercial farmer’s loan, who can provide sufficient collateral to the bank.

328. The outgrowers’ scheme thereby provides farmers with an integrated and timely access to inputs at a reasonable price, as well as to technical assistance and innovation, agricultural equipment, credit and market linkages. It is a win-win situation for both stakeholders: farmers are getting better prices for their increased and improved productions while commercial farmers can supply more quality products to profitable markets. Consequently, net income of both stakeholders is increasing, more substantially for small farmers. In many developing countries, including Mozambique, outgrowers’ schemes have been successfully tested, particularly with cash crops such as cotton, tobacco or rice.

329. However outgrowers’ schemes also have disadvantages for farmers, mainly: (i) *asymmetric balance of power*: buyers are in a better position to dictate their terms and conditions as they have access to markets. In most cases, producers lack price information and have limited bargaining power, so that they must accept the price set by the buyer; (ii) *limited share of the added value*: only a part of the added value (generated by the processing activity or by the storage) is passed on to smallholders. Buyers will minimize the price paid to producers so as to keep a substantial margin and profit. As the farming contract ensures them good quality and predefined quantity, they can pass part of the incremental profit onto producers, but that will most of the time represent a small fraction of the overall profit generated; (iii) *poor enforcement of contracts*: farmers lack knowledge, means (such as certified scales) and recourses to ensure a fair enforcement of contracts by buyers in case of unilateral refusal to pay the agreed price or to purchase the agreed quantity (for example for alleged insufficient quality), or in case of application of penalties for alleged insufficient quality or quantity.

330. **Horticulture.** In the horticulture value chain, commercial farmers have generally access to profitable markets in Maputo (with long-term contracts with hotels, restaurants and high-end markets) or in South Africa, to high quality inputs purchased from Maputo-based importers or from South Africa, and to commercial banks for working capital and investment loans. They are able to finance modern equipment and storage facilities. They have access to new technologies and to technical assistance.

331. There are no known outgrowers’ schemes in place in the horticulture sector in the Southern provinces. Past arrangements between farmer associations and institutional buyers brokered by NGOs or by PAMA have reportedly⁷⁹ collapsed, mostly because of the impossibility for associations to access financial resources to sustain production and of delayed payments by buyers. They were however not outgrowers’ schemes as they did not involve input and technical assistance provision by

⁷⁹ Antoine Bossel, Situation analysis and baseline assessment for the proposed integrated intervention of ITC and SNV in developing market linkages and improved distribution, production and return for small and medium-sized farmers in the districts of Namaacha, Boane and Moamba, ITC/SNV, Maputo, September 2010.

the buyer, but only consisted in purchasing arrangements. PAMA's stock-taking report⁸⁰ notes that the demand-led strategy carried out by the project had not been successful as very few agribusiness companies had responded to the project's calls for proposals to develop outgrowers' schemes. This forced the project to play a more proactive role in identifying potential partners and in assisting them to enter into contract farming arrangements, which had becoming much more time-consuming than expected and had required specific skills from PAMA's facilitation unit. New agribusiness firms were found to show the strongest interest, including to receive capacity building support to strengthen their businesses and to manage outgrowers' schemes.

332. There are however indications of interest for such schemes, in connection with several large-scale investments, (including Lonrho's project to set up a tomato processing plant and several private packing house projects), but also with commercial farmers interested in supplying developing networks of supermarkets. Besides, there are a few private sector companies in the northern and central provinces (Vanduzi, *Pimentas de Moçambique*, *Companhia Agricola de Chimoio* and CABAM in Manica, Cheetah in Tete) that have develop outgrowers' schemes with smallholders and/or emerging commercial farmers for the production of vegetables, providing inputs (seeds, chemical, and/or fertilisers) on credit as well as technical assistance. Main reported constraints to the development of outgrowers' schemes⁸¹ include: side selling; diversion of fertilisers to other crops; lack of business and technical skills by smallholders and high costs of extension services; lack of transparency in the relationship between smallholders and private company; price variability; difficult access to finance by private sector companies; and a weak business environment.

333. **Cassava.** Although cassava processing and related markets are still in their infancy stage, there are a few examples of outgrowers' schemes in Northern/Central Mozambique, and the design mission identified a number of opportunities to develop them in the South:

- in the province of Nampula, SABMiller, the parent company of *Cervejas de Mocambique* (CDM), has developed a technology replacing imported malted barley with locally grown cassava for the production of low-cost beer. The company has developed a business model called 'hub and spoke', whereby a few commercial farmers enter into agreement with smallholders to provide them with technical assistance and inputs and to organise the supply of fresh tubers from smallholders' units to an Autonomous Mobile Processing Unit (AMPU). The AMPU is owned and managed by a Dutch company, DADTCO, which in turn supplies the brewery with cassava cakes. CDM and SABMiller are investigating options to use processed cassava (flour, starch or chips) for their breweries in the South and have already contracted commercial farmers Piri Piri Elefante and Madal) for the multiplication of cassava planting material;
- Cleanstar Mozambique has started producing cassava-based ethanol for domestic use as an alternative to charcoal in Dondo (Beira) and plans to open a much bigger plant in Inhambane to serve the Maputo market. The company contracts smallholders to supply fresh tubers for the production of cassava chips and provides them with technical assistance and inputs;
- small scale investors are planning to start a cassava flour processing factory in Inhambane and would be interested in signing contracts with suppliers of cassava chips, which could be provided by semi-processing units run by farmers' organisations or by emergent/commercial farmers;
- a number of farmers' organisations in Inhambane province and in the district of Manjacaze (Gaza) are involved in small scale cassava processing, mostly *rale* and flour. Provided with the right market linkages, these associations would find scope to develop their business and to enter into arrangements with members and non-members to increase cassava supply.

⁸⁰ PAMA Implementation Experience: Emerging Issues and Lessons Learnt, 2007.

⁸¹ World Bank, Review of Horticultural Outgrowers' Schemes in Mozambique, June 2006.

334. **Red meat.** The design mission did not identify any existing outgrower schemes in the red meat value chain. However, there are several commercial ruminant producers who have expressed interest in developing contractual arrangements with small producers for the breeding and fattening of genetically improved animals.

- **PROJECT ACTIVITIES AND IMPLEMENTATION ARRANGEMENTS**

335. PROSUL will promote outgrowers' schemes with selected value chain stakeholders, who could be commercial farmers, processors or traders. There will be three types of arrangements. The first two applying to the horticulture and cassava value chain, while the third one is meant for the red meat value chain.

336. **Outgrower schemes.** The buyer (most likely a commercial farmer or a processor) will provide technical assistance to smallholders to improve yields and quality, will supply them with inputs and rented equipment, and will buy their production. Smallholders will follow the management plan agreed with the buyer and will sell their production to him/her. A contract will stipulate a pre-agreed purchase price for smallholders' production (specifying quantity, quality and time of delivery), as well as modalities for paying them a bonus, should the commercial farmer get a higher price on the market than the one smallholders would get without the scheme. The cost of inputs and equipment released to smallholders will mainly be financed through a loan that the commercial farmer will take with his/her bank. S/he will pay back the loan by deducting the cost of inputs and equipment from the price paid to smallholders. Alternatively, smallholders' needs might also be financed through microfinance institutions participating in PROSUL, for which contract will be used as collateral/guarantee.

337. **Forward contracts.** In the likely event that the buyer would not want to provide assistance or inputs to smallholders, these could access them through PROSUL-promoted service hubs. In such case, the forward contract would only consist in an agreement by the buyer to purchase smallholders' production at a pre-set price, with the possibility of a bonus.

338. **Breeding units.** In the red meat value chain, PROSUL will facilitate the establishment of breeding units with selected commercial farmers, whereby a Livestock Producers' Organisation will receive genetically improved animals from the commercial farmer, fatten them along pre-fixed modalities and period and sell them back along a pre-set price. The commercial farmer will also provide small breeders with extension services, veterinary products and feed to ensure best animal husbandry practices regular livestock treatment and proper feeding. To this end, the project will secure commercial farmers' access to credit, which they will pay back using the proceeds of animal sales to the slaughterhouse (see Section 3 and attachments for details).

339. **Implementation.** The project will assist buyers and small farmers in the project target areas to engage in outgrowers' schemes. PROSUL assistance will include the following:

- *Scoping studies:* scoping studies to be carried out by each value chain LSP at project inception will identify commercial farmers, processors and traders interested in developing the above types of arrangements;
- *Information workshops:* in collaboration with the PMT (Agri-business Specialist and Financial Services Specialist) each LSP will then organise a workshop with interested buyers and smallholders' representatives to provide information on the various types of arrangements and on mutual benefits and obligations for either parties, implementation modalities (including a possible role for service hubs) and support that could be provided by PROSUL;
- *Technical and legal assistance:* LSPs will provide assistance to buyers and smallholders for the negotiation and drafting of contractual arrangements, including for determining: (i)

production volume, quality and delivery time; (ii) technical requirements to be followed by smallholders; (iii) determination of profit margins for either party and of pricing modalities according to quality specifications; (iv) modalities for the accessing inputs, rental of equipment and technical assistance, including possible role of hubs and payment. Specialised legal assistance will be made accessible through project financing to assist in drafting the contracts and to define contract enforcement and arbitration modalities. As and where appropriate, hub managers and technical advisors, and relevant microfinance institutions participating in PROSUL implementation should also participate in the negotiation. LSPs will also be responsible for monitoring the implementation of the contracts, identifying bottlenecks and promoting solutions as jointly with contract signatories, service hubs and participating microfinance institutions.

SECTION 7 – FARMERS’ ORGANISATIONS AND ACCESS TO SERVICES

I. BACKGROUND

340. **Strategic** objectives for the agricultural sector in the Poverty Reduction Strategy (PARP 2011-2015) include the strengthening of research and extension services capacities to develop food production technologies suited to the country's agro-ecological characteristics; and the promotion of farmers’ organisations to create economies of scale in the use of infrastructure, services and inputs. The Ministry of Agriculture further developed these strategic objectives through the Strategic Plan for Agricultural Development (PEDSA 2011-2015), as well as the National Agribusiness Development Plan (CEPAGRI, PNDA draft, 2011). Access to services and related need for interacting with farmers’ organisations are also outlined in IIAM’s strategy and in the Agricultural Extension Master Plan. The Government Strategy in Support to Farmers’ Associations Development has outlined an action plan for the Ministry of Agriculture, the National Directorate for the Promotion of Rural Development (DNPDR) and the Provincial and District Governments (MINAG, 2009).

341. All strategies emphasise the need to support the organisation of farmers through appropriate structures (associations, unions, cooperatives, etc.), as well as through interaction with other models, including outgrowers’ schemes and agribusiness centres for an enhanced access to services demanded by market-oriented farmers. Such services include rural business development services (on business plan development, marketing etc.), input supply services, financial services, market-oriented technical advisory services, mechanisation services, etc.

A. Farmers’ Organisations

342. Farming households forming organisations generate economic benefits for their members through collective action. In most cases this is by securing production factors (access to land and water), access to knowledge (informal or through public or private extension, including Farmer Field Schools), access to inputs at reduced prices (due to lower transaction costs), access to credit (District Development Fund requirement, use of the organisation as collateral by some NGOs and MFIs, as well as Banco Terra initially), and sometimes by accessing better markets by bulking production. Some associations, notably many women associations, also share labour during peak hours on their individual fields, or have an additional collective field to finance some of the associations’ inputs or transaction costs.

343. **Types of organisations.** Farmers’ organisations can be categorized according to their main function, as well as according to their legal status. Three different functional types of farmers’ organisations can be distinguished in Mozambique, based on the type of services that they provide:

- *delivery system organisations* have been established to help in transferring technology. Services available to smallholders are largely mediated by an agency or program outside the community (e.g., “extension groups” set up by NGOs and DNEA to provide agricultural technology and training);
- *simple commodity contract organisations* are based initially on the financial investment of a company or of traders. Services available to smallholders are supply driven (e.g., associations set up by cotton traders to facilitate input delivery and marketing) and are organised in the framework of an outgrowers’ scheme (see below);
- *marketing and development organisations* have emerged from a continuing investment in human and social capital. Services available to smallholders are largely demand driven (e.g. NGO-assisted groups that receive intensive training in group organisation and management skills).

344. **Groups.** Public and NGO extensionists often work with informal groups (not registered, no formal membership), which are more of a social nature, for instance for managing peak labour demands (mostly all women groups), traditional savings and credit groups, community development activities (Community Development Committees and Forest and Wildlife Committees) and extension contact groups. In 2010 the National Agricultural Extension Directorate (DNEA) reported working with 7,641 informal groups (139,611 members) and 4,277 associations (131,715 members). Associations have 51% female members and 49% of them are legalized. The number of groups has remained relative stable since 2001 (7,412 groups), but the number of associations working with extension has increased sharply (from 575 in 2001). Groups have remained small (around 18 members on average), while associations are on average larger (30 members).

345. **Associations.** Associations are the most common form for farmers' structuring, despite the fact that, according to the law on associations (Decreto Lei no 3/2006), these are not expected to make any profit. In practice this means that collective action earnings are used to cover association operational costs (as in water users' associations or for tractor hire) and that any net revenue of economic activities (processing, sale of produce) are paid back to the members and not invested in the association.

346. No central data are available on the number of formal (registered) and informal (groups) associations. The number of registered associations has increased considerably over the last few years, due to the simplification (decentralization, lower costs, etc.) of the registration procedure and the active support by NGOs and public extension services. The participation of smallholder farmers in associations has increased from 3.9 % in 2002 to 6.4 % in 2005 and is still growing (7.2% or 273,600 farming households are in associations⁸², TIA de 2008). The associative movement is particularly strong in the North of the country (Niassa, Cabo Delgado, Nampula and Tete, around 10%), while low in the centre (Sofala, Manica, around 4 %) (TIA de 2008). The highest organisation rate however exists in Maputo (12.3 %), Gaza (7.8%) and Inhambane (9.8%) Provinces. Results of a multi-variable analysis of TIA data suggest that association membership has a significant positive effect on household income in the north of the country, but this relation could not be established in the centre and south. The overall positive correlation between association membership and family income also suggests that it is not the poorest farmers who join associations (Mather et al., 2008).

347. Although the association is not an appropriate legal form for farmers' organisations wanting to generate income/benefits, it is still the most widely used form of farmers' organisation. The main reasons for this are: (i) the relative novelty of modern cooperatives in Mozambique; (ii) need to financially invest in the cooperatives (at least 50% of the assets by law have to be financial assets); and (iii) capacity to manage cooperative enterprises. Some associations or unions of associations are developing into modern cooperatives (based on the Cooperative Law nr. 23/2009), in which normally the dividend is reinvested in the cooperative enterprises. Examples of these exist in Niassa, Nampula and Zambézia, some with support from the Mozambican Association for the Promotion of Modern Cooperatives (AMCPM) members such as Miruku, CLUSA, APAC, UGC and other agencies. Some associations form commercial societies with private enterprises and become shareholders (e.g. associations in Nampula have 12% shares in the IKURU company).

348. **Cooperatives.** The Mozambican Association for the Promotion of Modern Cooperatives (AMPCM) was established in 2010 shortly after the proclamation of the new cooperative law (Lei nr. 23/2009 of the 8 of September 2009). AMPCM aims at becoming an apex organisation of modern cooperatives in Mozambique, based on the principles of benefit and risk taking by the cooperative members, and investment in the cooperative enterprise by the members themselves, self-capitalization of the cooperative, as well as democratic principles (one member one vote). Currently AMPCM has

⁸² Note that the TIA does not make a distinction between associations and cooperatives, but the number of cooperatives is still small (e.g. 3600 formal and informal associations in Nampula and 10 registered cooperatives, including 2 savings and credit cooperatives, SACCOs) Source: CLUSA, 2011

14 member organisation (7 in agriculture). The number of cooperatives registered under the new legislation is still very limited, but it is expanding, notably in the North. In Nampula and Cabo Delgado cooperative development is actively supported by the Cooperative League of the USA (CLUSA), which has resulted in 8 new cooperatives to date. One of the main obstacles is the requirement by the members to invest in the new cooperative (providing 50% of the capital, which can also be in kind) and the capacity to manage the cooperative. AMPCM, with support from the Swedish Cooperative Centre, aims to transform, in 2012, the international year of the cooperatives, many of the existing associations into cooperatives through capacity development (e.g. on cooperative legislation; business plan development; bookkeeping and auditing; and provision of judicial assistance; etc.). UNAC is one of the members of AMPCM and its 2,200 member associations form the first target group for this cooperative development. AMPCM aims to become the National Cooperative Alliance.

349. **Shareholding.** A possible net revenue made by outgrowers can be (partially) used by the farmers’ organisations to buy shares into the contracting company e.g. as for Ikuru-Nampula (shareholding NGO and Financial Service Provider transfer shares to farmers’ organisations). This is in the South also foreseen for outgrowing companies such as Agrisul-Chokwe and Piri-piri Elefante-Marracuene, in which the shareholding Annona Development Fund (www.annona.nl) will eventually (8-year trajectory) transfer shares to farmers’ organisations. Shareholding by farmers’ organisations in profit making corporations in general is not restricted to cooperatives, as in practice associations can have this role. Important is however that there is no major conflict of interest between the objectives of the farmers’ organisation and the corporation. For the gradual transfer of shares from investment funds to farmers’ organisations, it is recommended to establish cooperatives (due to the profit-making objectives), but registered associations can also do in the transition phase.

350. Main differences between the two legal forms of farmers’ organisations are presented in Table 1 and compared against the farmers’ shareholder corporation model.

Table 1: Main characteristics of some different models for the organisation of farmers

Cooperatives	Associations	Corporation
Unit of persons who organize themselves for the execution of an economic activity	Unit of persons who organize themselves for non-economic reasons	Mostly a shareholding capital investment company capital with economic objectives
The main objective is providing operational services with fair and transparent margins for the members. The profit is resulting from economic activities	Main objectives are altruistic, non-lucrative and not-for –profit, and can be about realizing social, cultural, sport and mutual assistance activities	The main objective is maximizing profit
Members and service delivery is benefiting from the net revenue made	No financial net revenue is made	The associates or shareholders in the capital investments made benefit from the net revenue (profit)
The surplus made is transferred to the members based, proportional to the amount of activities implemented and services used	Any surpluses are not profits and shared	The profit obtained is distributed between the associates and shareholders, based on the capital invested
The invested capital does not determine the management and decision-making (one member one vote)	The invested capital does not determine the decision-making (one member one vote)	The invested capital determines the management and the decision-making
General assembly: The quorum is based on the number of members	General assembly: The quorum is based on the number of members	General assembly: The quorum is based on the amount of invested capital
Administered by a general directorate of at least 2/3 of the	Administered by a reduced number of people	Administered by a reduced number of people

Cooperatives	Associations	Corporation
members		

Source: AMPCM, 2011. *A nova lei das cooperativas. Desenvolvimento e negocios com principios.*

351. **Networks.** Associations form networks or forums of 6-10 member associations (“redes or nucleos”), which can form District Unions (or Forums) of farmer associations. These networks often also have the objective to participate in district planning or lobbying for the interests of the associations. Some of these networks are in the process of becoming cooperative enterprises. The largest national networks are UNAC (focusing on smallholders), while others such as FENAGRI (focussing on commercial smallholders) and AMPCM (focusing on cooperatives and their promotion) represent a smaller number of farmers’ organisations but with a stronger economic objective.

352. **UNAC.** The National Union of Smallholder Farmers (UNAC) had in 2010 a total of 86,000 individual members, organized in 2,200 associations. These associations have formed 83 district unions, as well as 11 unions above district level unions (of which 4 at provincial level). Given the total of associated farmers (calculated based on TIA data), UNAC is representing 31% of associated smallholders. UNAC has four main strategic objectives; (i) Strengthening UNAC and provincial and local small farmers’ unions as a service provider to its members; (ii) Enhancing agricultural production, productivity and market access; (iii) Strengthening the role of UNAC in design, implementation and monitoring of agricultural policies; and (iv) Integrate gender, young farmers and environment/climate change issues in all its activities.

353. In relation to objective (ii), UNAC aims to establish agricultural service centres through the district unions, with facilitation and technical advisory services, for market access and access to inputs. UNAC remains with its main emphasis on low external input agricultural production for smallholders aiming in the first place at household food security, but with increasing emphasis on marketing access produce. UNAC recently also entered into an agreement with the Southern African Confederation of Agricultural Unions (SACAU) for strengthening services in the horticultural sector in Manhica. SACAU (funded by the Bill and Melinda Gates Foundation) will support UNAC’s development of a horticulture strategy for smallholder horticultural production. The emphasis will be on strengthening UNAC’s structure to support horticultural farmers’ organisations, strengthen engagement of the same in the value chains and contribute to a conducive environment. Support will be also provided to the operationalisation of the Study Circles (similar to FFSs) and UNACs gender strategy. UNAC’s envisaged horticultural strategy can be a basis for further interaction with PROSUL.

354. **FENAGRI.** The National Federation of Agricultural Producers (FENAGRI) aims at federating all farmers’ organisations and farmers (small, medium and large) in Mozambique. UNAC is however not yet a member and no relations with AMPCM exist so far. FENAGRI has 22 farmers’ organisations as members. These organisations are mostly networks of individual associations or individual farmers, who have joined the network for lobbying activities and access to water. The members are generally more market oriented than the average association, as has been confirmed through mission interaction with small and medium-scale commercial farmer networks such as Agrarius (Maputo Province), AgriGaza and Union of Irrigation Associations (UNAR in Chokwe). FENAGRI’s Strategic Development Plan aims at supporting the Casas Agrarias concept (see below) and its service providing function through three, yet to be established, Regional Capacity Development and Marketing Centres, respectively in the North, Centre and South (FENAGRI, 2011).

Farmers’ organisations in Project Target Areas

355. **Southern Region.** In Inhambane, Gaza, and Maputo, 11% of rural households on average are members of a farmers’ organisation (TIA 2008), which amounts to 68,000 households or roughly 1,000 registered (more than half are registered) and unregistered associations, as the average membership is around 60 members (MINAG data). UNAC (including the General Union of Cooperatives or UGC, which is the oldest union and operates in the Maputo Green Belt) has 350

member associations over the three provinces, with District Unions or emerging unions (“nucleos”) in all the 30 districts. Agricultural extension (Ministry of Agriculture) has reported working with 598 associations in the South (159 in Maputo, 247 in Gaza and 192 in Inhambane). The Maputo Municipality (Maputo Green Belt extension) works with 12 UGC Urban District Unions with a total of 220 associations. The female participation in associations is high (69% reported by MINAG and 70% reported for UGC).

356. **Maputo Green Belt.** The Maputo Green Belt UGC associations and unions focus largely on horticulture or chicken production, while many of the other associations in the Maputo Province are also in horticultural production. Main reasons for which small-scale farmers involved in horticultural production include: (i) Access to land and water; (ii) Access to inputs; (iii) Access to markets; (iv) Access to knowledge; (v) Access to capital. Traditionally the horticulture farmers around Maputo have been organized into associations (also referred to as cooperatives, but not registered as modern cooperatives based on the new Cooperative Law nr. 23/2009 and not the modern cooperative enterprise model yet). In the past these associations were serviced by public sector run “Casas Agrárias”, but these have now largely collapsed. Most farmers’ organisations deal with problems of poor management and organisation, limited focus on service provision, lack of knowledge with regard to post-harvest and marketing aspects, and lack of negotiation skills to develop partnerships.

Horticulture Value Chain

357. Horticultural production is closely linked to irrigation and water use and as such often to a more formal process of obtaining water rights and DUATs. This has been often the main reason for the formation of Water User Association (WUA) and Producer Organisations (POs). These two entities separate the water management functions from the production functions of the farmer group. Whereas the first is rule and fee-based, mandatory, and only responsible for irrigation service provision and maintenance, the latter is a voluntary interest-based entrepreneurial association. The irrigation organisation will be composed of all direct beneficiaries (land owners and/or land users), while the producer association might be a subgroup of more market-oriented entrepreneurial farmers. In most cases the WUA and the PO are still synonymous, but there are indications that these are increasingly separating into a main WUA and several producer organisations, associations and cooperatives (as e.g. was observed in Moamba and Marracuene).

358. Through interviews and discussions with representatives of farmer associations (connected to UNAC, FENAGRI or independent), an analysis was made of the internal strengths and weaknesses as well as of external opportunities and threats of farmers’ organisations in the horticultural sector (SWOT analysis).

Table 2: SWOT Analysis of Farmers’ Organisations in the Horticulture Value Chain

Strengths	Weaknesses
<ul style="list-style-type: none"> • Land and water user associations (WUAs) have a clear objective for collective action. • WUAs are relatively inclusive and have a majority of women • WUAs in some areas are federated (Chokwe) including both smallholders and commercial farmers • FENAGRI’s member farmers’ organisations are strongly market oriented with a common voice and lobbying as a main collective objective. • Many WUAs have a DUAT or a contract (in case of the Baixo Limpopo irrigation scheme). 	<ul style="list-style-type: none"> • Objectives often limited to access to water and land • Not using technology for production in the hot season. • Smallholders are not fully market oriented and produce horticulture crops in a risk-avoiding manner (no credit, as even District Development Fund is difficult produce only cool season commodities; aiming at the local markets;)
Opportunities	Threats
<ul style="list-style-type: none"> • Subgroups in WUAs for marketing purposes could develop and lead to graduation into cooperatives • Federations bring small farmers and private farmers together in one organisation • Smallholder associations can organize horticultural supply over longer period to maintain income and fetch higher prices. • FFS can have a stronger learning for business component 	<ul style="list-style-type: none"> • Maintaining external dependency due to lack of proper business plans • High risk of land grabbing in irrigation schemes • No proper irrigation support services (irrigation scheme and pump services and maintenance). • Prohibitive input supply costs for associations due to lack of transparent markets and even failing markets. • Producer organisations have less female members than WUAs • Defaulting WUA members replaced by urban ‘farmers’

359. **Capacity building.** A specific capacity needs assessment will be done at the start of the programme in each cluster of irrigation schemes, which will be repeated annually for monitoring and updating purposes. Based on preliminary capacity needs assessment of farmers’ organisations in the horticultural sector, to be confirmed during the scoping studies, the following capacity development needs were identified:

- **Strengthening of the water user associations** for the management of the irrigation scheme. Associations require an operational plan for the irrigation perimeter, which includes both daily management as well as maintenance.
- **Development of well-established, organized and functioning** farmers’ organisation, which can sustain themselves;
- **Organisation in unions and federations** that can have a voice in the chain and could develop commercial activities. Farmers’ organisations need to develop capacity to become effective members in the local innovation platforms, as well as partners in the value chain. For higher level lobbying roles at District, Provincial and value chain level, capacity to form unions and federations will be required.
- **Strengthening of the business orientation** of farmers’ organisations, notably the ones connected to UNAC. FOs will be supported to develop bankable business plans and to implement them, including the opening of a bank account as appropriate.
- Capacity to have an **horticultural cropping intensity** of at least between 1 and 2 (1 means fully used irrigation scheme in the cool season and 2 means full horticultural production in the hot season as well). Currently this is often far below 1, while growing maize or rice in the hot season. Note that the private sector farmers reaches at least a cropping intensity of two and also in the Maputo Green Belt the cropping intensity is far higher. This will largely mean technical capacity development through training and learning through FFS.

Cassava Value Chain

360. Cassava production in the South is mainly concentrated in a cassava belt in South-East Inhambane and North-East Gaza around the EN 1 (Inhambane Corridor). Many farmer associations exist in this area, with members who grow cassava, although the associations are mostly not formed for cassava value chain reasons. In Inhambane 9.8 % of smallholders are united in associations with 40 members on average. Virtually all of them produce cassava either for self-consumption or to commercialize the surplus. Each association usually has its own piece of land and in addition each association member has his/her own field. Some associations are organized in unions (*forum*) that federate on average between 7 and 14 associations. Land ownership is in general collective. Although some associations have managed to get the DUAT (right to use and take advantage of the land), it is common to find associations without it. For the smallholders it is even more difficult to legalize their plots obtaining the DUAT, because they are unaware of their land rights as communities and as individuals, and if they know their rights they lack the financial and technical support to necessary to assert those rights effectively.

361. The public agricultural extension in Inhambane worked in 2011 with 192 associations with 7,431 members, of which 56% of the members are women. In practice there are many more informal associations, illustrating the need to have a good scoping and capacity needs assessment study. Table 3 presents a SWOT analysis of cassava farmers' organisations.

Table 3: SWOT Analysis of Farmers' Organisations in Cassava Value Chain

Strengths	Weaknesses
<ul style="list-style-type: none"> • Plenty of land for cassava production • Common field for joint costs (fuel for processing) and demonstration purposes • Farmers gather to improve marketing through processing and value addition. 	<ul style="list-style-type: none"> • Farmers are not organized around cassava but more in general if at all • Poor management capacity • No title deeds for cassava-farmed land • No cassava apex organisation for chain management • Very few specific farmers on cassava production, sometimes as part of other associations for the joint use of animal traction or acquisition of planting material.
Opportunities	Threats
<ul style="list-style-type: none"> • Moving up the chain in processing (flour, chips and <i>rale</i>) for industrial and bakery markets Chain management through contracts with industrial and bakery markets 	<ul style="list-style-type: none"> • Organisations in partnership with private sector run the risk to be overrun by private sector • Few if any large scale cassava producers for the market (some could have 5-10 hectares) making interaction for economies of scale and innovation difficult

362. **Capacity building needs.** Based on preliminary capacity needs assessment of farmer associations in the horticultural sector, to be confirmed during the scoping studies, the following capacity development needs were identified:

- Need for strong, well **established and functioning** farmers' organisation, which can sustain themselves
- Organisation in **unions and federations** which can have a voice in the chain and could develop commercial activities, also based on strong well organized associations. membership of platforms and partnerships.
- Strengthening of the **business orientation** of farmers' organisations. Many smallholders still produce primarily for household consumption or for the very local market.
- **Need for competitive cassava production requiring innovation.** The developing demand for cassava chips and cassava flour at competitive prices (comparison with wheat flour and other sources of starch) requires major innovation in the cassava chain, especially in terms of production (appropriate varieties, integrated soil fertility management, year round harvesting), processing and marketing. Learning new approaches will require strong interaction between farmers in FFSs and support from research and extension.

Red Meat Value Chain

363. Cattle and goat production is strongly concentrated in the Limpopo corridor in the Maputo and Gaza provinces, as well as in Western Inhambane and South-Western Maputo. Cattle and goats are kept by smallholders, as well as by larger entrepreneurial livestock farmers. The production objectives of these two broad categories of farmers are different: the family sector keeps cattle and goats as a low cost risk aversion and capital accumulation strategy, while the commercial farmers aim at livestock keeping as a source of income.

364. Although associations widely exist, and many members have cattle and goats, few are organized and registered directly for ruminant livestock production purposes. Smallholders are sometimes organized around the input supply for veterinary assistance, such as in dip tank associations (mostly not registered). Sometimes these are also supported by public extension and NGOs or other service providers (e.g. VETAID). The more entrepreneurial cattle and goat farmers are forming cattle fattening and breeders associations and cooperatives (e.g. Cooperativa de Criadores de Gaza, Associação de Criadores de Maputo and VETAGRO). In several districts in Gaza (Mabalane, Macia) and Maputo (Magude) provinces, such associations are known to be in various stages of development. These are often, loosely, organized in the apex organisation FENAGRI, which is not a livestock specific organisation.

365. Public extension services are working with associations to strengthen livestock marketing and access to inputs (particularly animal health provision). Access to economic services (e.g. transport) and direct contacts with buyers have received less attention. Moreover, value addition (such as fattening) and steps to retain value added at producer level (e.g. by weighing of animals, collective price bargaining, or concentration of selling effort) have not been tried. The interest of the referred small- and medium-scale commercial farmers' organisations (i.e. those connected to FENAGRI) is to develop the sector and enhance quality meat production (through fattening and breeding) for the domestic market. Interaction with the smallholder family sector is a strategy contributing to the same objective.

366. Table 4 presents a SWOT analysis of farmers' organisations in the red meat value chain.

Table 4: SWOT Analysis of Farmers' Organisations in Red Meat Value Chain

Strengths	Weaknesses
<ul style="list-style-type: none"> • Entrepreneurial livestock farmers organized for fattening and breeding purposes • Farmers sometimes organized for access to veterinary services. Collective use of crush pens for public sector vaccinations and for marketing, as well as dip tank associations for farmer-co-financed tick control. 	<ul style="list-style-type: none"> • Marketing and transport of livestock not collectively organized • Smallholders not organized for access and management of waterholes or rangeland management • Smallholders and their organisations have no sustained interaction with other actors in the value chain (no chain management), e.g. on quality of meat etc. • Smallholders and their organisations are not involved in additional functions in the goat and cattle meat chain (no control over slaughter houses), at best some service provision • Farmers are not used to pay for veterinary services • Livestock organisations are weak in organisation and management, more than others due to lack of collective goals.
Opportunities	Threats
<ul style="list-style-type: none"> • Interaction between small-scale commercial and smallholders for fattening and breeding 	<ul style="list-style-type: none"> • Rangeland and water access situation lead to conflicts between farmers and their associations

Strengths	Weaknesses
<p>purposes, as well as chain related services</p> <ul style="list-style-type: none"> • Organizing farmers around the rural livestock markets (Livestock Fairs) • The entrepreneurial livestock farmers are not only better organized for breeding and fattening purposes but also have strong chain relations with slaughter houses. 	<ul style="list-style-type: none"> • Livestock traders and notably butchers (partly overlapping) are organized, but face constraints in terms of trade credit and infrastructure • Goat and cattle keepers are not the same with implications for inclusion and gender

367. **Capacity building needs.** Based on preliminary capacity needs assessment of farmers keeping goats and cattle, to be confirmed, during the scoping studies, the following capacity development needs were identified:

- **Organisation of farmers.** Very few real smallholder farmers’ organisations yet in the livestock sector, often only as part of other multipurpose organisations. Need for the organisation in unions and federations which can have a voice in the chain and could develop commercial activities, also based on strong well organised associations.
- **Natural resource management capacity.** Farmers and their organisations have no clear management role in natural resources, such as range management, bushfire control and water access management.
- **Agribusiness orientation** in livestock production. Related to management of natural resources is the management of overgrazing etc. Related to this is the limited market orientation of livestock smallholders and hence limited knowledge on meat quality requirements and other market-related requirements.
- **Innovation.** Farmers in order to have a sustained income from red meat production, will require substantive innovation and mind set change. Farmer Field Schools can be instrumental in developing a better knowledge on management in general and disease, pest and rangeland management in particular but also on the interaction with animal feeding, markets and use of by products (such as hides).

Access to Non-Financial Support Services

368. The main source of agriculture support services in the three target value chains largely relies on public extension services, complemented by NGO services. However new forms of securing farmers’ access to services are emerging throughout the country, including in the Southern Provinces. These include Farmers’ Field Schools, but also outgrowers’ schemes, different types of service centres and private service providers offering access to services on a commercial basis. These new forms, which are reviewed below, are in line with the National Extension Master Plan (2007-2016), which promotes a pluralist approach building on public, private and civil society service providers, including market actors and input.

369. **Public extension services.** The National Agricultural Extension System is implemented through the District Services for Economic Activities (SDAEs). It has about 770 extension workers reported in 2010 (1 extension officer per 5,000 households). Hence public extension services are available to only a minority of small and medium farmers (from 4% in Inhambane to 7% in Maputo province, TIA 2008). Public extensionists largely apply a modified training and visit (T&V) approach, whereby an extension officer works with small contact groups. Progressively, the modified T&V approach is being replaced by more participatory and discovery-based extension approaches such as Farmer Field Schools and farmer-to-farmer learning in associations. District-based public extension lacks staff and financial resources and is centred on the production of food crops, leaving out critical elements such as cash crops, marketing, and management and strengthening farmers’ organisation. Other factors for weak service delivery include low motivation, logistical problems as well as low technical capacity.

370. The National Extension Programme (PRONEA) is being supported in the operationalisation of the Extension Master Plan at National, Provincial and District level by the IFAD-financed PRONEA Support Project (PSP). At district level the focus is on 42 priority districts, including Boane, Manhiça, Moamba in Maputo Province, Chokwe, Guijá, Chibuto in Gaza Province, and Inharrime, Morrumbene and Zavala in Inhambane Province. In these districts a detailed inventory of existing farmers' organisations and their capacity levels has been done. PRONEA is focusing on farmers' organisational development and on farmer enterprise development. Guidelines and manual are being developed for these programmes, while technical advice is provided and service providers are contracted. Similarly use can be made of the existing manual for Farmer Field School Development (in Portuguese) and manuals on Livestock Farmer Field Schools and Farm Business Schools (still in English), as well as other experiences (e.g. Farm Business Advisor concept of iDE).

371. **NGOs.** With a total of 815 extension workers, NGOs constitute an important source of advisory services to farmers. Like their public counterparts, these are largely focused on production support, and poorly address market linkages and related management functions. Besides, NGO services are unsustainable as their provision fully relies on external donor's funding.

372. **FFS.** Farmer Field Schools (FFS) were introduced in 2009 for farmer learning purposes and have shown very positive results. The FFS concept of farmer learning originally focused on integrated pest management and integrated soil fertility management, but increasingly also focuses on other sectors such as livestock or seed production (Livestock Farmer Field Schools, Groeneweg et al., 2006). As the importance of market-orientation and a mind-set change from subsistence objectives for production to an agribusiness perspective is recognized, also Farm Business Schools are developing (FAO, 2009). In Mozambique a total of 997 FFS, established with support from FAO, has been reported in 2008, which then grew to 1,115 FFS in 2010 (about 50% empowered), mainly in the three target provinces of Maputo, Manica and Sofala, but also some in Niassa and Cabo Delgado. Although many farmer facilitators have been trained (1,190 in 2010), no clear indicators exist as to the quality of assistance to FFS or the functioning of the FFS themselves. In Manica and Sofala, PRONEA interventions also seek to consolidate FFS and to facilitate the creation of District FFS networks that provide services and advice to an increasing number of interested smallholder farmers.

373. In Maputo Province, FFSs have been established by the Provincial Directorate with support from FAO and the Italian Government since 2004. A total of 169 FFS were initiated (in Matutuine, Boane, Moamba, Manhiça, Magude), of which 149 are still operational, but only 61 have actually graduated. Of the 40 micro-projects submitted by these, 20 projects were approved and financed by the referred programme. Most of the projects are on chicken and horticultural production (use of irrigation pumps). The total number of beneficiaries in the programme amounts to 4,429 smallholders, of which 76% women. Over the years, 167 FFS farmer facilitators have been trained as well as 34 extensionists. Farmer FFS facilitators are located in the Districts of Boane (51 facilitators), Matutuine (59 facilitators) and Manhiça (22 facilitators) and Moamba (19 facilitators) (SPER, 2011). In the Maputo Green Belt an additional five horticultural and largely female FFS are operational. The existing FFS capacity can be tapped into by PROSUL, but will need upgrading in terms of capacity development (business orientation, other commodities, farmers' organisation development).

374. Although no FFS have been established in Gaza and Inhambane in 2011, a total of 63 demonstration pilots in horticulture were established with associations in Gaza, which benefitted 1,931 families (involving 64 % women). The use of often collectively managed demonstration plots with farmers' organisations could be used as an entry point for the introduction of the FFS approach.

375. **Outgrower schemes.** In an outgrower scheme, farmers deliver their production to a large-scale farmer, trader or a processor along contractual arrangements specifying a pre-determined price and a predefined quantity and quality (prices varying with the quantity and the quality delivered). Generally, contract farming also includes the provision by the large farmer/trader/processor of services such as agricultural inputs required by producers to deliver the agreed production, as well as

some technical assistance. Inputs are bought by the trader/collector or the processor, who provides them to the producers and deducts their cost from the final price.

376. The design mission identified several examples of outgrower schemes in **horticulture** in the Southern Region:

- *Horta Borges in Moamba*. The private entrepreneur has leased from the District Government five 50 m³ (total 250 m³) cold storage containers for the storage of potatoes (the price is 50% higher at Christmas, two months after harvesting) and of “seed potatoes” for the next growing season. Smallholders can also store there for a fee, but this is not yet happening much in practice. The private farmer is interested to provide more storage and packing house services to smallholders;
- *Piri-Piri Elefante* in Marracuene provides chili plants to smallholders and buys back the produce. In practice service provision has started (basic production course and some further technical advice), but buy back has been limited due to flooding and side-selling;
- *AgriSul in Chokwe*. Agrisul also provides chili plantlets to outgrowers, as part of a contract for chili production and sugarcane production
- *A private firm (Van der Merwe) in Nhacoongo* in Inharrime District runs an outgrowers’ scheme for the production of baby and sweet corn, which is packed in the central Nhacoongo packing house for export through MozFood.

377. Other potential interest exists with commercial farmers in some of the areas proposed for PROSUL intervention, notably in Marracuene (a commercial farmer wants to start a packing house, and a APOJ (Positive Youth Association) is supporting a local association to set up a horticultural packing house, run by the, APOJ) and in Chokwe/Guijá (a private farmer wants to support small-scale tomato producers with marketing and input supply services, while South African company LONHRO is investing in a new tomato paste factory which will contract tomato growers).

378. Aside from outgrower schemes, various options exist in terms of interaction between large and medium scale horticultural producers’ organisations and small-scale farmer’s organisations. UNAR-Chokwe intends to become an association representing both small and larger scale commercial farmers and start operating a business centre. AgriGaza, currently in Guijá, but with ambition to become a provincial organisation, aims to start its own input supply centre for both small-scale and medium-scale horticultural producers, while Agrarius (largely in Maputo province) is considering itself to be a lobby platform for improved access (pricing) of inputs for horticultural production.

379. In the **cassava** value chain, there are no examples of outgrowers’ schemes but several possible opportunities were identified by the design mission:

- Some cassava flour processors (UNIDO plant with a Mozambican-Dutch-South-African Consortium, Asian Mozambican entrepreneur) are planning to start a factory in Inhambane, and they would be interested in signing contracts with suppliers of cassava chips. This can be from semi-processing units run by associations, as well as by supply from private farmers. Cleanstar and the upcoming flour factories will follow this model. Higest is not interested in providing services but still wants to buy chips and will therefore need contracts for chip supply.
- Some private investors have become interested in cassava production e.g. Madal and Piri-piri Elefante through a rapid multiplication contract of cassava cuttings with SabMiller. The referred investors might be interested in outgrowers’ schemes for cassava production.

380. **Service centres**. Different models are emerging in which smallholder farmers and their organisations have access to an integrated supply of services provided under one single umbrella, the service centre. The Mozambican Government policy endorses the development of service centres run

by private sector and farmer associations (PEDSA 2011-2015). The PEDSA refers to the establishment of Agricultural Service Centres, which are centres where farmers can have access to all kinds of services for the implementation of their business plans. Furthermore the National Programme for Agribusiness Development (PNDA) foresees the development of agribusiness centres in priority economic clusters along economic growth corridors. CEPAGRI's Mechanization Strategy also foresees the establishment of service centres, which result from public-private partnerships and provide storage space, input supply, workshops and a wide variety of services (legal, technical, financial, organisational support and mechanization services). Finally, UNAC plans for the development of District Union Service Centres in its national strategy and FENAGRI supports the development of *Casas agrárias* under public-private (farmers) management (FENAGRI, 2011).

381. Service centres are developed by a range of different actors, along different appellations and concepts. Some already existing experiences are:

- *Casas agrárias* are currently mainly farmer-owned centres (in the past these were public sector managed centres). The centres are also often farmer managed with privately run input supply shops, tractor services, as well as income generating processing equipment (e.g. maize and rice mills). Examples of these are found in Xai-Xai along the Baixo Limpopo Irrigation Scheme (initiated by AfDB funded project), but also in Bilene and in Niassa (supported by Oikos).
- *Business incubators* provide coaching of farmer entrepreneurs or entrepreneurial farmers' organisations in developing their business e.g. the development of business plans; facilitating access to credit, but also on technical issues. The business incubation process can also be through a service centre. This is implemented by the Escola Superior de Negócios e Empreendedorismo de Chibuto (ESNEC), which has started an Agri-Business Centre as part of its Bachelors Trade Academy in which teachers and students attend the demand for business development and technical services by local entrepreneurs and farmers' organisations.
- Others support a *business incubation process* such as Miruku (Cooperative of business development coaches), Technoserve (international NGO) and InfoDev/World Bank (planned). They provide business incubation services, although not for the poorest farmers through the strengthening of entire agribusiness sectors such as poultry, cashew, banana, lentils, soybeans.
- *District Service Centres* are run by some UNAC's District Unions with technical advisory and training services (Chokwe, Marracuene) and input supply services (Marracuene).

382. Other experiences are just starting or are on the drawing table:

- *Maquicentros* are centres being started up in some districts in Nampula with private sector managed equipment leasing, as well as research and technical services, and input and financial service delivery.
- *Rural Business Centres* are planned (SNV) with services (e.g. for banana and mango production in Boane and Manica) such as input supply; equipment supply and maintenance; extension and financial services; handling and storage; insurance; logistics; sales and market development brokering. Three business models are foreseen: (i) a Local Private Sector Player (as in outgrowers' schemes); (ii) an experienced Rural Business Centre Player; and (iii) Social Private Equity Fund financing the centre;
- *Nucleus farming and processing hubs* are planned to provide access to inputs, value-adding facilities and markets for smallholder farmers in the vicinity, either through standard outgrower arrangements or through joint venture partnerships (BAGC). The current BAGC service hubs in Beira and Chimoio focus on information services and are administered by the public-private partnership and are as such expected to guarantee sustainability.

383. In all service centre experiences sustainability is a key issue, requiring an income generating activity. A concern is also the level of inclusion for the presented service centres, as mostly the slightly better-off or even medium-scale commercial farmers are reached. Experiences show that public-sector owned centres proved not to be sustainable, while commercial activities within the service centres, which were run by associations were also not sustainable.

384. In the horticulture sector, existing service centres have been developed in connection to irrigation schemes. The following examples were identified by the design mission:

- *Boane*. The Massaca water use association (electrical pumps) runs a Casa Agrária with storage capacity and office space. An entrepreneur provides tractor services on the Casa Agrária compound;
- *Moamba*. Block 1 Association has invited two private agro-dealers to provide services on a competitive basis. Bindzu, a private service provider (see below) also provides tractor hire services. The association compounds has some packing house and cold storage equipment, which is however not yet operational.
- *Marracuene*. UNAC's District Union of Association (40 associations) has contracted a technical advisor for providing training to its member associations. The Union runs a store for seed supply and has more plans for service delivery. Relation with the private sector (e.g. Piri-Piri Elefante) is still problematic, due to poor communication on what an outgrower scheme is, as well as potential land disputes.
- *Namaacha*. Pala Wassokoti Association, supported by GVC (an Italian NGO,) runs a fruit processing plant, which is seen as an example of farmer empowerment by UNAC. The ownership of the plant has been gradually transferred to the association, strongly emphasizing capacity development.
- *Chokwe/Guijá*. The *União de Associações de Regantes* (UNAR) plans to open in its premises a privately run agrodealer shop in Chokwe to supply reasonably priced inputs to members. AgriGaza (medium scale commercial farmers association) is considering joining the initiative;
- *Nhocoene (Poiemba, Nyakweni, Chongoene)*. Several Casas agrárias (8 in total, 3 were visited), set up with AfDB support, exist with a variety of functions, and variable in terms of performance. The most successful elements are: (i) centres are administered and partly managed by the farmer association; (ii) some have income generating activities such as processing (maize mill and rice mill, sale of vegetable seedlings); (iii) some have a privately-run input supply centre; (iv) several provide technical assistance through the extension officer, often a member of the association; (v) some also have tractor service provision, but maintenance and spare part supply needs improvement. Insufficient support to farmers' organisations in charge of management have led to mixed performance and sustainability of these centres.

385. In the cassava value chain, there are no examples of service centres as such, but there are a few, small associations providing some services to members. The following examples were identified by the design mission:

- The *Josina Machel Association* (Inharrime, Inhambane) is small with 9 members (5 women). It has a collective shed with *rale* and chips processing equipment, as well as a collective field of 12 ha of cassava (for financing the processing operations), while each member grows 2-3 ha of cassava. The association also leases out oxen with ploughing equipment.
- The *Adecha association* (25 members) in Zavala has signed a contract with Petromoc for the supply of cassava biscuits to all fuel station shops in Gaza and Inhambane. The business uses relatively small amounts of cassava flour (high quality) but margins obtained on the biscuits are attractive. The *Matimbine Association* (33 members) in Manjacaze District, Gaza, has been supported by Save the Children with a well-situated potential service hub for cassava processing (equipment yet to arrive, and no water or electricity supply) and fruit processing unit (yet to be

purchased). Members have been trained in processing and are producers of cassava (some 5 ha each). Their business plan is to produce quality fresh tubers for the market (trucks come to collect these), process the rest into rale and use the left-overs for their piggery.

386. All units complain about the shortage of water (only Josina Machel, has some rainwater harvesting system). All try to get some additional added value to the *rale* or cassava flour. Three Districts were visited, others units reportedly exist in other districts. The scoping study needs to analyse further the viability of such centres and the opportunities for using these as service hubs.

387. **Private service providers.** Increasingly private service providers are operating, notably in the horticultural and livestock sector. Earlier reference was also made to rapid multiplication of cassava cuttings by private entrepreneurs contracted by SabMiller. Some other examples are:

- Tractor hiring services. Many private service providers exist providing largely land preparation services e.g. Bindzu in Moamba;
- Input supply services by private entrepreneurs opening agrodealer shops in association administered service centres (e.g. Moamba and Chongoene) or the supply of veterinary drugs (e.g. Vetagro);
- Private entrepreneurs have also entered the market of production and sale of vegetable seedlings (e.g. hybrid plantlets and hot pepper seedlings).

388. Along with the input supply and other services comes the embedded technical advice. An example of this is Bindzu. This group of young university graduated entrepreneurs provide apart from tractor services and inputs, also technical business development advice.

II. CAPACITY DEVELOPMENT OF FARMERS' ORGANISATIONS

A. General Objectives and Activities

389. Farmers' organisations have an important role to play in value chains, not only as an actor in a number of value chain functions, but also in terms of chain management and chain governance. Farmers' organisations need to be empowered for achieving adequate chain integration (i.e. the involvement in different functions in the chain beyond only production) as well as have capacity in chain management (e.g. in negotiation with other chain actors, but also service providers and policy- and decision-makers). In practice this will translate into capacity development of farmers' organisations through development of individual capacities and skills (e.g. leadership, accounting skills etc.), organisational capacities (strengthening associations, unions and federations) and institutional capacities (capacity to interact through adequate mechanisms with other chain actors), as well as capacity to run a commercial entrepreneurial activity.

390. **Chain management.** Farmers and their organisations are to develop capacity to enter into chain partnerships, to participate in value chain platforms and to influence chain policies and planning, at the local, regional and national level. Capacity development programmes for strengthening chain management capacities will have the following main components:

- District-based inventory of farmer organisations and membership in each of the three value chains, as part of the scoping studies;
- Strengthening internal coherence allowing group learning and self-reliance of groups, including group dynamics, gender mainstreaming and inclusion;
- Clarifying organisation's objectives/services to be provided to members, and strengthening organisation governance;
- Supporting the networking of organisations into second tier organisations and unions;
- Strengthening the role of organisations in local (value chain) innovation platforms for chain priority setting and action planning;

- Support for graduation through legal registration of farmer organisations.

391. **Chain integration.** Farmers and their organisations integrate vertically into the chain by getting involved in other functions in the value chain such as marketing and processing, service provision, such as input supply and extension services. Associations or cooperatives to succeed in this will need bankable business plans, a bank account, a title deed (DUAT) and could have shares in privately operated service hubs and agribusiness development centres. In order for farmers' organisations to have such a role, capacity development will focus on the business orientation of associations and cooperatives with the following main elements:

- Transformation of producer groups into profit-making farmer organisations (registered associations and cooperatives);
- Training in business planning and development, administration and financial management;
- Facilitation of linkage and access to other sources of assistance, including related projects in rural finance and assistance for enterprise development and NGO schemes for crops and livestock improvement and ownership;
- Preparation of associations for agricultural service provision;
- Building of capacities required to participate in hub's governance structures, including reading and interpreting annual balance sheets and management reports, participating in General Assembly, participating in Board of Directors...).

392. **Innovation.** One of the main elements in successful competitive chain development is agricultural innovation. Farmers' associations will have a central role in this at the district level through the local multi-stakeholder innovation platforms that will be established with PROSUL support. Group learning for enhanced production of quality produce on the basis of market requirements and through an agri-business orientation will be addressed through the FFSs. The learning process will be supported in each of the associations involved for both male and female members and will build on existing MINAG experiences, as well as association experience with collective demonstration fields. The process will be facilitated by contracted FFS facilitators, who will train farmer facilitators for each of the farmers' organisations and provide some local funds for the FFS processes.

393. **Capacity development programmes.** Farmers' organisations will be supported through tailor-made capacity building packages to acquire the technical and management capacities as well as the financial resources allowing them to become sustainable, profitable organisations, able to sustain contractual arrangements for producing and marketing. Capacity building programmes for each organisation will be based on prior capacity needs assessment and on a simple production/business plan defining organisations' objectives for integrating the value chain. Capacity development programmes will be organized around the service hub or cattle fair, hence will involve the service hub technical advisor, as well as the value chain service, and/or any specialist contracted based on needs. Capacity assessments will be repeated annually (initial one to be carried out by the LSP, then by hub's technical advisor) in order to monitor the progress and adjust the programme.

394. **Coaching and graduation process.** Capacity development is more than just training of individuals, farmers' organisations and the platforms and alliance in which they participate. It is a process in time, with milestones and graduations, and that requires coaching. Farmers' organisations involved in the programme will be developing capacity over time along specific graduation trajectories, aiming at the following outcomes (not necessarily in chronological order): legalization of the association or organisation; active participation in value chain innovation platforms and regional value chain platforms; development of bankable business plans; bank account; title deeds (DUAT); enhancement of market-oriented farming as a competitive business.

395. **Value chain specific challenges.** Each value chain will have its own specific demands and requirements in capacity development. This will be further assessed for the three main components in

the upcoming scoping studies. Capacity development plans for farmers' organisations (chain management, integration, innovation and graduation process) need to be integrated into the Value Chain Development Action Plans (VC DAPs). Specific roles in the different value chains are foreseen to exist in relation to water user associations in the horticultural value chain (with an operational plan and maintenance and scheme management plan) as well as producers' organisations (storage), cassava producers' organisations (processing and input supply of sticks), livestock producers' organisations (water access and rangeland management as well as involvement in district cattle fairs). The programme would start with a chain and district specific capacity development assessment, which would be repeated annually in support to the graduation process.

396. **Gender.** The general trend in development from more general associations (for access to land and water) into more entrepreneurial producer associations and cooperatives has consequences for the gender balance. Although associations have a strong women membership (around 70%), evidence suggests that emerging small-scale commercial farmers' organisations have a reduced number of female farmers. The FENAGRI associations have fewer female members, while the emerging cooperatives in Nampula with members providing capital, also have less female members than the associations where they come from. UNAC has focused on gender in its strategy and notably on leadership and entrepreneurial activities by female farmer members. PROSUL needs to target women with at least 40% quotas in training programmes (leadership, business plan development, FFSs). Capacity building programme will also make sure that organisations develop inclusive and gender equitable activities and services and that women make up at least 40% of decision-making structures.

Main Activities

397. **Horticulture.** Activities in the horticultural value chain will be implemented in 19 small-scale irrigation schemes over six clusters: Moamba, Marracuene and Namaacha/Boane in the Province of Maputo, and Chokwe/Guijá, Manjakaze, Chibuto and Xai Xai. The capacity development programme will focus on the related 19 WUAs and corresponding producer associations (average membership of 100-200 members).

398. **Cassava.** Activities will be implemented in six districts: Massinga, Morrumbene, Jangamo, Inharrime and Zavala in the province of Inhambane, and Manjacaze in the province of Gaza. On average there will be 30 associations of 40 members in each of them, who would benefit from new marketing opportunities and new production and processing technologies. The capacity development programme will therefore gradually address capacity needs of 180 associations, which might be eventually clustered in 10-20 Association Fora or District Unions.

399. **Red meat.** Activities will be implemented in seven districts: Manhiça and Magude in Maputo Province; and Chokwe, Guijá, Mabalane, Massingir and Chicualacuala in Gaza Province. There will be on average 560 farmers participating in each district.

400. **Main activities.** Main activities across the value chains will include:

- Capacity **needs assessment** and annual update in each cluster. In the cassava value chain, a particular challenge is the federation of the many spread out small associations i.e. the development of bridging social capital;
- Training of **water use associations** in water management and irrigation scheme maintenance: participatory irrigation scheme design and supervision of work; scheme operation and maintenance and related planning; and pump operation and maintenance⁸³ ;

⁸³ See Annex 4, Section 1, Attachment 1, Irrigation.

- **Organisational capacity** development for each association targeted, for the main capacity development challenges identified in the needs assessment (chain management), including responsiveness to members, including women, registration of organisations, linking up with innovation platforms
- **Agribusiness and market orientation**, including preparation and implementation of business plan based on identified business opportunities and a simple production/business plan, development of linkages, capacity building to participate in service hub's governance structure.
- **Establishment of Farmer Field Schools** within each of the associations and training of FFS facilitators.
- **Regular coaching** to follow up on capacity building training sessions and to participate in Innovation Platforms.

Implementation Arrangements

401. The capacity development programme for farmers' organisations will start in line with the establishment of the service hubs.

402. **Capacity assessment and development.** The first action will always be an identification and detailed assessment of farmers' organisations, building on the initial scoping studies, which will be updated as needed. This initial assessment will also provide baseline data to feed the project M&E system. A capacity building programme will be defined jointly with each farmers' organisation, in line with a simple production/business plan defining specific objectives. The capacity building programme will identify capacities to be built, with relative activities, timeframe and indicators. It will include trainings and regular coaching. It will be progressively developed along a graduation trajectory that will build on annual assessments.

403. **Lead Service Providers.** In each value chain, the LSP and partnering organisations will be responsible for all the service provision in the value chain based, on priorities identified in the scoping studies and embodied in the Value Chain Development Action Plans (VC DAP). The LSP will also be responsible for the capacity development programme for farmers' organisations, together with hubs' managers and technical advisors, and with irrigation staff in the horticulture value chain. Additional resources will be contracted for training and coaching sessions. The LSP will also be responsible for the development of the training content and coaching guidelines, building on existing material with different NGOs (SNV, Technoserve, CLUSA, IDE...), farmers' apices (UNAC, FENAGRI and AMPCM) and notably also with PRONEA. It will work in close coordination with PRONEA, particularly in districts of common intervention. These are: (i) for horticulture: Moamba, Boane, Chokwe/Guija, Chibuto; (ii) for cassava: Inharrime, Morrumbene, Zavala; and (iii) for red meat: Manhiça, Chokwe and Guijá.

404. **Service hub technical advisor.** The service hub/fair technical advisor will be in constant contact with the farmers' organisations serviced by the service hub and involved in its ownership structure. The hub technical advisor will be responsible for facilitating and coordinating all capacity building activities for ensuring the coaching role in terms of organisational development, business development and technological innovation. S/he will be assisted by FFS farmer facilitators and backstopped by the LSP and contracted additional resources.

405. **FFS.** A special FFS programme will be developed at each service hub, to support farmers' acquisition of technical and management skills in key areas as identified in the VC DAP and capacity building programmes. For each service hub the technical advisor and a number of farmer FFS facilitators will be trained by qualified FFS trainers in FFS facilitation, as well as on the logistical arrangements (e.g. FFS fund to be managed by the association). The hub's technical advisor will bring continue guiding and coaching to FFS facilitators, with backstopping from the FFS specialists from the Support Unit for FFS set up by PSP in the Provincial Directorates for Agriculture.

406. **National farmers’ organisations.** The national apices of farmers’ organisations (UNAC, AMCPM, FENAGRI) are keen to be involved in the programme and particularly in the organisational and agribusiness capacity development of the programme. UNAC also gives priority to the FFS concepts through its emphasis on study circles. The national apices need to be part of the value chain stakeholder platform, while their local representatives will be part of the local innovation platforms. All apices work with farmer facilitators and trainers, who operate on a voluntary basis. National apices are keen to be involved in organisational and agribusiness capacity development initiatives and the LSP will review possibilities to associate them.

407. **PMT.** The Project Management Team includes an Agribusiness Expert and a Targeting and Gender Expert. The Agribusiness Expert will provide guidance to LSPs for the preparation, implementation and monitoring of annual Value Chain Development Action Plans (VC DAPs), including for the promotion of entrepreneurial skills in farmers’ organisations. The Targeting and Gender Expert will provide guidance so that capacity building programmes for farmers’ organisations cover activities needed to make them inclusive and gender equitable and to ensure the involvement of women in the membership and leadership of the more agribusiness-oriented farmers’ organisations.

Costs

408. A financial envelope is provided in each of the three value chain-based components to cover the costs involved in strengthening farmers’ organisations capacities. Indicative costs have been calculated as shown in the following tables.

Table 5: Indicative costs for the horticulture component

Activity	Unit costs in USD	Per cluster	Total costs in USD
Needs assessment	Initial survey: 2000 Annual monitoring: 1000	USD 7 000	USD 49 000
Organisational capacity	5 sessions of 500 each for each associations; 3 associations per cluster; 200 registration each association	USD 9000	USD 63000
Agribusiness and market orientation	8 sessions for each association at 500	USD 12 000	USD 84 000
Farmer Field Schools	Training of horticulture FFS facilitators FFS for each association at 500/year	USD 7 000	USD 49 000
		USD 9 000	USD 63 000
Trainers costs	60 training/coaching days each cluster at 200	USD 12 000	USD 84000

Table 6: Indicative costs for the cassava component

Activity	Unit costs in USD	Each of 6 District hubs	Total costs (in USD)
Needs assessment	Initial survey: 2000 Annual monitoring: 1000	USD 7 000	USD 42 000
Organisational capacity	Training sessions at 500 USD for each of 30 associations per district hub	USD 15 000	USD 90 000
Agribusiness and market orientation	Training sessions at 750 USD for each of 30 associations per district hub; 100 registration each of 30 associations per district hub	USD 25 500	USD 153 000
Farmer Field Schools	Training of cassava FFS facilitators FFS for each association at 500/year	USD 7 000	USD 42 000
		USD 10 500	USD 63 000
Trainers costs	60 training/coaching days for each service hub at 200	USD 12000	USD 72 000

Table 7: Indicative costs for the red meat component

Activity	Unit costs in USD	Each of 7 Cattle Fairs	Total costs (in USD)
Needs assessment	Initial survey: 2000 Annual monitoring: 1000	USD 7 000	USD 49 000
Organisational capacity	Ten training sessions at 500 USD for each association connected to a district cattle fair. Registration of associations (2 for each cattle fair)	USD 10 000 USD 200	USD 71 400
Natural resource management capacity	Five training sessions and coaching for 2 associations for each cattle fair at 500 for each association	USD 5 000	USD 35 000
Agribusiness and market orientation	Ten training sessions and coaching at 750 USD for each association connected to a district cattle fair.	USD 15 000	USD 105 000
Farmer Field Schools	Training of livestock FFS facilitators FFS for each association at 500/year	USD 7 000	USD 49 000
Trainer/coacher costs	60 training/coaching days for each service hub at 200	USD 6 000	USD 42 000
		USD 12 000	USD 84 000

SECTION 8 – LAND TENURE SECURITY

I. CONTEXT

A. Policy and legal framework

409. While the state retains ownership of land in Mozambique, provision was made in the late 80s for the awarding of concessionary leases including to foreign investors. In the early to mid-90s concerns were raised regarding the risk of land speculation and the loss of land rights, especially by rural communities resulting from the awarding of concessions. The 1995 Land Policy and 1997 Land Law provided for the recognition and registration of land rights of communities and occupants in “good faith” and introduced the requirement for community consultations in the awarding of land concessions. Under the Law the state retains ownership of land but users can acquire use and benefit rights (*Direito de Uso e Aproveitamento de Terra - DUAT*). Although the Law provides for the awarding of DUATs to individuals, in practice this is still mainly confined either to urban residents or in rural areas to larger investors rather than to smallholder farmers or members of rural communities more broadly. In general for rural people the emphasis is still on recognizing group rights, either as communities or as associations but the latter option does provide more for the recognition of members’ rights. Women are able to own and inherit land in their own right but there is no explicit requirement for the registration of co-spousal ownership. Rights and concerns have been expressed that an emphasis on community rights in rural areas tends to entrench traditional authority which may work against the interest of women and youth.

410. Although a DUAT is essentially the same right for all users, the way it is acquired and the conditions and terms under which rights are granted differs between different types of users. In rural areas, for communities and good faith occupants, their rights are automatically recognized under the Land Law for the duration of their use – effectively in perpetuity. Registration of community rights is typically referred to as a community land delimitation or a community DUAT. For other users, the right is awarded as a land concession by the state for a specified purpose and a fixed time period and is subject to a community consultation. There is some difference in interpretation as to whether the consultation implies that the community must approve the awarding of a concession or just that it is consulted but it is generally interpreted that the community should approve the awarding of a concession. In the case of individuals or companies external to the community, depending largely on land use and area, a concession is typically awarded for 50 years, renewable for another 50 years and is subject to the approval of a business plan and the payment of an annual land lease fee, generally referred to as a land tax. In the case of small-holder farmers or social welfare associations, a concession is also typically awarded for renewable 50 year period, subject to the approval of a use proposal/business plan and a community consultation, but is exempted from payment of an annual land tax/lease fee.

Current status of the recognition of land rights

411. Since the late 80s the rate of awarding of concessionary DUATs has fluctuated but steadily increased. Concerns have been raised that many, especially earlier concessions have not implemented their business plans as originally proposed and in some cases over-lapping concessions have been granted for the same piece of land. Concerns have also been raised regarding the adequacy of community consultations prior to the awarding of concessionary DUATs. In 2001 several concessions were cancelled. Since then numbers have steadily increased. More recently concerns have been raised regarding the significant increase in interest in large-scale land acquisitions mainly by foreign investors, in particular for bio-fuel production. By the end of 2010 it is estimated that 23,000 concessionary DUATs for 3.2 million ha of land have been given final approval⁸⁴ (see Attachment

⁸⁴ Source: World Bank Inception Report on Large Scale Land Acquisitions in Mozambique, 2010.

VI). Of these, about 7,000 are rural for 2.4 million ha. The number of concessions applications made and given provisional approval is not known for the whole country but an analysis of the applications in Maputo, Gaza and Inhambane (see below) suggests that only a very small number of applications thus made have been approved. Hence it can be expected that a significant number of additional applications will be approved in the coming years.

412. Similarly, the rate of community land delimitations has fluctuated but climbed steadily over the years. By 2010, some 305 community DUATs have been awarded (see Attachment VI). The total hectareage of these is not known as there is no data readily available for Maputo and Cabo Delgado. However for the remaining provinces there are 275 community delimitations for 9.6 million ha, giving an average of about 35,000 ha per community. Financial support for community land delimitations has mainly come from donors. In 2006 the Community Land Fund (*Iniciativa para Terras Comunitárias- iTC*) was launched to provide support to communities and farmer associations mainly for community land delimitations, the awarding of concessionary DUATs to associations and community-based land use and economic development planning. The fund has mainly been supported by DFID, the Dutch Embassy, SDC, Irish Aid, SIDA, DANIDA and MCC and operates in Cabo Delgado, Gaza, Manica Nampula, Niassa and Zambezia provinces. It is presently managed by KPMG with technical support provided by the UK-based Natural Resources Institute (NRI) and the Mozambican Centro Terra Viva (CTV). By March 2014 it is expected that the iTC will be established as an autonomous, legally registered institution with national coverage, although it is also anticipated that it will require a further 5 years to develop adequate capacity.

Land tenure security issues for PROSUL

413. **Concessionary DUATs.** By the end of 2010 there were 26,600 concessionary DUATs either approved or in the pipeline in Maputo, Gaza and Inhambane, totalling 5 million hectares⁸⁵ and covering about 30% of the total land areas or 26% of the total rural land areas for the three provinces. However, it would seem that for Maputo Province, concessionary DUATs cover about 53% of the total area (see Attachment VI). Thus far only 0.7% of all applications or 344, covering 37,400 ha have received final approval – 230 being rural for 36,000 ha (see Attachment VI). About 19,000 (72%) have received provisional approval for 3.7 million ha, of which 6,800 are rural for 3.5 million ha. A balance of 7,000 (26.7%) have been lodged for ±1.3 million ha, of which 2,400 are rural for 900,000 ha. It must be emphasized that not all DUAT applications will be approved. Past experience suggests that many could be cancelled. Nevertheless the large number given provisional approval and the amount of land covered could raise concerns for the future development of the smallholder farming sector in the three provinces.

414. Of the total number of concessionary DUATs either approved or in the pipeline, about 9,400 are rural (35.5% the number of applications), covering 4.4 million ha (88% of the land area) and 17,000 are urban (64.5% the number of applications) covering 610,000ha (12% of the land area)⁸⁶ (see Tables 6 and 7). Most the urban DUATs are for residential purposes and are mainly in Maputo province, presumably mainly in and around Maputo city. Of the rural concessionary DUATs, 61.4% are in Maputo Province, 19.4% in Inhambane and 19.2% in Gaza but the Gaza DUATs make up about 45.8% (2 million ha) of the land area (see Table 8). Of the rural concessionary DUATs, 35% are for crop farming (11.7% of the land area), 38% are for crop & livestock (17.7% of the land area), 14.6% are for livestock farming (30.1% of the land area), 7.8% are for tourism (14% of the land area) and 0.3% are for forestry (2.5% of the land area) (see Attachment VI). The average area per concession varies significantly between land uses: wildlife = 10,000 ha, forestry = 2,100 ha, livestock = 1,000 ha, tourism = 440 ha, crop & livestock = 310 ha, and crop = 135 ha. For about 4.1% the land use is not known as they are still being processed. They account for about 23.4% of the land area, with an

⁸⁵ About 141 applications do not have areas indicated in the data source, which is considered statistically negligible. There are also 315 applications for just over 1 million ha whose land use is not known, which is statistically significant.

⁸⁶ The disaggregation of DUATs into urban and rural has been done according to land use (farming, forestry, tourism and other for rural and residential, social/welfare, commercial and industrial) and to land size. Hence it is only indicative.

average size of about 3,300 ha, suggesting that these are very large concessions possibly either for wildlife forestry, livestock or tourism or a combination of these uses. It is also possible that the areas being requested will be reduced as they are assessed for approval.

415. **Community DUATs.** About 52 community DUATs have been approved for delimited communities. Of these, 22 (44%) are in Gaza and cover about 460,000 ha (an average of about 21,000 ha/community), 11 (21%) are in Inhambane covering about 588,000 ha (about 31,800ha / community) and 19 (37%) are in Maputo Province although the hectareage is not known. (See Attachment 8).

416. **Key challenges and opportunities.** Concerns have been raised that the information on the number and status of concessionary and community DUATs is not up to date or readily available. Further concerns have also been raised regarding the possible negative impacts that the awarding of large land concessions to both national and international investors could have on the outcomes of PROSUL. At the same time, outside investors could contribute positively to the development of the value chains being targeted under the project. Information on existing and pipeline concessionary DUATs for both outside investors and local farmer associations and community delimitations in PROSUL's areas of operation needs to be compiled and mapped. There is a need for identifying and mapping investment "hot spots" and for anticipating their possible impact on the project. Community-based planning processes relevant for the development of value chains need to be strengthened, including: i) community involvement in the identification of farming and grazing blocks being used by associations; ii) the integration of spatial information on existing and planned land use and the development of infrastructure, facilities and services; and iii) community involvement in ensuring land use plans are adhered to. Measures for recognizing land and natural resource rights of the project's target groups need to be strengthened. This should include civic education on the Land Law and associated legislation relevant for securing land and natural resource rights and a focus on women's and youths' land rights. Across all three value chains there is a need for strengthening community-level land use zoning and planning and for considering measures for improving land access by poorer people, women and youth.

417. In the horticulture sector there is a risk that land in rehabilitated or new irrigation schemes will be allocated to better off people at the expense of the project's target groups. There is a need for strengthening community involvement in ensuring an equitable allocation of land in such schemes and for the regulation and administration of plot allocations by Water User Associations. This should be linked to a process of strengthening WUA's ownership and responsibility for managing irrigation schemes. Similarly in the cassava sector there is a risk that either land is allocated to outside investors for competing land uses or that interests in large-scale cassava production, for example for ethanol production, leads to increasing competition for land suitable for cassava production. In the livestock sector there is a need for identifying and demarcating grazing lands and for developing and enforcing community and livestock association grazing / browsing and water use regulations and by-laws. This needs to consider that grazing/browsing areas and water access may cut across several communities. Stock routes should also be mapped and regulated.

• PROJECT RATIONALE AND APPROACH

418. Equitable access to land, secure land rights and sustainable land management are essential for the success of PROSUL. PROSUL will support measures aimed at strengthening land rights of the project's target groups and strengthening the management of land use by associations and communities. These measures will be integrated into the support provided to various value chains.

419. They will include:

- Mapping existing and planned DUATs and investment hot-spots;
- Providing support to communities and farmer associations in analyzing land tenure needs and mapping existing and planned land use;
- Recognizing and registering land rights.

420. Options for recognising land rights will depend on the particular needs of different associations involved in the various value chains. **Agreements on land access and use rules, procedures and by-laws for associations will be reached prior to any major investments being made by the project.**

421. Priority in registering rights will either be given to all associations involved in irrigation schemes in the horticulture value or to those in areas where there is a significant interest from external private sector investment or to those who are holding major shares in hubs. In the case of associations involved in the Red Meat value chain it is anticipated that the focus will be on demarcating grazing and browsing lands and documenting internal rules of use and access rather than on registering rights. Hence it is anticipated that all livestock associations could be covered but that the level of support provided would be less. Despite this prioritisation it is expected that all associations supported by the project will at least benefit from civic education regarding land tenure related policies and legislation and be supported in analyzing their land tenure issues and in mapping their existing and planned land use. This support will either be provided directly for priority cases by a Land Tenure Service Provider (LTSP) contracted by the PMT or over time by the Lead Service Providers (LSP), based on guidelines and technical back-up / training provided by the LTSP.

422. Those associations not directly supported by the project to obtain a DUAT will be assisted to approach the iTC for assistance, once it has become sufficiently operational in the areas covered by PROSUL. Part and parcel of the general support provided by the LSP would include support in formulating association development plans, which will provide a strong basis for an application for assistance from the iTC. Given that the iTC, guided by multi-stakeholder district and provincial structures, is expected to prioritise areas with the greatest demand in terms of agricultural potential, investment interest and potential for conflicts; it is expected that associations supported under PROSUL will have a strong likelihood for being prioritized by the iTC.

Expected outcomes

423. The expected outcome of project interventions will be that project beneficiaries will have equitable access to land and secure land rights.

424. The indicators of success will be:

- The difference in the amount of land that poorer members, women and youth in an association have access to from the average and maximum amounts of land that other members in an association have access to with a low level of difference considered favourable.
- The level of disputes or conflicts over land rights within associations, within communities or between associations and outside investors, with either a low level or a reduction over time being considered favourable.

• **PROJECT ACTIVITIES**

A. Mapping of existing and planned community and concessionary DUATs and investment hot-spots

425. This will be done in the project target districts and will support the initial scoping exercises for each value chain. Thereafter the information will be regularly updated as part of ongoing project monitoring and evaluation. In addition to mapping DUATs, information will be collected on the identity of the registered entity, the area of land ceded and stage of registration. For concessionary DUATs, a distinction will be made between organisations representing smallholder farmers and those granted to investors and individuals and information will also be collected on the intended land use. Information on investment hot-spots should include a ranking in order of investment interest and an assessment of the potential opportunities and risks of this investment interest for smallholder farmers.

426. The information on investment hot-spots and existing and planned community and concessionary DUATs for Associations will be used as a preliminary indication of the specific support that different farmer groups in the various value chains may require in further securing their land rights and the order of priority between them in providing this support. This in turn will be used to finalise the Terms of Reference for the service provider contracted to support the strengthening of land tenure security⁸⁷. Information on DUATs granted to investors and individuals will be used to anticipate possible opportunities for strengthening linkages with those investors that may be involved in the project-supported value chains, but also to identify possible risks from competing land users.

427. **Implementation.** It is anticipated that the information on DUATs will mainly be obtained from the Provincial Offices of Land Administration (*Serviços Provinciais de Geografia e Cadastro*) and the National Directorate of Land and Forestry and Land (*Direcção Nacional de Terras e Florestas*). The information on concessionary DUATs for investors will provide some sense of areas of particular interest (investment hot-spots). However, additional interviews with provincial and possibly district government officials and other stakeholders may be required to get a better sense of areas being targeted for investment. The information will initially be compiled by the Land Tenure Adviser contracted by the PMT and will be included in the Project's GIS system. Subsequently the information will be regularly updated by the PMT with support provided by the Land Tenure Adviser.

Expected activity outputs:

- Geo-referenced spatial data in digital format (shape files) including community and concessionary DUATs and investment hotspots in the target districts.
- Textual data on the names of DUAT holders, date of the concession, area ceded and status and use of DUATs held by Associations, companies and individuals, and on names of representatives, date of delimitation and areas delimited held by community groups.
- Brief narrative reports (5 to 10 pages) for each province on the status of DUATs and investment hot-spots.

⁸⁷ Terms of reference are presented in Attachment 6.

Farmers’ association-based analysis of land access and tenure security issues and needs of their members

428. This will be done as part of the establishment and strengthening of farmers’ associations and Value Chain development planning processes. Sub-activities will include: i) identifying the amount of land different members have access to; ii) facilitating discussions on how land access for those with less land can be improved; iii) civic education on land and relevant natural resources policies and legislation; and iv) community-based mapping of different land and natural resource use areas and related infrastructure (e.g. grazing lands, forest reserves, crop lands, settlement areas, water sources and access paths). It is anticipated that all associations supported by the project will benefit from civic education regarding land tenure related policies and legislation and be supported in analysing their land tenure issues and in mapping existing or planned land use areas. This support will either be provided directly for priority cases by the LTSP or by the LSPs. The LTSP will develop guidelines and provide technical back-up and training to the LSPs to enable them to take on more responsibility over time.

429. The activity will build on and support the project’s targeting strategy for ensuring that associations represent the productive poor and that 50% of members are women. It is anticipated that farmer groups representing the Project’s target groups will already have been formed by the LSP. As appropriate, separate discussions will be held with different interest groups (women, men, youth, elderly people) on their respective land tenure situations and needs. In the case where farming blocks have been identified, for example in the expansion of existing irrigation schemes in the horticulture sector or the establishment of new blocks for cassava production, existing users will be identified and if appropriate separate discussions will be held with them. In the case of the *Regadio de Baixo Limpopo* where a public company has been granted a DUAT, the LTSP will do a review of existing land allocation rules by the company to farmer groups make proposals for strengthening such agreements, based on discussions with existing and prospective farmer groups.

430. The discussions with all interest groups will include providing information on relevant policies and legislation related to land and NR resource and associated rights and responsibilities. Options for securing land rights will be discussed. It is anticipated that these options will include: i) community land delimitation, ii) awarding of DUATs to associations and iii) demarcating land use areas and documenting group rules and by-laws for regulating land allocation and use (see Activity C below for more details). Special attention will be given to identifying measures for strengthening land/natural resources rights of poor and vulnerable groups including women and youth. This will include identifying additional land for those members with less access and with the means to make use of more land, and identifying means for securing all members’ land rights.

431. The community-based participatory mapping of existing and planned use will ensure that the land being used or proposed to be used by the farmer group has the approval of the wider community and takes into consideration environmentally sensitive and conservation areas and broader water use. Where necessary, community agreements regarding land use by farmer groups will be documented and signed by the appropriate community and farmer group representatives. This will be done as a minimum for irrigation schemes in the horticulture value chain (including in the case of the *Regadio de Baixo Limpopo*), consolidated farming blocks in the cassava value chain and for grazing/browsing lands. This will include agreements for ensuring equitable access to the project’s target groups. Such agreements will be required prior to any major investments by the project in improving productivity or market access.

432. The mapping process will also build on and contribute to value chain development planning processes. It is also anticipated that general information on existing and planned land use, infrastructure and facilities, relevant for the three value chains, will be captured in the project’s M&E system. Satellite imagery, aerial photographs or maps compiled as part of the project’s GIS will be used for community-based planning processes.

Expected activity outputs

- A report for each scheme detailing: i) the general situation regarding land use and land registration in the communities where the associations expect to operate; ii) the amount of land different association members have access to, including disaggregated data according to wealth status, gender and age; iii) measures for securing land tenure and for improving access to land for those members with less access; and iv) agreements made on land use by associations, including adequate compensatory measures for users who may lose access to land due to the scheme. The report will include in annex details on the consultation meetings held and community and farmer group members involved. The report will be used to monitor changes in land access over time and adherence to agreements regarding land use.
- A community map of general land use, where possible identifying the area to be used by the farmer group. It is anticipated that the map will be at first not be drawn to scale but that copy of the sketch map will be transposed to an A4 sheet for report purposes and in the case of consolidated block land areas will be geo-referenced and included in the Project's GIS.

Strengthening associations' land rights

433. Options could include support for: i) community land delimitation, ii) the processing of DUATs for associations and iii) demarcating land use areas documenting group rules and by-laws for regulating land allocation and use. The identification of suitable measures will depend in part on the initial assessment of existing or planned community land delimitations and concessionary DUATs and the needs assessments done with farmer groups as well as an over-all assessment of value chain priority areas and budget availability. Priority in registering rights will be given to all associations either involved in irrigation schemes in the horticulture value or in areas where there is a significant interest in external private sector investment or who are holding major shares in hubs. In the case of associations involved in the Red Meat value chain it is anticipated that the focus will be on demarcating grazing and browsing lands and documenting internal rules of use and access rather than on registering rights. Support in the above options for strengthening associations' land rights will either be provided directly for priority cases by the LTSP or over time by Value Chain LSPs. The LTSP will develop guidelines and provide technical back-up and training to the Value Chain LSPs to enable them to take on more responsibility over time.

434. An indicative budget envelope is allocated for all associations in the horticulture value chain, about 25% of associations in the cassava value chain and all associations in the Red Meat value chain. For the Red Meat value chain it is anticipated that the unit cost will be lower than for the other VCs. Budgets will be adjusted once the initial assessments mentioned above have been done and the actual needs have been confirmed. It is anticipated that different options for strengthening land rights will be more relevant for different value chains. For the horticulture value chain it is expected that, given that land is most likely to be allocated in consolidated irrigation blocks with significant public investment, the focus will be more on supporting the awarding of DUATs to all associations and supporting them to develop internal rules for equitable access and for registering members' plot. For cassava it is anticipated that the emphasis will either be on community land delimitation in cases where cassava fields are scattered over a wide area or on the issuing of formal DUATs for associations where consolidated areas of cassava farming are identified and especially where there may be a higher demand for land. For the Red Meat value chain, given that grazing and browsing areas to be managed by livestock associations are likely to be spread over large areas possibly even across more than one community, it is expected that the main emphasis will be on demarcating grazing / browsing areas and water access routes and strengthening community and association management rules for these areas.

435. With regard to the equitable allocation of land in farming blocks in the horticulture and cassava value chains, it is anticipated that plots will be of similar size and internal rules will be developed by associations to ensure equitable plot allocation amongst members, in the initial

allocations and on an on-going basis. Measures could include an upper limit on the number of plots that each member can access, payment of plot fees or, in the case of irrigation schemes, linking water fees to the number of plots that each member has. It is expected that the rules and measures will be included either in the main text or in annexes of the constitution and articles of association. A register of plot allocations to each member will be set up by each association with support provided by the LTSP and VC LSP and used to record any changes in plot allocations. The register will include information on the member, a unique number for each parcel and the estimated area of the plot. A “composite” plan of the irrigation scheme indicating the location of parcels with their respective parcel numbers will be produced using surveying and mapping methods considered suitable for the particular scheme. As a minimum, each plot should be measured with a tape measure and the approximate area indicated. If available, aerial photographs or satellite imagery could be used to identify and geo-reference plots in existing schemes if boundaries are clearly identified or hand-held GPS could be used to either survey boundaries or to record coordinates for a central point of the field. Recording boundaries with hand-held GPS could be used for the calculation of parcel areas, although this should be cross-checked with tape-measure estimates.

436. The conditions and terms of member’s use rights including duration of these rights and rules and procedures for transferring or extinguishing use rights will also be included either in the main text or in annexes of the constitution and articles of association. It is anticipated that the duration of rights will depend on continuous use and payment of user fees. However, in the event that a member is not able to use their plot or pay the user fees, a grace period of at least two seasons or even two years should be given before their rights are extinguished. It is also expected that provided members are paying their annual fees and utilizing their plots, they could bequeath their rights to others. Options of renting or selling their use or membership rights could also be considered. The transfer of use rights should be linked to procedures for members to exit or enter the scheme and should be subject to the approval of the WUA committee. Dispute resolution procedures over plot allocation and use will also be developed.

437. In the case of the *Regadio de Baixo Limpopo* where a public company has been granted a DUAT and in which PROSUL may support farmer associations, it is anticipated that DUATs will not be granted to the associations. Nevertheless, contractual arrangements between the association and the company should stipulate that the use rights are granted for the duration of the existence of the association provided the land is used for the agreed purposes and that the termination of such contractual arrangements will be subject to mutual agreement between the company and the association. It is anticipated that the same general conditions regarding members’ plot rights and responsibilities will apply as in cases where DUATs are granted. There should be rules for ensuring equitable plot allocations and for transferring or terminating members’ use right. Associations will also maintain a register and composite plan of plot allocations. Agreement on the above measures should be reached between the *Regadio de Baixo Limpopo* public company and CEPAGRI prior to the commencement of PROSUL’s support in the scheme.

438. In the case where land parcels are scattered, which is more likely to occur in the cassava value chain, it is anticipated that fields will be mapped, either using hand-held GPS or readily available satellite imagery / aerial photographs and a register indicating the members’ names and estimated area to be farmed will be maintained. In certain cases in the cassava value chain, support may be provided for delimiting community lands. In such cases, priority will be given to associations directly involved in the ownership of hubs or those where there is the greatest demand for land (typically areas with better access to roads, markets or water). Depending on a review of existing delimitations or DUATs, it is anticipated that at least 25% of all cassava associations will be covered either by community delimitations or the issuing of concessionary DUATs with support provided by PROSUL. The remaining associations, where there may be an interest in either community land delimitation or concessionary DUATs, will be supported to approach the iTC once it has become sufficiently operational in the areas covered by PROSUL.

439. For the Red Meat value chain it is expected that the main emphasis will be on demarcating grazing / browsing areas and strengthening community and association management rules for these areas. It is anticipated that on request, all associations will be supported in these activities. Grazing and browsing areas would initially be identified as part of the community-level participatory mapping of existing and planned use mentioned above. Outer boundaries, rotational grazing / browsing areas, fodder banks, stock routes, water points and other related facilities and infrastructure will be geo-referenced using hand-held GPS or readily available aerial photography or satellite imagery and will be mapped in the project's GIS. Access by user groups to grazing / browsing areas, stock routes, water points and other facilities will be indicated on the maps. Community-based grazing / browsing management plans will include the documentation of rules and by-laws regulating use and access, including estimated livestock carrying capacity, grazing fees and penalties for contravening grazing / browsing management plans. The plans will be endorsed by relevant community representative structures and presented to relevant district and provincial institutions dealing with livestock development and natural resource management. Where there may be an interest amongst livestock associations in either community land delimitation or DUATs, they will be supported to approach the iTC once it has become sufficiently operational in the areas covered by PROSUL.

Expected activity outputs

- All horticulture associations granted DUATs and with documented internal rules or by-laws for regulating members' parcel access and use.
- At least 25% of cassava associations either covered by community land delimitations or granted DUATs and with documented internal rules or by-laws for regulating members' parcel access and use.
- All livestock associations with demarcated grazing and browsing areas and with documented internal rules or by-laws for regulating members' land access and use.

• IMPLEMENTATION ARRANGEMENTS

440. A single specialized LTSP will be contracted by the PMT on a competitive basis to support the analysis by associations of members' access to land and tenure security, civic education on land tenure and management related policies and legislation, the mapping of land use areas, the documenting of land use management regulations and the facilitation of community delimitations or awarding of DUATs to Associations across all three value chains (see Annex 6, Attachment 4 for terms of reference). This will ensure uniformity in standards and approaches. The support will be provided at the request of the three Value Chain LSPs and / or the PMT. The LTSP may sub-contract other service providers to provide specific support for certain value chains, community groups or sub-activities. The LTSP will be directly accountable to the PMT but will also report to the LSPs. These will provide feed-back to the PMT on the work done by the LTSP.

441. In addition to the LTSP, a part-time land tenure advisor will be contracted to support the PMT and other service providers in identifying and supervising the LTSP's inputs. This will initially include: i) obtaining information on existing and planned community delimitations and DUATS; ii) [together with the VC LSP,] undertaking the initial assessment of the interventions that may be required in the different value chains, including geographic priority areas; and iii) supporting the PMT to finalise the Terms of Reference for the LTSP. The land tenure advisor will continue to provide support to the PMT in ensuring that information on community delimitations and DUATs is regularly updated, in supervising the work of the LTSP and in identifying additional inputs that may be required. The land tenure advisor will also provide support in finalizing the Terms of Reference for the service provider contracted to support the PMT in setting up a GIS and will support the PMT in supervising the GIS SP's contract.

442. The LTSP and the land tenure advisor will work closely with the PMT and LSPs, DNTF, the SPGCs, the iTC and other service providers and organisations supporting land tenure and land use planning activities in the PROSUL areas .

443. With regard to the iTC, it is anticipated that in the first half of 2014 the iTC will be established as a permanent institution with national coverage but it could still take some time to become fully operational in areas that it has previously not covered. PROSUL, through the LTSP and LTA support will collaborate fully with the new institution by sharing information and lessons learnt in supporting the project's target groups to secure their land and natural resources rights. It is anticipated that once the iTC becomes sufficiently operational in the areas covered by PROSUL it will be in a position to continue to support the project's target groups in securing their land rights and in further developing market linkages and various livelihood options. In this regard, the PMT will assist the associations supported by the Project to approach the relevant iTC decision making structures at district and provincial level and to prepare and submit their requests for support to the iTC.

Cost estimates

444. The costs for the activities have been estimated at about USD 717,800 for the Land Tenure Service Provider. It is anticipated that this support will mainly be provided in the first 4 years of the project. The cost estimates include some USD 142,500 for a Land Tenure Adviser to provide additional technical support to the PMT, if deemed necessary. It is anticipated that this support will be more intensive in the first year but then spread evenly over the remaining years

REFERENCES

- AMPCM, 2011. Plano Estratégico (2012-2015). Agosto 2011. Parte I: Texto Principal; Parte II: Anexos.
- DNEA/ IFAD, 2011. Programa Nacional de Extensão Agrária (PRPNEA). Mid-Term review. Main Report and appendices. Working Papers (Agricultural Development; Institutional Management; Extension Approaches; Targeting and Priority Setting; Financial Management).
- FAO, 2009. Farm Business School. Training of Farmers Programme. Ed. David Kahan, FAO, Stephen Worth, University of KwaZulu Natal.
- FENAGRI, 2011. Plano de Desenvolvimento Estratégico. Conferência Nacional Constitutiva de Federação Nacional de Associações Agrárias de Moçambique.
- Groeneweg K., G. Buyn, D. Romney, B. Minjauw, 2006. Livestock Farmer Field Schools. Guidelines for the Facilitation and Technical Manual. ILRI, Kenya.
- Mather, D., Cunguara, B. and Boughton, D. 2008. Renda e Activos de Agregados Familiares Rurais em Moçambique, 2002-2005: É Possível Sustentar o Desenvolvimento a Favor dos Pobres? Relatório de Pesquisa Nº 66P Dezembro de 2008. Maputo
- MINAG, 2009. Estratégia Do Governo Para O Apoio Ao Movimento Associativo Agrário No Âmbito Da Revolução Verde. Versão Final
- MINAG, 2011. Plano Estratégico de Desenvolvimento do Sector Agrário (PEDSA), Versão Preliminar, Maio de 2011
- TIA, 2002-2008. Trabalhos de Inquérito Agrícola 2002-2008. Departamento de Estatística, Direcção de Economia, Ministério da Agricultura (MINAG), República de Moçambique, Maputo, Moçambique.
- UNAC, 2010. Plano Estratégico 2011-2015. Aprovado pela Assembleia Geral de Outubro 2010.

ATTACHMENT 2 – DRAFT TERMS OF REFERENCE FOR SCOPING STUDIES

1. A scoping study will be carried out at project onset for each value chain. Scoping studies will aim at identifying value chain stakeholders that will participate in project implementation and at laying out business development opportunities that have potential for increasing the income of smallholders and farmers. They will include two main sections: (i) an identification of issues as listed below; (ii) building on findings, detailed recommendations to be presented to the Regional Value Chain Platform for discussion and validation. This will then form the basis for the preparation of the first annual Value Chain Development Action Plan for each value chain.

A. Identification of issues linked to value chain development

2. **Issues common to all value chains.** Scoping studies will address the following common issues:

- Provide baseline data against which to measure project achievements, in accordance with the logframe indicators and key component indicators and including data to be geo-referenced and mapped. Baseline data requirements will include a set of data common to the three value chains and data specific to each value chain. They will be defined by the PMT (M&E/KM Officer), with support from the technical assistance planned to set up the Project Learning System, and in conjunction with the Lead Service Providers;
- Identify key value chain players in the southern provinces (farmers' organisations, emerging and commercial farmers, traders, processors, private investors, input and equipment dealers, assess their interest to participate in the project and their capacities;
- For farmers' organisations, establish a district-based inventory of farmers' organisations/groups and membership, and broadly assess their performance and willingness to form structured organizations;
- Identify specific market opportunities and products, as well as related requirements in terms of volume, quality and time of delivery;
- Identify existing supply of services (*casas agrárias*, private service providers, cooperatives...), capacities and opportunities for participating in project implementation;
- Identify private sector players interested in taking shares in the limited liability companies supported by the project (horticulture and cassava hubs, slaughterhouse, other);
- Identify participants in the district-based multi-stakeholder Innovation Platforms and Regional Value Chain Platform.

3. **Horticulture.** Additional issues to be addressed for the horticulture value chain will include:

- Review the competitiveness of Mozambican horticultural products with South African imports by way of the study carried out by the Tripartite Project for Food Security financed by USAID and Brazil, and the costs of importation;
- Identify existing Water User Organisations and assess their interest in participating in the project;
- Identify buyers (including traders, commercial farmers, processors) interested in developing outgrower schemes/forward contracts and possible modalities;
- Identify players interested in participating in Joint Team of Experts;

4. **Cassava.** Additional issues to be addressed for the cassava value chain will include:

- Identify market opportunities mainly for cassava chips and flour and analyse market requirements to be addressed in the production and processing cycles to respond to market opportunities in such a way that it can allow increased value added to smallholders;
- Identify buyers (including traders, commercial farmers, processors) interested in

developing outgrowers' schemes/forward contracts;

- Assess most suitable production areas;
- Make detailed proposals of possible business ventures to be supported by the project;
- Baseline assessments biodiversity and soil carbon (ICRAF Geoinformatics unit to advise).

5. **Red meat.** Additional issues to be addressed for the red meat value chain will include:

- Map stakeholders involved in ruminants production and trading (women and farmers' groups, commercial farmers, traders, slaughterhouses, input/service suppliers), assess their performance and willingness to form structured organizations, capacities and governance mechanisms;
- Based on the above, identify players that will participate in the project;
- In collaboration with the International Livestock Research Institute (ILRI), and based on the study "Overview of the livestock sector in Mozambique" (ILRI, July 2011), and using the ALive toolkit to conduct an in-depth assessment of the potential supply of slaughter animals, assess the scale, nature and location of demand for meat, and carry out a feasibility study of a new slaughtering facility near Maputo based on the supply, demand and price structure of the market for meat and cattle;
- Identify the possible location for the construction of the slaughterhouse;
- Baseline assessments of biodiversity and soil carbon (ICRAF Geoinformatics unit to advise).
-

B. Recommendations

6. Building on the findings and on guidance from the Project Design Report, the recommendation section of each scoping study will make concrete and detailed proposals. This will include (not exhaustive):

- Key players to participate in project implementation, locations and modalities;
- The location of hubs and the slaughterhouse;
- Possible ventures with existing service providers;
- Target markets, requirements and related capacities to be supported at farmer level;
- Farmer organisations (FOs) that could participate in project implementation, and key FO capacities to be promoted;
- Composition and organisation of Innovation Platforms and of Regional Value Chain Platform;

7. Scoping studies will also include a short list of investors interested in participating in tenders for the selection of hub and slaughterhouse private investors, for the development of partnership arrangements with service hubs (third-party service providers) and setting up modalities of hubs and slaughterhouses.

C. Modalities of implementation

8. Scoping studies will be carried out by the Lead Service Providers in the respective value chains, under the coordination of the Project Management Team (PMT). In particular the PMT will ensure that studies are carried out in coordination with:

- the preparation of the Targeting and Gender Mainstreaming Strategy and Implementation Plan (described in Annex 2);
- the mapping of existing and planned community and concessionary DUATs and investment hot spots (described in Annex 4, Section 7);
- the setting up of the Project Learning System and related consultation (see Annex 11);
- the establishment of GIS mapping (see Annex 11).

9. The studies will be implemented using participatory approaches. Studies will also associate government staff at the national and local level. DPA Focal Points in particular will facilitate the participation of government structures at the provincial and district level.

10. Findings will be reviewed on an annual basis as part of the regular activities of each Lead Service Provider, both to measure achievements, and to continuously monitor sector evolution and development of new opportunities, in particular with regard to markets.

ATTACHMENT 3: CASSAVA: MULTIPLICATION OF CASSAVA CUTTINGS

1. The objective of the multiplication scheme is to make available improved cassava planting material adapted to the specific agro-ecological conditions of target districts, i.e. high yield, drought resistant and free of cassava mosaic disease and brown streak disease. It is organised in three levels, building on prior consultations with IIAM and on experience from the International Institute of Tropical Agriculture.

2. **Rapid multiplication unit managed by IIAM in Nhacoongo.** The main objective of this unit is to rapidly multiply virus free cuttings of mother stock plant material for further multiplication in the service hubs. The unit will be based at Nhacoongo IIAM Research Station and receive support from the Umbeluzi station. It will require the following elements:

- 0.25 ha with irrigation and use of a borehole
- Nurseries in separate blocks
- Small propagation chamber to increase the multiplication rate
- Basic greenhouse
- Small equipment
- Inputs
- Management
- Technical assistance for the establishment of service hub multiplication units.

3. **Rapid multiplication by the service hubs.** Each service hub will have a unit for the further multiplication of the planting material supplied by the main unit at Nhacoongo. Each of the hubs will already have water for the washing of the tubers. This waste water can be used for irrigation of the nurseries. Similarly, compost produced out of cassava processing waste will be available at the hub. Other requirements include:

- 0.25 ha of nursery can be established
- Small equipment.

4. On-farm trials will be conducted to test acceptability and preferences, and for further recommendation to the breeding program. Farmers of target areas will be involved on these trials to get enough information for materials released, through field days and Farmers' Field Schools.

5. **Multiplication by contracted farmers.** Farmers will be contracted by the service hubs for the ordinary multiplication of cassava cuttings. They will be paid MZM 0.20 per cutting, which will be bought and marketed by the service hub at MZM 0.25. This can be a source of income for the service hub.

6. The project will use locals radios, leaflets and small manuals for dissemination of knowledge on the management of cassava multiplication fields and adequate practices to use clean cuttings.

ATTACHMENT 4: FINANCIAL SERVICES AND BUSINESS MODELS

TYPES OF FINANCIAL INSTRUMENTS

- 1. Forward contracts.** These tripartite contracts link farmers with commercial farmers and/or processors as well as with financial institutions. Farmers' needs (mainly working capital and small equipment) are to be financed by a financial institution. Collateral to the loan extended by the financial institution is constituted by a supply contract signed between producers and a commercial farmer/processor. Loans will be disbursed either directly to producers or to the commercial farmer/processor (to purchase necessary inputs on behalf of producers). Loans are repaid by the commercial farmer/processor on behalf of farmers. In that respect, an amount will be withheld by the commercial farmer/processor on the purchase price of producers' supplies. Such a mechanism has already been tested by Banco Terra with rice producers and a rice processing unit. Working capital loans are the most required financial instruments to be provided by financial institutions under a forward contract (to finance inputs and small equipment).
- 2. Side selling** might become an obstacle for a generalized implementation of forward contracts. Forward contracts are easy to implement and enforce when products can be sold only through one specific channel like tobacco, cotton, tea, coffee. For products such as vegetables or fruits, producers have the possibility to sell their production to the trader/commercial farmer/processor with whom they have signed the forward contract but they can also sell part or the totality of their production on local or regional markets, depending on market prices they can get. Side selling affects the repayment of producers' debt to the trader, commercial farmer or processor. Therefore, forward contracts should not be signed for the entire production but part of the latter should be left to the producer for sale onto local/regional markets. It is also expected that the prospect of receiving a higher price rewarding quality through commercial farmers would reduce side selling.
- 3. Outgrowers' scheme.** This scheme will involve commercial farmers, farmers and possibly financial institutions. Commercial farmers, producing on large plots, have access to inputs of better quality (directly from suppliers in Maputo or in South Africa) and are exporting to large markets in South Africa. They can (and some have already started to do so) purchase inputs for their smallholder neighbors and assist them in accessing those large export markets by purchasing their production. Smallholders' inputs can be financed through the commercial farmer's own resources or through a loan from a financial institution depending on the financial capacity of the commercial farmer. The loan will be in the name of the commercial farmer who will purchase the inputs required by smallholders. S/he will distribute these inputs to smallholders and will be paid by withholding their cost at the time of paying for smallholders' produce. Smallholders could also access equipment by using the outgrowers' contract as a collateral to access an investment loan for a financial institution.
- 4. Supply credit.** This will involve input suppliers as well as equipment and machinery suppliers, and farmers. Inputs and equipment could be sold to farmers with a deferred payment (after harvest time when market prices are high). Financial institutions could extend a revolving working capital credit to suppliers to maintain their liquidity position. This supply credit is already organized by some input suppliers based in Maputo with organized farmers' groups or by inputs dealers implemented in rural areas (Chokwe for example). The project could assist interested inputs suppliers/dealers to generalize this financing instrument.
- 5. Wholesaler/trader credit.** This mechanism will involve wholesalers and traders as well as farmers. Traders and/or wholesalers (or their local agents or independent collectors) would finance inputs required by farmers. They would purchase these inputs and deliver them to farmers. The purchase price of production from farmers would be reduced by the cost of inputs purchased and delivered. Financial institutions could extend a working capital loan to traders/wholesalers to maintain their liquidity position.

6. **Equity participation.** Specific investments such as horticulture service hubs and cassava processing hubs will be implemented as an asset of a newly-created limited liability company (LLC). In order to have farmers also benefitting from the added value generated by these investments, they will become shareholders in these LLCs. Since they have limited financial resources to finance their shares, a financial institution will hold an equity position in those companies on behalf of farmers' organizations. These organizations will gradually purchase the shares held by the financial institution in those LLCs with dividends paid by LLCs. A shareholders' agreement will specify the methodology, timeframe and triggering factor for the purchase of shares held by the financial institution.

7. The limited liability of shareholders will prevent them from losing everything (all of their assets) should the company go under (liability limited to their amount in the share capital). Should the activity be implemented under a cooperative structure, farmers and smallholders' liability would be unlimited, with the risk of losing all of their assets.

8. **Warehouse receipt financing.** Storage facilities will be developed and included in agriculture hubs. Farmers and smallholders will have the possibility to store part of their production after harvest and wait for higher market prices. During that period, a financial institution will extend no-purpose short-term loans to farmers, with stored products as collateral. These loans will be repaid when products are eventually sold.

9. **One** alternative to the microfinance institution extending many small short-term loans is that the Management Board of the Hub LLC accesses a working capital loan to purchase the production of its members at harvest time. They will sell the production when market prices are high. Profit generated after repayment of the working capital loan to the financial institution will then be distributed among hubs members. In both cases, a small contribution will be asked from each user of the storage facility so as to cover its operating costs (salaries of the accountant and manager, chemicals, insurance premium, maintenance, and miscellaneous).

10. **Leasing. In horticulture services and cassava processing hubs, some investments needed by farmers like** tractors, tillers, trucks could be financed through leasing instead of a classic loan. Hub managers would be vested with the responsibility to organize the use and the maintenance of the leased equipment. For financial institutions, leasing will notably reduce the risk since they will keep ownership of equipment.

11. Leasing could also be used in case farmers/smallholders' organizations want to purchase a tractor, tillers or other heavy equipment. In that case, the producers' organization will be vested with the responsibility to organize the use and maintenance of the leased equipment.

12. **Investment loans and working capital loans.** Terms and conditions of loans provided by financial institutions within the different financing instruments will be adapted, especially with regards to interest rate, collateral requirements, repayment schedule and maturity. Most of the above-mentioned financing instruments, besides widening the outreach of these financing instruments to more smallholders, aim at reducing the risk for the lending institution (schemes ensuring marketability of production, payments made by third parties, contractual arrangements). In that respect, a reduction of the financial institutions' interest rate will be negotiated as well as a reduction of the collateral requirements.

FINANCIAL SUSTAINABILITY OF PROPOSED BUSINESS MODELS

13. This annex details the financial sustainability of the following business models:
- Horticulture value chain
 - Horticulture service hub

- Greenhouse
 - Cassava value chain
 - Cassava chips producing (small unit)
 - Cassava chips and flour processing (hub)
 - Livestock value chain
 - Slaughterhouse
 - Livestock Producers Organisations
 - Meat Traders Organisations
 - Breeding centers
 - Livestock Vet Warehouses.
14. For each model, the following information is detailed:
- Models financed through a mix of equity and debt financing and based on the creation of a limited liability company (LLC - slaughterhouse, horticulture and cassava hubs):
 - Investment costs and their breakdown per financier and financial instrument;
 - Projected profit and loss statements (over 9 years);
 - Projected repayment schedule of investment loan and working capital loan (over 9 years);
 - Projected profit distribution (over 9 years);
 - Initial and evolutionary share capital breakdown between various shareholders based on the purchase by PROSUL target beneficiaries of LLC shares held by the Investment Fund (over 9 years);
 - Consolidated data for the number of units projected in PROSUL.
 - Models financed through debt financing:
 - Investment costs and their breakdown per financier and financial instrument;
 - Projected profit and loss statements (over 9 years);
 - Projected repayment schedule of investment loan and working capital loan (over 9 years);
 - Projected profit distribution (over 9 years);
 - Consolidated data for the number of units projected in PROSUL.
15. Costs and projections will be reviewed as part of project implementation and in accordance with modalities specified in the Project Design Report.
16. The three last tables detail the global financing required for all investments in the three value chains supported by the project. They also show the breakdown of financial resources per financier and for IFAD contribution, the breakdown between the grant financing, the equity financing and the debt financing.

MODEL 1: HORTICULTURE SERVICE HUB

1. **Investment costs.** Investment cost of the projected horticulture service hub is detailed in the following table. Costs related to building construction are estimated and might vary according to the size of the selected irrigation catchment area and the number of households farming in the scheme. On average, the hub is servicing 400 households.

Table 1: Investment costs (MZM)

HUB						
Investment costs						
	Unit	#	Init price (MT)	Total (MT)	Total USD	Depr.
Study, design and supervision	lp	10%	980,000	980,000	35,000	196,000
Building infrastructure (offices & shop areas)	m ²	200	4,000	800,000	28,571	32,000
Building infrastructure (dry and cold storage, incl. equipment)	m ²	500	18,000	9,000,000	321,429	360,000
Tractor (75HP)	unit	1	710,800	710,800	25,386	142,160
Motocultivator (Mod. YZC)	unit	4	275,000	1,100,000	39,286	220,000
Emergency generator (NSB 18 D diesel, 16.5HP)	unit	1	165,165	165,165	5,899	23,595
Refrigerated truck	unit	1	800,000	800,000	28,571	266,667
Motorcycle	unit	1	215,000	215,000	7,679	71,667
Office furniture and other equipment	set	1	800,000	800,000	28,571	160,000
Packaging unit (medium size)	unit	1	40,000	40,000	1,429	5,714
Total Investment cost				14,610,965	521,820	1,281,803

2. **Financing the investment.** A limited liability company will be created, the asset of which will consist in the horticulture hub. Financing the hub through a limited liability company has a comparative advantage vis-à-vis a cooperative-type model: in case of bankruptcy, shareholders' financial responsibility and liability is limited to the amount of their share capital while in the cooperative-type model, their liability is unlimited and they face losing all their personal assets. In addition, in a cooperative unless stipulated in the by-laws, activities are limited to cooperative's members while in the company, there is no such restriction. The following table illustrates the breakdown of the initial investment per financial instrument considered (grant, equity and debt financing) as well as the breakdown of the equity financing between the various shareholders envisaged for such an investment.

Table 2: Financing the investment (per financier and per financial instrument)

Financing structure	USD	MTZ
Total Investment	521.820	14.610.965
Project grant	105.000	2.940.000
Share capital	250.092	7.002.579
Debt financing	166.728	4.668.386
Share capital		
- Producers' groups (5%)	12.505	350.129
- Private investors (30%)	75.028	2.100.774
- PFI (65%)	162.560	4.551.676

3. The basic structure of the investment is as follows:

- Grant financing: 30% of the complete construction inclusive of design and supervision costs;
- Equity financing: 60% of the total investment cost net of grant financing;

- Debt financing: 40% of the total investment cost net of grant financing.

4. This structure allows further debt financing for new or replacement of equipment (very conservative debt to equity ratio is only 0.67.)

5. The long-term objective of the horticulture service hub investment is to have producers' groups benefiting from the largest share of the profit generated by the hub. Tentatively, the long-term breakdown of the LLC share capital is as follows: producers' groups (70%) and private investors (30%). Private investors will be most probably other stakeholders in the value chains such as buyers, traders, or even input suppliers, but could also be private investors outside the horticulture value chain. The actual breakdown of shares ownership between producers and private investors will actually depend on interest expressed by private investors. In any event, farmers organisations should not own less than 30% of the shares.

6. Producers' groups have not the possibility to mobilize the amount of their capital at the creation of the LLC. To address this issue, a microfinance bank/institution (MFBI) in which the Catalytic Fund (acting as the PROSUL Investment Fund) is holding share will hold the shares allocated to the producers' groups on their behalf. It has been assumed that producers' groups at the creation of the LLC will only be able to mobilize 5% of the share capital, leaving the MFBI to finance 65% of the share capital.

7. A purchase mechanism will be implemented allowing producers' groups to gradually purchase the LLC shares from the MFBI. To facilitate the purchase by producers' groups, the purchase price will be determined as nominal value plus official inflation rate. The purchase mechanism will become effective only once the long-term investment loan extended to producers' groups would have been fully repaid to the financial institution.

8. **Human resources.** The following table details the human resources costs for one LLC. Social charges have been estimated at 30% of the gross salary.

Table 3: Human resource cost (MZM)

Staffing	#	Monthly salary	Total yearly
Manager	1	42.000	504.000
Technical advisor	1	35.000	420.000
Admin. Staff (accountant)	1	22.400	268.800
Storage handler	2	4.200	100.800
Driver	1		100.000
Guards	3	2.800	100.800
Total salaries			1.494.400
Total salaries incl. social charges			1.942.720

9. **Loan repayments.** The following tables details repayments for the investment long-term loan as well as repayments for the working capital short-term loan. Working capital loan has been estimated to be equal to 1.5 months of expenses, considering the activity of an horticulture service hub. It is to be noted that considering the level of liquidity generated by the activity, the LLC will no longer require any working capital loan after Year 3. Long-term investment loan is fully paid back in 4 years.

Table 4: Repayments of investment and working capital loans (MZM)

Debt financing	Amount	Y1	Y2	Y3	Y4
Loan amount	4,668,386				
Interest rate	15%				
Maturity (years)	4				
Interests		700,258	525,193	350,129	175,064
Principal repayments		1,167,097	1,167,097	1,167,097	1,167,097
Working capital	Amount	Y1	Y2	Y3	Y4
Months of operating expenses	1.5				
Loan amount		2,562,357	3,643,857		
Interest rate	15%				
Interests		384,354	546,579	-	-
Principal repayments					

10. **Projected Profit and loss statements.** The following table details the projected profit and loss over a period of 10 years.

Table 5: Projected Profit and Loss (over a 10-year period) (MZM)

Operating costs	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Build up of output	40%	60%	80%	100%	100%	100%	100%	100%	100%	100%
Sales	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000
Sales	25.600.000	38.400.000	51.200.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000	64.000.000
Lease office space	50.000	50.000	50.000	50.000	50.000	50.000	50.000	50.000	50.000	50.000
Revenues	25.650.000	38.450.000	51.250.000	64.050.000	64.050.000	64.050.000	64.050.000	64.050.000	64.050.000	64.050.000
Operating costs										
- Purchase of stored production	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000
- Purchase of stored production	15.200.000	22.800.000	30.400.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000	38.000.000
- Salary	1.942.720	1.942.720	1.942.720	1.942.720	1.942.720	1.942.720	1.942.720	1.942.720	1.942.720	1.942.720
- Electricity	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000	400.000
- Transpost costs	1.280.000	1.920.000	2.560.000	3.200.000	3.200.000	3.200.000	3.200.000	3.200.000	3.200.000	3.200.000
- Insurance costs	700.000	700.000	700.000	700.000	700.000	700.000	700.000	700.000	700.000	700.000
- Miscellaneous costs	976.136	1.388.136	1.800.136	2.212.136	2.212.136	2.212.136	2.212.136	2.212.136	2.212.136	2.212.136
Total Operating costs	20.498.856	29.150.856	37.802.856	46.454.856	46.454.856	46.454.856	46.454.856	46.454.856	46.454.856	46.454.856
Profit before financial charges, depreciation and taxes	5.151.144	9.299.144	13.447.144	17.595.144	17.595.144	17.595.144	17.595.144	17.595.144	17.595.144	17.595.144
- Depreciation	1.281.803	1.281.803	1.281.803	943.469	943.469	421.309	421.309	392.000	392.000	392.000
- Interest charges (Investment loan)	700.258	525.193	350.129	175.064	-	-	-	-	-	-
- Interest charges (Working capital loan)	384.354	546.579	-	-	-	-	-	-	-	-
Profit before tax	3.169.083	7.492.148	11.815.212	16.476.610	16.651.675	17.173.835	17.173.835	17.203.144	17.203.144	17.203.144
- Corporate income tax (35%)	1.109.179	2.622.252	4.135.324	5.766.814	5.828.086	6.010.842	6.010.842	6.021.100	6.021.100	6.021.100
Net profit after tax (MTZ)	2.059.904	4.869.896	7.679.888	10.709.797	10.823.589	11.162.993	11.162.993	11.182.044	11.182.044	11.182.044
Net profit after tax (USD)	73.568	173.925	274.282	382.493	386.557	398.678	398.678	399.359	399.359	399.359

11. As shown in the table, the profitability of the horticulture service hub is quite significant (17.5% after tax.) This results from the very nature of the horticulture hub: enabling producers to store their production while waiting for higher market prices before selling their stored production. In average, the difference between harvest prices and prices taken 3 months later on markets can range

from 30 to 200%. Currently, only intermediaries and traders that have storage facilities are cashing the difference. The horticulture hub will enable producers to benefit from this difference as well.

12. **Profit distribution and LLC shares purchase mechanism.** Profit distribution among shareholders is detailed in the following table based on following assumptions:

- 25% of the yearly profit will be proposed by the Board of Directors for allocation in the legal reserve and in retained earnings (to be accepted by the General Assembly) to be used for financing important future investment;
- 50% of the dividends distributed to the MFBI will be retroceded to producers' groups: (i) immediate increase in producers' revenues even if they only hold 5% of the LLC, and (ii) MFBI will have part of its operating costs already covered by PROSUL;
- Purchase mechanism for LLC shares held by the MFBI to be implemented starting Y5, once the investment loan has been fully repaid to the lending financial institution;
- Tentatively, 50% of the global amount of dividends received by producers' groups will be used to purchase LLC shares held by MFBI. This percentage will be determined by each producers' groups.

Table 6: Profit distribution and LLC shares purchase mechanism (MZM)

Profit distribution	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Net profit after tax	2.059.904	4.869.896	7.679.888	10.709.797	10.823.589	11.162.993	11.162.993	11.182.044	11.182.044	11.182.044
Retained earnings (25%)	514.976	1.217.474	1.919.972	2.677.449	2.705.897	2.790.748	2.790.748	2.795.511	2.795.511	2.795.511
Dividends distributed	1.544.928	3.652.422	5.759.916	8.032.347	8.117.691	8.372.244	8.372.244	8.386.533	8.386.533	8.386.533
- Private investors	463.478	1.095.727	1.727.975	2.409.704	2.435.307	2.511.673	2.511.673	2.515.960	2.515.960	2.515.960
- Producers' groups	77.246	182.621	287.996	401.617	405.885	2.238.387	4.659.155	5.870.573	5.870.573	5.870.573
- PFI	1.004.203	2.374.074	3.743.945	5.221.026	5.276.499	3.622.184	1.201.417	-	-	-
- PFI (50%)	502.102	1.187.037	1.871.973	2.610.513	2.638.250	1.811.092	600.708	-	-	-
- Given to Producers' groups (50%)	502.102	1.187.037	1.871.973	2.610.513	2.638.250	1.811.092	600.708	-	-	-
Producers' groups utilization of dividends										
- Used for buy PFI shares					1.522.067	2.024.740	1.004.870			
- Kept for producers' groups	579.348	1.369.658	2.159.969	3.012.130	1.522.067	2.024.740	4.254.993	5.870.573	5.870.573	5.870.573
Share capital changes										
Amount										
- Private investors	2.100.774	2.100.774	2.100.774	2.100.774	2.100.774	2.100.774	2.100.774	2.100.774	2.100.774	2.100.774
- Producers' groups	350.129	350.129	350.129	350.129	1.872.196	3.896.936	4.901.805	4.901.805	4.901.805	4.901.805
- PFI	4.551.676	4.551.676	4.551.676	4.551.676	3.029.609	1.004.870				
Total	7.002.579	7.002.579	7.002.579	7.002.579	7.002.579	7.002.579	7.002.579	7.002.579	7.002.579	7.002.579
Percentage										
- Private investors	30	30	30	30	30	30	30	30	30	30
- Producers' groups	5	5	5	5	27	56	70	70	70	70
- PFI	65	65	65	65	43	14	-	-	-	-

13. Under assumptions considered, producers' groups will be able to purchase the LLC shares held by the MFBI in 3 years. Dividends distributed to producers' groups varies from MZM 579 000 (in Year 1) to MZM 5 870 000 (from Year 8 onwards) i.e. USD 20,678 to USD 209 642 respectively. Considering 400 households per LLC, the incremental revenue per household related to dividends increases from USD 51.7/year to USD 524.1/year.

14. After 10 years, the Return on Investment for the three shareholders is as follows: (i) Private investors 60%; (ii) MFBI 25%, and producers' groups 212%.

15. **Cash-flow projections.** The following table details the cash-flow generated by the horticulture service hub LLC.

Table 7: Cash-flow projections (MZM)

Cash-flow	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
- Beginning of period	2.562.357	1.354.508	3.653.182	7.200.933	11.286.244	14.996.883	18.391.696	21.603.754	24.801.523	27.989.034
- Changes in cash position	-1.207.849	2.298.674	3.547.751	4.085.311	3.710.639	3.394.813	3.212.057	3.197.769	3.187.511	3.187.511
- End of period	1.354.508	3.653.182	7.200.933	11.286.244	14.996.883	18.391.696	21.603.754	24.801.523	27.989.034	31.176.545

MODEL 2: GREENHOUSES

1. **Investment costs.** Maximum investment cost of a greenhouse⁸⁸ is detailed in the following table.

Table 8: Investment costs (MZM)

GREENHOUSES	Unit	#	Unit Price	Total	Total (USD)
Investments					
Greenhouse	ha	0.02	56,000	112,000	4,000
Irrigation system (furrow)	ha				
Irrigation system (drip)	ha	0.02	684	1,368	49
Total				113,368	4,049

2. **Financing the investment.** The following table illustrates the breakdown of the initial investment per financial instrument considered (grant, farmer's contribution and debt financing).

Table 9: Financing the investment (per financial instrument) (MZM)

Financing	Items	Amount
Grant financing	30%	34.010
Farmer's contribution	5%	5.668
Debt financing (PFI)	65%	73.689
Total		113.368

3. Considering the level of poverty of target beneficiaries for such an investment, its basic structure is as follows:

- Grant financing: 30% of the complete construction inclusive of design and supervision costs;
- Beneficiary's contribution: 5% of the total investment cost net of grant financing;
- Debt financing: 65% of the total investment cost net of grant financing.

4. **Loan repayments.** The following tables details repayments for the investment long-term loan as well as repayments for the working capital short-term loan. Working capital loan has been estimated to be equal to 1.5 months of expenses, considering the greenhouse activity cycle. It is to be noted that considering the level of liquidity generated by the activity, the LLC will no longer require any working capital loan after Year 2. Long-term investment loan is fully paid back in 2 years.

Table 10: Repayments of investment and working capital loans (MZM)

Repayment	Amount	PY1	PY2	PY3
- Loan amount	73.689			
- Interest rate	15%			
- Interests		11.053	5.527	-
- Principal		36.845	36.845	-
Installments		47.898	42.371	-
Working capital	Amount	PY1	PY2	PY3
Number of months	1,5			
Working capital required		540	765	
Interest rate	15%			
Interests		81	115	-

⁸⁸ The opportunity of using less costly technical options (such as shade cloth greenhouses) in specific situations will be reviewed by the Lead Service Providers with stakeholders.

5. The following table details the projected profit and loss over a period of 10 years as well as the changes in the cash position. Detail for the income and charges are to be found in the Technical Paper on the financial analysis and the description of the model’s activities.

Table 11: Projected Profit and Loss (over a 10-year period) (MZM)

Activity	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Revenues										
Build-up of sales	50%	75%	100%	100%	100%	100%	100%	100%	100%	100%
Sales	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
Sales	95.000	142.500	190.000	190.000	190.000	190.000	190.000	190.000	190.000	190.000
Expenses										
Inputs	600	900	1.200	1.200	1.200	1.200	1.200	1.200	1.200	1.200
Other agricultural inputs (chemicals/pesticides)	1.500	2.200	3.000	3.000	3.000	3.000	3.000	3.000	3.000	3.000
External labour	1.500	2.000	2.600	2.600	2.600	2.600	2.600	2.600	2.600	2.600
Miscellaneous	720	1.020	1.360	1.360	1.360	1.360	1.360	1.360	1.360	1.360
Total expenses	4.320	6.120	8.160	8.160	8.160	8.160	8.160	8.160	8.160	8.160
Profit before financial charges	90.680	136.380	181.840	181.840	181.840	181.840	181.840	181.840	181.840	181.840
Financial charges										
- Investment loan	11.053	5.527	-	-	-	-	-	-	-	-
- Working capital loan	81	115	-	-	-	-	-	-	-	-
Net profit	79.546	130.739	181.840	181.840	181.840	181.840	181.840	181.840	181.840	181.840
Changes in cash-flow position										
- Beginning of period	540	43.241	137.135	318.975	500.815	682.655	864.495	1.046.335	1.228.175	1.410.015
- Operations	79.546	130.739	181.840	181.840	181.840	181.840	181.840	181.840	181.840	181.840
- Principal repayments	36.845	36.845	-	-	-	-	-	-	-	-
- End of period	43.241	137.135	318.975	500.815	682.655	864.495	1.046.335	1.228.175	1.410.015	1.591.855

6. As shown in the table, the profitability of a greenhouse hub is very high (89.5%) and will significantly increase the farmer’s revenue.

7. The pattern of implementation of greenhouses will be based on a first pilot phase (project year 1) during which 30 greenhouses will be implemented. During the mid- term review, the greenhouse pilot phase will be reviewed and evaluated. Should the evaluation be positive, 120 additional greenhouses will be implemented in the PROSUL area (during project years 3 and 4.)

MODEL 3: CASSAVA PROCESSING ACTIVITY

1. Two types of models will be implemented for the cassava production: (a) a cassava processing hub model implemented under a limited liability company to be created to that effect. Processing will comprise of flour and chips making. Total production capacity of the processing unit will be 7 000 t/year, and (b) a smaller cassava processing unit of around 2 500 t/year that will be used for chips making. Increase in yield and in area under cassava production will enable an increase in the surplus to be sold by each HH from 0.18 t/ha to 9.05 t/ha.

2. Production development will be twofold. Firstly, cassava processing units will be implemented and will produce both chips and flour. Once 70% of their production capacity has been reached, several small processing units will be implemented to produce chips.

3. The models refer to: (a) large processing hub as an asset of a limited liability company, and (b) a smaller processing unit producing only chips. As most of the features related to the cassava processing hub LLC will be the same as the ones implemented for the horticulture service hub LLC, the reader will have to revert to Model 1 for explanations. Only those features that are changing between the Horticulture service hub LLC and the Cassava processing hub LLC are described hereinafter.

Cassava Processing Hub

4. **Investment costs.** Investment cost of the projected cassava processing hub is detailed in the following table. As an average, the hub is servicing around 770 households.

Table 12: Investment costs (MZM)

FLOUR AND CHIPS PROCESSING HUBS	Unit	#	Unit price	Total	% of depr.	Depreciation
Incremental investments						
- Building	sq.m	200	4,000	800,000	25	32,000
- Study, construction, supervision	study	10%		80,000	3	26,667
- Machinery	unit	1	1,400,000	1,400,000	7	200,000
- Transport	unit	1	840,000	840,000	5	168,000
- Greenhouse	Unit	1	280,000	280,000	5	56,000
- Motorcycle	Unit	1	215,000	215,000	5	43,000
- Generator	Unit	1	200,000	200,000	5	40,000
- Office equipment	set	1	280,000	280,000	3	93,333
- Miscellaneous				204,750	5	40,950
				4,299,750		699,950
Investments for chips producing				882,420		83,737
Total Investments				5,182,170		783,687

5. **Financing the investment.** A limited liability company will be created, the asset of which will consist in the cassava processing hub. The following table illustrates the breakdown of the initial investment per financial instrument considered (grant, equity and debt financing) as well as the breakdown of the equity financing between the various shareholders envisaged for such an investment.

Table 13: Financing the investment (per financier and per financial instrument) (MZM)

Financing	Amount	
- Grant	30%	396.000
- Equity	60%	2.871.702
- Private investors	45%	1.292.266
- Union of cassava producers	5%	143.585
- PFI	50%	1.435.851
- Debt financing	40%	1.914.468

6. The basic structure of the investment is as follows:
- Grant financing: 30% of the complete construction, inclusive of design and supervision costs;
 - Equity financing: 60% of the total investment cost net of grant financing. Producers' organisations/groups will hold 5% of the LLC at its creation, private investors will hold 45% while the MFBI will hold 50% of the LLC shares on behalf of the cassava producers' groups/organisations or the Union of cassava producers. The actual breakdown of shares ownership between producers and private investors will actually depend on interest expressed by private investors. In any event, farmers organisations should not own less than 30% of the shares;
 - Debt financing: 40% of the total investment cost net of grant financing.
7. This structure allows further debt financing for new or replacement of equipment (very conservative debt to equity ratio is only 0.67.).
8. **Human resources.** The following table details the human resources costs for one LLC. Social charges have been estimated at 30% of the gross salary.

Table 14: Human resources cost (MZM)

Positions	#	Salaries
- Washing	2	96,000
- Peeling	8	384,000
- Chipping	1	48,000
- Milling	2	96,000
- Handlers	4	192,000
- Nursery	2	96,000
- Composting	3	144,000
- Driver	1	48,000
- Manager	1	360,000
- Technical advisor	1	240,000
Total		1,704,000

9. **Loan repayments.** The following tables details repayments for the investment long-term loan and for the working capital short-term loan. Working capital loan has been estimated to be equal to 1 month of expenses, considering the activity of the cassava service hub. It is to be noted that considering the level of liquidity generated by the activity, the LLC will no longer require any working capital loan after Year 1. Long-term investment loan is fully paid back in 3 years.

Table 15: Repayments of investment and working capital loans (MZM)

Investment loan	Amount	Y1	Y2	Y3	Y4
Amount	1.914.468				
Interest rate	15%				
- Interests		287.170	191.447	95.723	
- Principal		638.156	638.156	638.156	
Working capital loan	Amount	Y1	Y2	Y3	Y4
Months considered	1				
Amount	1.810.325				
Interests	271.549				

10. **Projected profit and loss statements.** The following table details the projected profit and loss over a period of 9 years and changes in the cash-flow position.

Table 16: Projected Profit and Loss and changes in cash-flow position (over a 9-year period) (MZM)

Activity	unit	amount	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
Production of chips											
- Raw tubers	mt	2.500									
- Chips produced	mt	625									
- Chips purchased from 3 satellites	mt	1.875									
Production of flour	mt	1.200									
Chips sold	mt	1.000									
Revenues											
Price of flour sold	MTZ/t	16.000	19.200.000	19.200.000	19.200.000	19.200.000	19.200.000	19.200.000	19.200.000	19.200.000	19.200.000
Price of chips sold	MTZ/t	8.500	8.500.000	8.500.000	8.500.000	8.500.000	8.500.000	8.500.000	8.500.000	8.500.000	8.500.000
Total revenue			27.700.000	27.700.000	27.700.000	27.700.000	27.700.000	27.700.000	27.700.000	27.700.000	27.700.000
Purchase											
Purchase of raw material	MTZ/t	1.500	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000	3.750.000
Purchase of chips	MTZ/t	8.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000
Total purchase			18.750.000	18.750.000	18.750.000	18.750.000	18.750.000	18.750.000	18.750.000	18.750.000	18.750.000
Net operating margin			8.950.000	8.950.000	8.950.000	8.950.000	8.950.000	8.950.000	8.950.000	8.950.000	8.950.000
Operating expenses											
- Salaries			1.704.000	1.704.000	1.704.000	1.704.000	1.704.000	1.704.000	1.704.000	1.704.000	1.704.000
- Fuel			312.000	312.000	312.000	312.000	312.000	312.000	312.000	312.000	312.000
- Transportation costs (collection of chips)			120.000	120.000	120.000	120.000	120.000	120.000	120.000	120.000	120.000
- Transportation costs (delivery to clients)			450.000	450.000	450.000	450.000	450.000	450.000	450.000	450.000	450.000
- Miscellaneous	15%		387.900	387.900	387.900	387.900	387.900	387.900	387.900	387.900	387.900
Total operating expenses			2.973.900	2.973.900	2.973.900	2.973.900	2.973.900	2.973.900	2.973.900	2.973.900	2.973.900
Profit before depreciation and financial charges			5.976.100	5.976.100	5.976.100	5.976.100	5.976.100	5.976.100	5.976.100	5.976.100	5.976.100
- Depreciation			783.687	783.687	783.687	650.354	650.354	291.200	291.200	76.000	76.000
- Financial charges			558.719	462.996	367.272	271.549	271.549	271.549	271.549	271.549	271.549
Profit before tax			4.633.694	4.729.417	4.825.141	5.054.197	5.054.197	5.413.351	5.413.351	5.628.551	5.628.551
Tax	35%		1.621.793	1.655.296	1.688.799	1.768.969	1.768.969	1.894.673	1.894.673	1.969.993	1.969.993
Net profit			3.011.901	3.074.121	3.136.341	3.285.228	3.285.228	3.518.678	3.518.678	3.658.558	3.658.558
Cash flow											
- Beginning of period			1.810.325	4.779.225	8.032.381	11.347.757	15.363.509	19.299.091	23.234.673	27.044.551	30.854.430
- Changes in operations			5.417.381	3.891.312	3.953.532	4.015.752	3.935.582	3.935.582	3.809.878	3.809.878	3.734.558
- Principal repayments			2.448.481	638.156	638.156	-	-	-	-	-	-
- End of period			4.779.225	8.032.381	11.347.757	15.363.509	19.299.091	23.234.673	27.044.551	30.854.430	34.588.988

11. As shown in the table, the profitability of the cassava processing hub is quite significant (13.2% after tax.)

12. **Profit distribution and LLC shares purchase mechanism.** The profit distribution among shareholders is detailed in the following table based on the following assumptions:

- 25% of the yearly profit will be proposed by the Board of Directors for allocation in the legal reserve and in retained earnings (to be accepted by the General Assembly) to be used for financing important future investment;
- 50% of the dividends distributed to the MFBI will be retroceded to producers' groups: (i) immediate increase in cassava producers' revenues even if they only hold 5% of the LLC, and (ii) MFBI will have part of its operating costs already covered by PROSUL;
- Purchase mechanism for LLC shares held by the MFBI to be implemented starting Y4, once the investment loan has been fully repaid to the lending financial institution;
- 50% of the global amount of dividends received by cassava producers' groups will be used to purchase LLC shares held by MFBI. This percentage will be determined by each cassava producers' groups.

Table 17: Profit distribution and LLC shares purchase mechanism (MZM)

Profit distribution	unit	amount	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9
Retained earnings	25%		752.975	768.530	784.085	821.307	821.307	879.670	879.670	914.640	914.640
Dividends distributed	75%		2.258.926	2.305.591	2.352.256	2.463.921	2.463.921	2.639.009	2.639.009	2.743.919	2.743.919
- Private investors			1.016.517	1.383.355	1.411.354	1.478.353	1.478.353	1.583.405	1.583.405	1.646.351	1.646.351
- Union of cassava producers			112.946	153.706	156.817	164.261	728.007	1.556.233	1.935.273	2.012.207	2.012.207
- PFI			1.129.463	1.537.061	1.568.171	1.642.614	1.078.869	379.040	-	-	-
- Transferred to Union of cassava producers			564.731	768.530	784.085	821.307	539.434	189.520	-	-	-
- Kept by PFI			564.731	768.530	784.085	821.307	539.434	189.520	-	-	-
Use of dividends											
Total dividends for Union of cassava producers			677.678	922.236	940.902	985.568	1.267.441	1.745.753	1.935.273	2.012.207	2.012.207
- Distributed among members			677.678	922.236	940.902	492.784	633.721	1.436.407	1.935.273	2.012.207	2.012.207
- Used for buy back mechanism						492.784	633.721	309.346			
Changes in equity position											
Share capital	%										
- Private investors	45%		45%	45%	45%	45%	45%	45%	45%	45%	45%
- Union of cassava producers	5%		5%	5%	5%	22%	44%	55%	55%	55%	55%
- PFI	50%		50%	50%	50%	33%	11%	0%	0%	0%	0%
Share capital											
- Private investors		1.292.266	1.292.266	1.292.266	1.292.266	1.292.266	1.292.266	1.292.266	1.292.266	1.292.266	1.292.266
- Union of cassava producers		143.585	143.585	143.585	143.585	636.369	1.270.090	1.579.436	1.579.436	1.579.436	1.579.436
- PFI		1.435.851	1.435.851	1.435.851	1.435.851	943.067	309.346	-			
Total			2.871.702	2.871.702	2.871.702	2.871.702	2.871.702	2.871.702	2.871.702	2.871.702	2.871.702

13. Under assumptions considered, cassava producers' groups will be able to purchase the LLC shares held by the MFBI in 3 years. Dividends distributed to producers' groups varies from MZM 677 000 (in Year 1) to MZM 2 012 000 (from Year 8 onwards) i.e. USD 24 178 to USD 71 857 respectively. Considering 770 households per LLC, the incremental revenue per household related to dividends increases from USD 31.4/year to USD 93.3/year.

14. After 10 years, the Return on Investment for the three shareholders is as follows: (i) Private investors 95%; (ii) MFBI 39%, and producers' groups 500%.

15. Six cassava processing hubs are considered in the PROSUL area. Each one of them will be implemented as a limited liability company. Two LLCs will be created during the PROSUL second year while the four remaining LLCs will be created during the PROSUL fourth year.

Cassava small chip processing unit

16. **Investment costs.** Investment cost of a cassava chip processing unit is detailed in the following table.

Table 18: Investment costs (MZM)

CHIPS PROCESSING UNIT	Unit	#	Unit price	Total	% of depr.	Depreciation
Investments						
- Building	sq.m.	200	2,000	400,000	25	16,000
- Study, design, construction and supervision	%	10		40,000	3	13,333
- Machines	unit	4	26,600	106,400	7	15,200
- Drying station	unit	1	14,000	14,000	5	2,800
- Borehole	m	50	5,600	280,000	10	28,000
- Miscellaneous	lp			42,020	5	8,404
				882,420		83,737

17. **Financing the investment.** The following table illustrates the breakdown of the initial investment per financial instrument considered (grant, farmer's contribution and debt financing).

Table 19: Financing the investment (per financial instrument) (MZM)

Financing	Amount	%
- Grant	132.000	15,0%
- Beneficiaries	75.042	8,5%
- PFI - Investment loan	675.378	76,5%

18. Considering the level of poverty of the target beneficiaries for such an investment, its basic structure is as follows:

- Grant financing: 30% of the complete construction inclusive of design and supervision costs;
- Beneficiary's contribution: 8.5% of the total investment cost;
- Debt financing: 76.5% of the total investment cost.

19. **Loan repayments.** The following tables details repayments for the investment long-term loan as well as repayments for the working capital short-term loan. Working capital loan has been estimated to be equal to 1.5 months of expenses, considering the greenhouse activity cycle. It is to be noted that considering the level of liquidity generated by the activity, the LLC will no longer require any working capital loan after Year 2. Long-term investment loan is fully paid back in 2 years.

Table 20: Repayments of investment and working capital loans (MZM)

Investment loan		Y1	Y2	Y3	Y4	Y5
- Interest	15%	101.307	81.045	60.784	40.523	20.261
- Principal		135.076	135.076	135.076	135.076	135.076
Working capital loan		Y1	Y2	Y3	Y4	Y5
Months of production		1				
Amount		374.450				
Interest to pay		56.168				

20. The following table details the projected profit and loss over a period of 8 years as well as the changes in the cash position. Detail for the income and charges are to be found in the Technical Paper on the financial analysis and the description of the model's activities.

Table 21: Projected Profit and Loss (over a 10-year period) (MZM)

Activities	Unit	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8
Revenues		5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000	5.000.000
Expenses		4.493.400	4.493.400	4.493.400	4.493.400	4.493.400	4.493.400	4.493.400	4.493.400
Net profit before depreciation and financial charges		506.600	506.600	506.600	506.600	506.600	506.600	506.600	506.600
- Depreciation		83.737	83.737	83.737	70.404	70.404	59.200	59.200	44.000
- Financial charges		157.474	137.213	116.952	96.690	76.429	56.168	56.168	56.168
Net profit before tax		265.388	285.650	305.911	339.506	359.767	391.233	391.233	406.433
Tax	35%	92.886	99.977	107.069	118.827	125.919	136.931	136.931	142.251
Net profit after tax		172.503	185.672	198.842	220.679	233.849	254.301	254.301	264.181
Cash									
- Beginning of period		-	214.050	355.476	510.071	677.837	854.105	1.178.619	1.492.120
- Changes in cash position		349.126	276.501	289.671	302.841	311.344	324.514	313.501	313.501
- Principal repayments		135.076	135.076	135.076	135.076	135.076	-	-	-
- End of period		214.050	355.476	510.071	677.837	854.105	1.178.619	1.492.120	1.805.621

21. The pattern of implementation of small chip processing units will be: 2 units during project year 3, 4 during each of project years 4 and 5 and finally 8 during project year 6. Small chip processing units will be implemented once the production capacity of each cassava processing hub LLC has reached 70% of 7 000 t/year.

22. In the three selected provinces, the total area under irrigation is currently above 70 000 ha, of which only 19 354 ha are operational. The following table illustrates the average land size under irrigation in the three provinces as well as the total number of farmers exploiting those surfaces. For Gaza province, three large perimeters (Chokwe, Macia and Xai-Xai) have been isolated because of their different characteristics in terms of average land size.

Table 1: Average characteristics of irrigated perimeters

Provinces	Total irrigated land	Irrigated land under exploitation	Average land size per plot	# of farmers on exploited land
Gaza				
- Xai-Xai perimeter	8.735	4.827	0,9	5.363
- Chokwe perimeter	33.334	8.500	0,9	9.444
- Macia perimeter	8.000	1.250	0,9	1.389
- Other perimeters	8.353	598	0,5	1.196
Sub-total	58.422	15.175		17.393
Maputo				
- Perimeters > 0.5ha/farmer	8.477	3.446	0,8	4.308
- Perimeters < 0.5ha/farmer	979	246	0,4	615
Maputo	9.456	3.692	1,2	4.923
Inhambane	2.645	643	0,5	1.286
Total	70.523	19.510	0,83	23.601
Total area considered for the project	11.977	1.487		3.097

Source: National Directorate of Agricultural Services, 2011

23. The project will assist in developing effective irrigation and agriculture production in a total of 2,101 ha of existing irrigated schemes, currently improperly used or in total disuse. Two types of works are envisaged:

- *improvement works* required to improve irrigation in currently operational schemes. The improvement of irrigated land under exploitation will increase the current yield by an estimated 40% minimum⁸⁹;
- *rehabilitation works* required to getting schemes that are currently not being cultivated into operation.

24. Improvement as well as rehabilitation include infrastructure works such as the cleaning of canals, clearing and bank stabilization, repair and maintenance of sluice gates and pumping units.

25. **Small scale schemes.** The selection of small scale schemes targeted for PROSUL builds on an initial list provided by the Ministry of Agriculture (MINAG) and on a further screening process based on the following criteria: (i) current cultivated area; (ii) average plot size in line with IFAD target group; (iii) accessibility; (iv) performance of the Water User's Organisation (WUA); (v) technical feasibility; (vi) costs; and (vii) potential for expansion.

26. A total of 32 schemes have been evaluated using the selection criteria, resulting in the final selection of 19 schemes totalling 2,100 ha and 3,800 beneficiaries, of which around 65% of women. In most schemes, plots are already allocated to farmers. Average size plot in areas currently in operation is 0.4 ha and farmers correspond to extremely poor (less than 0.5 ha) and poor (see Annex 2 – Poverty, Targeting and Gender, Appendix 2). In some rehabilitation schemes, additional areas will become available for land allocation for an estimated 660 beneficiaries.

27. The 19 schemes are clustered in six target zones over 8 districts as indicated in Table 2.

⁸⁹ Based on farmers' interviews.

Table 2: Selected Schemes in 6 Zones in Maputo and Gaza Provinces

Zone	No. of schemes	Improvement		Rehabilitation		Beneficiaries	
		Area (ha)	Costs (USD)	Area (ha)	Costs (USD)	Existing	Additional
Moamba	2	450	735,000	180	1,102,500	670	360
Marracuene	4	305	762,500	30	42,000	758	0
Namaacha/Boane	3	18	45,500	196	343,000	342	0
Chokwe/Guija	4	165	612,500	175	857,500	395	210
Manjacaze	3	345	862,500	45	225,000	621	90
Chibuto	3	22	64,750	170	875,000	358	0
Total	19	1,305	3,082,750	796	3,445,000	3,144	660

Average cost for improvement works is USD 2,362/ha and USD 4,327/ha for rehabilitation.

28. **Regadio do Baixo Limpopo.** Furthermore, PROSUL will implement support activities to develop production and marketing of horticulture in the *Regadio de Baixo Limpopo*, a large irrigation scheme where AfDB-financed Small Scale Irrigation Project (SSIP) recently rehabilitated some 12,000 ha. With the rehabilitation of the drainage system, horticulture can again be developed. Apart from rehabilitation works, the AfDB project has established seven agricultural service centres (*casas agrárias*) on the hillsides bordering the horticultural areas, which are owned and managed by farmers' organisations. Overall, insufficient support to farmers' organisations in charge of management have led to mixed performance and sustainability of these centres.

29. The project will specifically target Nhocoene Block, which covers 900 ha and is farmed by 1,000 smallholders, thus with an average plot size of 900 ha. This block was selected because of the good conditions (soils, drainage, access) for vegetable cultivation, the performance of the Nhocoene Organisation and the performance of the *casa agrária*.

30. Although main infrastructure (drainage and road system) was rehabilitated, an amount of USD 100,000 is reserved for minor infrastructure improvement interventions, such as construction of water control structures and tertiary block development. This allocation also covers the cost of related studies, including economic, social and environmental aspects, as well as the assessment of the organisational capacity of the WUA.

31. **Participatory implementation process.** General implementation of the sub-component will rest on the Guidelines for Irrigation Development (National Directorate for Agriculture Services - DNSA, 2007), which describe activities to be undertaken at each stage of irrigation development, from feasibility studies to operation and maintenance. It also describes the roles and responsibilities of the parties involved in each activity, i.e. water users, DNSA (now National Institute for Irrigation - INIR) at national and provincial level, District Services for Economic Activities (SDAEs) at district level and consultancy firms and contractors. It is recommended that PROSUL consults INIR as well as World Bank-financed PROIRRI currently in operation to identify lessons learnt and modifications that should be brought to this implementation process.

32. **Feasibility.** Feasibility studies will be carried out by a specialised firm to be contracted through competitive bidding. Studies will make sure that planned investments are technically sound and cost-effective so as to spread their benefits as widely as possible, with low operation and maintenance (O&M) costs and minimum need for reliance on external support and take into account the possible multiple use of water for irrigation, cattle drinking water and for washing places. Schemes will be designed in consultation with farmers, and preliminary design options will be presented to and discussed with them. The design phase for each scheme will also include a detailed

capacity assessment of the existing WUA. Environmental Impact Assessments will be carried out where appropriate (schemes to be rehabilitated over 100 ha).

33. **Land allocation.** A selection process will be carried out for the allocation of land to new beneficiaries in expanded schemes, which will rest on:

- *preliminary participatory diagnostic* of current use and ownership of the land to be irrigated;
- *set up of an irrigation committee* with representatives of the WUA and of communities involved to participate in the process (including 50% of women and a representation of various socio-economic groups);
- *communities' /existing WUA's agreement on criteria for selecting beneficiaries*, building on the following criteria: (i) no irrigation plot or with maximum plot size of 0.6 ha; (ii) at least 50% of women, with priority to women-headed households; (iii) resident in the area; (iv) farming is main activity; (v) no access to other irrigation areas.
- *selection of beneficiaries* by the irrigation committee;
- *final selection* to be validated by the Horticulture Lead Service Provider and PROSUL Coordinator.

34. The whole process will be implemented by the Lead Service Provider and will be guided by PROSUL Land Technical Advisor hired under the Land Tenure Security Sub-Component in Component 5 - Institutional Support and Project Management (see Annex 4, Section 7 Land Tenure Security).

35. **Construction.** Civil works will be constructed by competent contractors selected through competitive bidding. Farmers will participate in construction through the provision of labour as well as in the supervision (quality control) of works.

36. **Strengthening WUAs.** Farmers in the selected schemes are all organised in organisations, with considerable variations in the level of organisations and organisations' capacities. PROSUL will support the development of sustainable WUA capacities to operate and maintain their schemes. Capacity building will be provided to WUAs on: (i) participatory design and supervision of work; (ii) scheme operation and maintenance (O&M) and related planning; and (iii) pump operation and maintenance. Capacity building programmes need to be tailor-made based on each specific scheme requirements and on WUAs current level of capacities. They will be jointly defined with each WUA, building on the following participatory process:

- *assessment of the current status of the WUA*, including its organisation, O&M practices, fee collection;
- *assessment of O&M scheme requirements and of capacity gaps*. This will also entail reviewing the roles and responsibilities of the WUA, and ensuring a clear separation with any collective roles linked to production and marketing, for example, as is often the case, through setting up a specific committee or sub-group for the purpose or, where adapted a separate organisation;
- *formulation of a capacity building plan* defining relative activities, timeframe and indicators.

37. The Horticulture LSP will be responsible for overall implementation of capacity building plans in collaboration with WUAs. Capacity building activities will combine trainings and regular coaching by the LSP irrigation specialist and the hub technical advisor. Annual participatory capacity assessments will be carried out and the plan will be updated accordingly. A major final output of each capacity building programme will be the production of an O&M Manual for each scheme. The manual will be designed in a simple form making it accessible to WUA members.

38. **Land management.** A register of plot allocations to each member will be set up by each organisation with support provided by the LTSP and VC LSP and used to record any changes in plot allocations. The register will include information on the member, a unique number for each parcel and the estimated area of the plot. The conditions and terms of member's use rights including duration of

these rights and rules and procedures for transferring or extinguishing use rights will also be included either in the main text or in annexes of the constitution and articles of organisation. It is anticipated that the duration of rights will depend on continuous use and payment of user fees.

39. Furthermore, the project will finance the cost of land demarcation for each of the participating WUAs/schemes, as part of the sub-component on Land Tenure Security in Component 5.

40. In the case of the *Regadio de Baixo Limpopo* where a public company has been granted a DUAT and in which PROSUL may support farmer organisations, it is anticipated that DUATs will not be granted to the organisations. Nevertheless, contractual arrangements between the organisation and the company should stipulate that the use rights are granted for the duration of the existence of the organisation, provided the land is used for the agreed purposes, and that the termination of such contractual arrangements will be subject to mutual agreement between the company and the organisation. Agreement on the above measures should be reached between the *Regadio de Baixo Limpopo* public company and CEPAGRI prior to the commencement of PROSUL's support in the scheme.

41. **Irrigation Management Transfer (IMT).** It is expected that the legislation on irrigation management arrangements as established in Resolution 10/2010 will be further elaborated in rules and regulations and procedures in the coming years. The project will assist in the implementation of the IMT in the schemes targeted by the project according to these newly developed procedures.

42. **Institutional support.** PROSUL will provide institutional support to irrigation staff at the provincial and district level in those provinces and districts where it will develop irrigation schemes, using the same approach and methodology as PROIRRI. Capacity building assistance at provincial level will include: (i) participatory irrigation design, (ii) preparation of terms of reference for design studies and tender documents; (iii) monitoring, including quality control of irrigation construction and (iv) operation and maintenance. At district level training will be provided to agricultural extension staff of the SDAE and to service hubs' technical advisors in: (i) planning; (ii) monitoring and quality control, (iii) operation and maintenance and (iv) extension on irrigated agriculture. The irrigation specialist together with the short term institutional irrigation advisor of the LSP will assess the training requirements, review existing available training modules and training institutes in close collaboration with PROIRRI and elaborate the training plans. Training will be provided through short courses. A total of 10 short courses (5 in each province) are envisaged for provincial level staff and 35 for district irrigation staff (5 in each district).

43. **Implementation arrangements.** The Horticulture Lead Service Provider will bear overall responsibility for implementing sub-component 1, which will include: (i) providing assistance to INIR in the procurement of a consulting firm to carry out construction design and supervision and of private contractors to carry out the works; (ii) strengthening WUAs capacities in collaboration with INIR and SDAEs; (iii) raising the capacities of the ministry of Agriculture staff departments dealing with irrigation at provincial and district level in planning and supervising irrigation works along the PROIRRI Capacity Development Programme approach and methodology and assisting it in carrying out its responsibilities.

44. Implementation of irrigation works will be carried out in parallel with the strengthening of WUAs and will include four stages:

- *identification and planning:* the scoping study to be carried out throughout the targeted area for horticulture at project inception will include an assessment of the interest of existing WUAs to participate in the project. Dissemination meetings will be conducted to explain the objectives and conditions of the project as well as the planning of activities. Once agreement is reached, a document will be signed with an explanation of PROSUL objectives and conditions as well as farmers' commitment to participate in the planning and implementation of activities and to take full responsibility for O&M.

- *organisation and preparation*: once the agreement is signed, a full feasibility study will be conducted and cover the engineering, economic, social and environmental aspects, as well as the organizational capacity of the WUA. At the end of the preparation stage, the final design of the scheme will be discussed with the farmers, including the planned time-schedule for construction, planning of the O&M requirements, capacity building plan, costs and farmers' participation in construction and supervision. The preparation stage will be concluded with a signed agreement stipulating the roles and responsibilities of the LSP/INRI and of the WUA.
- *implementation*: once agreement is reached, the procurement for the construction works will start. The WUA will receive training on its roles and responsibilities in construction and supervision, and it will form a quality control committee. Most of the training activities as defined in the capacity development plan will be implemented in this stage. When the construction is concluded, the scheme will be tested on the proper technical functioning for at least 12 months, after which it will be officially handed over to the organisation.
- *operation and maintenance*: in this stage the project involvement will be limited to monitoring the implementation of the operation and maintenance plans and providing coaching as appropriate. Possible weaknesses in scheme management will be assessed and additional capacity building activities provided.

45. **Phasing.** Activities related to civil works will be phased as follows:

Table 3 – Phasing of Irrigation Civil Works

Clusters	2013	2014	2015	2014
Moamba Chokwe/Guija	Scoping study	Design Procurement of construction	Construction	
Marracuene Manjacaze Namaacha/Boane Chibuto	Scoping study		Design Procurement of construction	Construction
Regadio do Baixo Limpopo	Scoping study	Design Procurement of construction		

46. Criteria for selecting the two clusters to start in 2014 are the fact that they have the largest areas currently in operation. In addition the Regadio de Baixo Limpopo only requires minor civil works, if at all, and is therefore ready to start quite quickly on strengthening WUAs and promoting horticulture.

47. **LSP staffing.** The LSP will hire staff required to perform its responsibilities in accordance with the technical proposal submitted to the PMT in the competitive bidding process. In addition, it will resort to short term technical assistance (total 12 months over 4 years) by: (i) a construction engineer for reviewing designs and ensuring quality control of the construction works, and (ii) an institutional irrigation advisor to assist in the strengthening of the WUAs and institutional support to irrigation staff at provincial and district levels.

48. **Land tenure security.** All activities related to land tenure security will be carried out by the Land Tenure Service Provider (LTSP), along the modalities detailed in Annex 4, Section 7 – Land Tenure Security, in close collaboration with the LSP and INIR.

49. **Partnership with AfDB.** AfDB is currently formulating a new project called 'Climate Resilience through Sustainable Land and Water Resources Management Project'. One of the possible target districts is Guija (Gaza), where it may address irrigation. IFAD/CEPAGRI will share their plans with AfDB to avoid possible overlap.

50. **Performance indicators.** The progress and impact of the proposed activities under the sub-component will be monitored by the project as presented in the Project Design Report. The following performance and impact monitoring are recommended:

Performance Indicator (first level):

- Number and area (ha) of improved irrigation schemes
- Number and area (ha) of rehabilitated schemes
- Number of functioning WUAs and areas (ha) covered
- Number of women in leadership position of WUAs
- Number of leaders and members of WUAs trained, by subject and by gender.
-

51. Impact Indicators (second level):

- % of increase in crop production and yields by small farmers in targeted areas;
- Incremental irrigated crops grown per season, by crop type and area (ha);
- Number of households with sustainable access to irrigation water.

MODEL 4: SLAUGHTERHOUSE

1. **Investment costs.** Investment cost of the slaughterhouse is detailed in the following table. Costs related to building construction based on a maximum slaughtering capacity of 25 000 cattle and 20 000 goats and sheep. Slaughtered animals will predominantly come from Livestock Producers Organisations supported by PROSUL, but might also come from other organisations.

Table 22: Investment costs (MZM)

Investments	unit	#	unit price	Total	Total (USD)	Years deprec.	Depreciation
Access road						n.a.	
Asphalted tarmac	sq.m			-	-	n.a.	
Study, design and work supervision	study		2.022.000	2.022.000	72.214	5	404.400
Buildings				-	-		
- Slaughter building	sq.m	350	3.000	1.050.000	37.500	25	42.000
- Processing and retail shop	sq.m	200	3.000	600.000	21.429	25	24.000
- Admin. building	sq.m	200	3.000	600.000	21.429	25	24.000
- Skin warehouse	sq.m	50	3.000	150.000	5.357	25	6.000
Holding pen	sq.m	300	200	60.000	2.143	n.a.	-
Equipment							
- Slaughtering	set	1	12.600.000	12.600.000	450.000	10	1.260.000
- Processing	set	1					
Cold storage facility	unit	1	3.500.000	3.500.000	125.000	10	350.000
Generator	unit	1	400.000	400.000	14.286	10	40.000
Biogas system	unit	1	700.000	700.000	25.000	7	100.000
Borehole	m	100	5.600	560.000	20.000	25	22.400
Admin. furniture and equipment	set	1	554.400	554.400	19.800	3	184.800
Refrigerated truck	unit	1	800.000	800.000	28.571	5	160.000
Pick-up truck	unit	-		-	-	-	-
Vehicle	unit	1	560.000	560.000	20.000	5	112.000
Total Investment				24.156.400	862.729		2.729.600

2. **Financing the investment.** A limited liability company will be created the asset of which will consist of the slaughterhouse. The following table illustrates the breakdown of the initial investment per financial instrument considered (grant, equity and debt financing) as well as the breakdown of the equity financing between the various shareholders envisaged for such an investment.

Table 23: Financing the investment (per financier and per financial instrument)

Financing	%	Amount (MTZ)
Total investment		24.156.400
Grant financing		738.000
Equity financing	60%	14.051.040
- Meat Traders/Butchers Associations	50%	7.025.520
- Producers' Associations	5%	702.552
- Private investors	15%	2.107.656
- Project Investment Fund	30%	4.215.312
Total Equity financing		14.051.040
Debt financing	40%	9.367.360

3. The basic structure of the investment of about USD 863 000 is as follows:
- Grant financing: 30% of the complete construction inclusive of design and supervision costs, amounting to about USD 26 000;
 - Equity financing (about USD 502 000): 60% of the total investment cost net of grant financing. Shareholders will include: Meat Traders Organisations supported by PROSUL up

to 50% of the share capital, Livestock Producers Organisations supported by PROSUL up to 5%, private investors up to 15%, and then the Catalytic Fund for up to 30%;

- Debt financing (about USD 335 000): 40% of the total investment cost net of grant financing.

4. This structure allows further debt financing for new or replacement of equipment (very conservative debt to equity ratio is only 0.67.)

5. The long-term objective of the slaughterhouse investment is to have Meat Traders Organisations (MTOs) and Livestock Producers Organisations (LPOs) benefiting from the largest share of the profit generated by the slaughterhouse. In that respect, in the long-term MTOs and LPOs will own the majority of the LLC share capital. Tentatively, the long-term breakdown of the LLC share capital is as follows: MTOs and LPOs (85%) and private investors (15%.) Private investors will most probably be from outside the livestock value chain.

6. Due to the size of the investment and considering that at that level of investment, microfinance bank/institution would not have sufficient expertise to hold LLC shares on behalf of third parties or to assist other shareholders in the management and supervision of the LLC.

7. Contrary to MTOs, members of Livestock Producers Organisations have not the possibility to mobilize the amount of their capital at the creation of the LLC. To address this issue, the Catalytic Fund (acting as the PROSUL Investment Fund) will hold the LLC shares allocated to the LPOs on their behalf. It has been assumed that LPOs at the creation of the LLC will only be able to mobilize 5% of the share capital, leaving the Catalytic Fund to finance 30% of the share capital. A purchase mechanism will be implemented allowing LPOs to gradually purchase the LLC shares from the Catalytic Fund. To facilitate the purchase by LPOs, the purchase price will be determined as nominal value plus official inflation rate. The purchase mechanism will become effective only once LPOs would have fully repaid the long-term investment loan to the financial institution.

8. **Human resources.** The following table details the human resources costs for one LLC. Social charges have been estimated at 30% of the gross salary.

Table 24: Human resources cost (MZM)

Staffing	#	monthly sal.	Total
Manager	1	42.000	504.000
Admin. staff/accountant	1	28.000	336.000
Secretary	1	16.800	201.600
Killer	1	16.800	201.600
Cutters	15	12.600	2.268.000
Entrails cleaners	2	9.800	235.200
Processors	5	14.000	840.000
Skinner	1	9.800	117.600
Retailer	1	9.800	117.600
Cleaning ladies	2	2.800	67.200
Guards	6	2.800	201.600
Drivers	2	8.400	201.600
Total salaries			5.292.000
Total salaries plus charges			6.879.600

9. **Loan repayments.** The following tables details repayments for the investment long-term loan as well as repayments for the working capital short-term loan. Working capital loan has been estimated to be equal to 1.5 months of expenses, considering the activity of the slaughterhouse. It is to be noted that considering the level of liquidity generated by the activity, the LLC will no longer require any working capital loan after Year 3. Long-term investment loan is fully paid back in 4 years.

Table 25: Repayments of investment and working capital loans (MZM)

Investment loan	Unit	PY1	PY2	PY3	PY4	PY5	PY6	PY7
Loan amount	9.367.360							
Interest rate	15%							
Repayments								
- Interest		1.405.104	936.736	468.368				
- Principal		3.122.453	3.122.453	3.122.453				
Installments								
Working capital loan								
Number of months considered	2							
Interest rate	15%							
Interests		874.489	1.331.677	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239
Principal		5.829.927	8.877.843	11.054.927	11.054.927	11.054.927	11.054.927	11.054.927

10. **Projected profit and loss statements.** The following table details the projected profit and loss over a period of 10 years. Detail for the income and charges are to be found in the Technical Paper on the financial analysis and the description of the model's activities.

Table 26: Projected Profit and Loss (over a 10-year period) (MZM)

Operations	Unit	PY1	PY2	PY3	PY4	PY5	PY6	PY7	PY8	PY9	PY10
Slaughtering capacity (heads of cattle)		25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Build-up of output		40%	75%	100%	100%	100%	100%	100%	100%	100%	100%
Heads of cattle slaughtered		10.000	18.750	25.000	25.000	25.000	25.000	25.000	25.000	25.000	25.000
Heads of shoats slaughtered		10.000	15.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000	20.000
Revenues											
Slaughtering, cutting, residence, storage fees		30.000.000	54.375.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000
Total fee		30.000.000	54.375.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000	72.500.000
Sales of meat from retail shop		9.600.000	29.250.000	39.000.000	39.000.000	39.000.000	39.000.000	39.000.000	39.000.000	39.000.000	39.000.000
Sales of skins											
Sales of tripes		6.000.000	11.250.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000	15.000.000
Total revenues		45.600.000	94.875.000	126.500.000	126.500.000	126.500.000	126.500.000	126.500.000	126.500.000	126.500.000	126.500.000
Operating expenses											
Purchase of animals		19.000.000	35.625.000	47.500.000	47.500.000	47.500.000	47.500.000	47.500.000	47.500.000	47.500.000	47.500.000
Salaries and social charges		6.879.600	6.879.600	6.879.600	6.879.600	6.879.600	6.879.600	6.879.600	6.879.600	6.879.600	6.879.600
Electricity		4.380.000	4.380.000	4.380.000	4.380.000	4.380.000	4.380.000	4.380.000	4.380.000	4.380.000	4.380.000
Transport		500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000	500.000
Insurance cost		1.040.000	1.040.000	1.040.000	1.040.000	1.040.000	1.040.000	1.040.000	1.040.000	1.040.000	1.040.000
Miscellaneous		3.179.960	4.842.460	6.029.960	6.029.960	6.029.960	6.029.960	6.029.960	6.029.960	6.029.960	6.029.960
Total Operating expenses		34.979.560	53.267.060	66.329.560	66.329.560	66.329.560	66.329.560	66.329.560	66.329.560	66.329.560	66.329.560
Profit before depreciation, financial charges and tax		10.620.440	41.607.940	60.170.440	60.170.440	60.170.440	60.170.440	60.170.440	60.170.440	60.170.440	60.170.440
- Depreciation		2.729.600	2.729.600	2.729.600	2.544.800	2.544.800	2.272.800	2.272.800	2.272.800	2.272.800	2.272.800
- Financial expenses											
- Investment loan		1.405.104	936.736	468.368	-	-	-	-	-	-	-
- Working capital loan		874.489	1.331.677	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239
Total financial charges		2.279.593	2.268.413	2.126.607	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239	1.658.239
Profit before tax		5.611.247	36.609.928	55.314.233	55.967.401	55.967.401	56.239.401	56.239.401	56.239.401	56.239.401	56.239.401
Income tax	35%	1.963.936	12.813.475	19.359.982	19.588.590	19.588.590	19.683.790	19.683.790	19.683.790	19.683.790	19.683.790
Net profit		3.647.311	23.796.453	35.954.251	36.378.811	36.378.811	36.555.611	36.555.611	36.555.611	36.555.611	36.555.611

11. As shown in the table, the profitability of the slaughterhouse is quite significant (29.6% after tax.)

12. **Profit distribution and LLC shares purchase mechanism.** The profit distribution among shareholders is detailed in the following table. The following assumptions have been considered to be applied by the shareholders of the slaughterhouse LLC:

- 25% of the yearly profit will be proposed by the Board of Directors for allocation in the legal reserve and in retained earnings (to be accepted by the General Assembly) to be used for financing important future investment;
- 50% of the dividends distributed to the Catalytic Fund will be retroceded to LPOs: (i) immediate increase in producers' revenues even if they only hold 5% of the LLC, and (ii) Catalytic Fund will have part of its operating costs already covered by PROSUL and by other strategic equity investments;
- Purchase mechanism for LLC shares held by the Catalytic Fund to be implemented starting Y4, once the investment loan has been fully repaid to the lending financial institution;
- 50% of the global amount of dividends received by LPOs will be used to purchase LLC shares held by the Catalytic Fund. This percentage will be determined by each producers' groups.

Table 27: Profit distribution and LLC shares purchase mechanism (MZM)

Profit distribution		Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10
Retained earnings	35%	1.276.559	8.328.759	12.583.988	12.732.584	12.732.584	12.794.464	12.794.464	12.794.464	12.794.464	12.794.464
Dividends	65%	2.370.752	15.467.694	23.370.263	23.646.227	23.646.227	23.761.147	23.761.147	23.761.147	23.761.147	23.761.147
- MTAs		1.185.376	7.733.847	11.685.132	11.823.113	11.823.113	11.880.573	11.880.573	11.880.573	11.880.573	11.880.573
- LPAs		118.538	773.385	1.168.513	1.182.311	5.161.690	8.316.401	8.316.401	8.316.401	8.316.401	8.316.401
- Private investors		355.613	2.320.154	3.505.540	3.546.934	3.546.934	3.564.172	3.564.172	3.564.172	3.564.172	3.564.172
- Project Investment Fund		711.226	4.640.308	7.011.079	7.093.868	3.114.490	-	-	-	-	-
- Kept by PFIs		355.613	2.320.154	3.505.540	3.546.934	1.557.245	-	-	-	-	-
- Transferred to LPAs		355.613	2.320.154	3.505.540	3.546.934	1.557.245	-	-	-	-	-
LPAs utilization of dividends											
- Used for buy PFI shares					2.364.623	1.850.689					
- Kept for producers' groups		474.150	3.093.539	4.674.053	2.364.623	4.868.245	8.316.401	8.316.401	8.316.401	8.316.401	8.316.401
Cash-flow position											
- Beginning of period		5.829.927	8.677.568	27.463.012	46.200.653	61.706.646	76.984.030	92.146.493	107.213.757	122.281.021	137.348.285
- Operations		5.970.095	21.907.897	21.860.095	15.505.993	15.277.384	15.162.464	15.067.264	15.067.264	15.067.264	15.067.264
- Loan principal repayments		3.122.453	3.122.453	3.122.453	-	-	-	-	-	-	-
- End of period		8.677.568	27.463.012	46.200.653	61.706.646	76.984.030	92.146.493	107.213.757	122.281.021	137.348.285	152.415.548
Share capital											
Percentage											
- MTAs	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%	50%
- LPAs	5%	5%	5%	5%	22%	35%	35%	35%	35%	35%	35%
- Private investors	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%	15%
- Project Investment Fund	30%	30%	30%	30%	13%	0%	0%	0%	0%	0%	0%
Amounts											
- MTAs		7.025.520	7.025.520	7.025.520	7.025.520	7.025.520	7.025.520	7.025.520	7.025.520	7.025.520	7.025.520
- LPAs		702.552	702.552	702.552	3.067.175	4.917.864	4.917.864	4.917.864	4.917.864	4.917.864	4.917.864
- Private investors		2.107.656	2.107.656	2.107.656	2.107.656	2.107.656	2.107.656	2.107.656	2.107.656	2.107.656	2.107.656
- Project Investment Fund		4.215.312	4.215.312	4.215.312	1.850.689	-	-	-	-	-	-
Total		14.051.040	14.051.040	14.051.040	14.051.040	14.051.040	14.051.040	14.051.040	14.051.040	14.051.040	14.051.040

13. Under assumptions considered, LPOs will be able to purchase the LLC shares held by the Catalytic Fund in 2 years. Dividends distributed to producers' groups varies from MZM 474 000 (in Year 1) to MZM 8 140 000 (from Year 6 onwards) i.e. USD 16 928 to USD 290 714, respectively. Considering that the slaughterhouse will benefit to approximately 3 500 cattle and shoats raiser, the incremental revenue per household related to dividends increases from USD 4.8/year to USD 83.1/year.

14. After 10 years, the Return on Investment for the three shareholders is as follows: (i) Private investors 84%; (ii) Catalytic Fund 37%, and producers' groups 207%.

15. **Cash-flow projections.** The projected cash-flow generated by the slaughterhouse LLC is detailed in the previous table.

MODEL 5: LIVESTOCK PRODUCERS ORGANISATIONS

16. The main cost incurred by livestock raisers is related to veterinarian treatments. Vaccines are delivered free of charge by the government. Other drugs necessary to improve animal health need to be purchased by each livestock raiser. Most animals are left without any treatment because drugs are not available everywhere, and their cost is prohibitive for the raisers.

17. Cost of medicines is evaluated at USD 18 for cattle and USD 4 for shoats. In order to promote these drugs, the first year treatment for the whole herd of each participating livestock raiser will be financed by the project in the form of a grant (under Component 3). The treatment required for the following years will be increasingly financed by the livestock raiser from his own resources (over 3 years) and decreasingly financed through a short-term working capital loan (also over a three-year period.) The working capital loan is paid back in one year.

18. The following tables detail: a/ the number of livestock raisers to be included in the project so as to deliver 25 000 cattle and 20 000 shoats to the slaughterhouse, and b/ the financing sources for vet treatments during a 7-year period between the project grant financing, the livestock raiser's contribution and the microfinance institution short-term working capital loan. The number of LPOs shown in the table is indicative.

Table 28: Number of cattle and shoats raisers

Activities/items	#	PY1	PY2	PY3	PY4	PY5	PY6	PY7	TOTAL
Number of LPAs			3	2	2				7
Number of cattle raisers			1.071	714	714				2.500
Number of shoats raisers			571	381	381				1.333
Cattle per raiser	10								
Shoats per raiser	15								

Table 29: Financing cost of vet treatments for cattle and shoats (in USD)

Items	price	PY1	PY2	PY3	PY4	PY5	PY6	PY7	TOTAL
Medicine package									
Cattle	17.86								
Shoats	3.57								
Grant financing									
1st year grant cattle		considered as a grant for start-up kits							
1st year grant shoats									
Total									
Financing pattern for following years									
- Cattle raiser contribution				33%	67%	100%	100%	100%	
- PFI working capital credit				67%	33%	0%	0%	0%	
Financing needs									
- Cattle raiser contribution				73,240	197,526	369,898	469,031	517,857	
- PFI working capital loan				148,699	172,372	147,959	48,827	-	
				221,939	369,898	517,857	517,857	517,857	
PFI revolving credit									
- Disbursements				148,699	172,372	147,959	48,827	-	
- Repayments				148,699	172,372	147,959	48,827	-	
- Incremental credit required				148,699	23,673	-24,413	-99,133	-48,827	
Financing									
Grant financing									
Cattle raiser				73,240	197,526	369,898	accounted for		640,663
PFI - Working capital loan				148,699	23,673				172,372

MODEL 6: MEAT TRADERS ORGANISATIONS

1. The main activity of meat traders will be to buy animals from Livestock Producers Organisations (LPOs) and take them to the slaughterhouse in Maputo. However, out of 10 animals bought from LPOs, a maximum of 3 are slaughtered in the province and sold to local butchers/public. The rest are taken by train or by lorries to the slaughterhouse.

2. The required investment for a Meat Traders Organisation (MTO) consists of: a/ a truck to transport the animals from the livestock markets to the slaughterhouse; b/ a scale to weigh the animals and, c/ small equipment. The following tables detail the investment cost for each MTO as well as the financing model.

Table 30: Investment costs (MZM)

Investments	Unit	#	Unit price	Total	Total (USD)
Truck (Mitsubishi Fuso)	nbr	1	840.000	840.000	30.000
Scales	unit	1	54.000	54.000	1.929
Small equipment	set	1	140.000	140.000	5.000
Total investment				1.034.000	36.929

Table 31: Financing model (MZM)

Financing Investment	Amount
Investment amount	1.034.000
- MTAs contribution	517.000
- PFI	517.000

3. Considering that MTOs are already operational, the necessary financing will be equally provided by the MTO and a loan from a participating microfinance bank/institution.

4. Ownership of animals slaughtered remains with the MTOs, the members of which are mainly butchers. Some animals (around 5% of animals slaughtered) will be sold to the Slaughterhouse LLC while the remaining animals will either be sold in the butcheries owned by MTOs members or sold to other non-member butchers. MTOs will bear slaughterhouse fees (residence fees, slaughtering fees for carcasses, slaughtering fees for meat cut, inspection fees, storage fees, taxes).

5. The following table illustrates the turnover of a MTO, with 7 MTOs supported by the project and 25 000 cattle and 20 000 shoats (sheep and goats) for slaughtering.

Table 32: MTO turnover (MZM)

Turnover	PY2	PY3	PY4	PY5	PY6	PY7	PY8
Number of heads of cattle transported per week	71						
Purchase price (all inclusive)	17.000						
Number of heads of shoats transported per week	57						
Purchase price (all inclusive)	1.000						
Total	508.571	953.571	1.271.429	1.271.429	1.271.429	1.271.429	1.271.429
Yearly total	24.411.429	45.771.429	61.028.571	61.028.571	61.028.571	61.028.571	61.028.571

6. The working capital of an MTO is based on the number of animals purchased from LPOs, transportation costs and fees due to the slaughterhouse. The livestock value chain turns very rapidly for obvious sanitary reasons and therefore, the working capital need for MTOs should not exceed 2 weeks of activity. The following table details the profit and loss statement for an MTO.

Table 33: Profit and Loss Statement (MZM)

Operations	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Revenues							
- Carcasses/cut meat sold to butchers/clients	32.849.748	61.593.277	82.124.370	82.124.370	82.124.370	82.124.370	82.124.370
- Carcasses sold to slaughterhouses	2.605.714	4.885.714	6.514.286	6.514.286	6.514.286	6.514.286	6.514.286
Total revenues	35.455.462	66.478.992	88.638.655	88.638.655	88.638.655	88.638.655	88.638.655
Expenses							
- Purchase of animals	24.411.429	45.771.429	61.028.571	61.028.571	61.028.571	61.028.571	61.028.571
- Transport cost	5.085.714	9.535.714	12.714.286	12.714.286	12.714.286	12.714.286	12.714.286
- Slaughterhouse fees and taxes	3.000.000	5.437.500	7.250.000	7.250.000	7.250.000	7.250.000	7.250.000
Total Expenses	32.497.143	60.744.643	80.992.857	80.992.857	80.992.857	80.992.857	80.992.857
Profit before financial charges	2.958.319	5.734.349	7.645.798	7.645.798	7.645.798	7.645.798	7.645.798
Financial charges							
- Investment loan	77.550						
- Working capital	152.571	286.071	381.429				
Net profit	2.728.198	5.448.277	7.264.370	7.645.798	7.645.798	7.645.798	7.645.798
Cash-flow position							
- Beginning of period	2.034.286	4.245.484	9.693.761	16.958.131	24.603.929	32.249.727	39.895.526
- Operations	2.728.198	5.448.277	7.264.370	7.645.798	7.645.798	7.645.798	7.645.798
- Principal repayment	517.000						
- End of period	4.245.484	9.693.761	16.958.131	24.603.929	32.249.727	39.895.526	47.541.324

7. The profitability is very high for MTOs, they can repay their investment loan in one year and the accumulated cash-flow enables them to finance their working capital after the 3rd year without any loan. It also indicates that should the capacity of the slaughterhouse be increased or should other slaughterhouses be implemented, MTOs have accumulated sufficient cash to purchase enough animals to face the increase in the demand.

MODEL 7: BREEDING CENTERS

1. The main objective in implementing breeding centers is to improve the breed of cattle in the project area. Breeding centers will be supplied with heifers and bulls of high breed. Every female calf born will be exchanged against an old animal from members of LPOs. No cash is involved in this exchange of cattle. The breeding center will sell old cattle exchanged as well as male calves born from high breed heifers. Livestock producers will increase the quality of their herds and will benefit from higher prices when animals are slaughtered and sold.

2. This activity can only be sustainable with breeding centers managed and operated by commercial farmers who already have more than 400 heads of cattle. Commercial farmers will have sufficient financial resources to purchase necessary vet treatments and animal feed for their herd and for the additional animals provided for the breeding center.

3. In addition, commercial farmers will also have sufficient cash-flow generated by their activity to co-finance the breeding center investment as well as sufficient income from the sale of animals to the slaughterhouse to pay back the loan for the breeding center investment. Tables 34 and 36 detail the investment cost and the financing pattern of the breeding center, while table 37 demonstrates the profitability of the breeding center.

Table 34: Investment costs

Investments	Unit	#	Unit price	Total (MTZ)	Total (USD)
Heifers	head	150	20.000	3.000.000	107.143
Bulls	head	12	25.000	300.000	10.714
Tractor	unit	1	710.800	710.800	25.386
Hay-making equipment	unit	1	200.000	200.000	7.143
Scales	unit	3	54.000	162.000	5.786
Vehicle	unit	1	560.000	560.000	20.000
Total				4.932.800	176.171

Table 35: Financing pattern

Financing	Amount (MTZ)	Amount (USD)
- Commercial farmers	2.466.400	88.086
- Grant financing	-	
- PFI	2.466.400	88.086
Total	4.932.800	176.171

Table 36: Profit and Loss (MZM)

Yearly activity	Unit price	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Heads of cattle to be slaughtered								
- From own herd		100	100	100	100	100	100	100
- From exchange with small producers		10	20	30	40	50	60	70
Total Heads of cattle		110	120	130	140	150	160	170
Revenues								
- From own herd (2 years old)	25.000	2.500.000	2.500.000	2.500.000	2.500.000	2.500.000	2.500.000	2.500.000
- From exchange	30.000	300.000	600.000	900.000	1.200.000	1.500.000	1.800.000	2.100.000
Total Revenues		2.800.000	3.100.000	3.400.000	3.700.000	4.000.000	4.300.000	4.600.000
Expenses								
- Feed and vet products (i)	p.m.							
- Investment loan installments		986.560	894.070	801.580	709.090	-	-	-
Total Expenses		986.560	894.070	801.580	709.090	-	-	-
Profit		1.813.440	2.205.930	2.598.420	2.990.910	4.000.000	4.300.000	4.600.000
(i) Commercial farmers selected to operate a breeding center have in average 400 heads of cattle. They have already access to working capital loans from commercial banks (feed -if any- and vet products).								

MODEL 8: LIVESTOCK VET STORES

1. To facilitate the distribution of veterinarian products of good quality, the project will support the implementation of a network of 7 Livestock Vet Stores. This will be done in close collaboration with a medicine importer based in Maputo, who is willing to expand its outreach through the creation of a franchisees network.

2. The importer will provide medicines and simple equipment to each franchisee on credit. Franchisees will sell drugs to livestock producers. They will then pay the importer the amount paid by the livestock producers minus the mark-up. This mark-up will be used to cover operating costs as well as to pay back the loan extended by a microfinance bank/institution for the financing of implementation costs and of a working capital loan. The working capital loan will be only based on operating expenses as medicines will only be paid to the importer once they have been sold to livestock producers. The importer will be selected through competitive bidding. His/her turnover and cash-flow should allow him/her to get a working capital loan from his/her commercial bank.

3. Each vet franchisee will have one or two assistants responsible for the promotion of medicines to livestock farmers so as to comply with animal health standards. The following tables detail the investment cost for a veterinarian franchise as well as the projected different financing sources.

Table 38: Investment costs (MZM)

Activities/investments	Unit	#	Unit price	Total	Total (USD)
Local vet selling points					
- Rehabilitation of a two-room office	sq.m.	50	2.000	100.000	3.571
- Refrigerated cabinet	unit	1	100.000	100.000	3.571
- Shelves	set	1	28.000	28.000	1.000
- Office furnitures	set	1	60.000	60.000	2.143
- Computer equipment	set	1	115.000	115.000	4.107
- Motorcycle	unit	3	140.000	420.000	15.000
- Generator	unit	1	170.000	170.000	6.071
- Solar panels	unit	1	150.000	150.000	5.357
- Miscellaneous	lp			40.000	1.429
Total Investment				1.183.000	42.250

Table 39: Financing sources (MZM)

Financing	%	Amount
Project grant	23	270.000
Franchisor	36	426.925
Entrepreneur	5	59.150
PFI	36	426.925
Total		1.183.000

4. Financing will include: grant financing (100% of the cost of the rehabilitation of a 2-room premises and of a generator); contribution from the franchisor and from the franchisee (5% and 36%, respectively), and a loan from a microfinance institution for 36% of the total investment cost. Since the franchisee will sell its medicines mainly to small livestock producers, his/her mark-up will be minimal (also to promote health standard and the use of vet medicines, their price have to remain as low as possible). But, small mark-up on medicines and even higher ones on small equipment will not generate enough profit to be able to repay a loan the amount of which will be based on the total investment cost; hence the grant financing from the project.

5. The following table details the terms and conditions of both the investment loan and the working capital loan (amount, instalments and repayment schedule.) It shows that the investment loan can be repaid in 4 years while the cash-flow generated by the activity is sufficient during year 4 of activity to substitute for the working capital loan.

Table 40: Loans terms and conditions (MZM)

Investment loan		Y1	Y2	Y3	Y4	Y5	Y6	Y7
Loan amount		426.925						
Interest rate	15%							
Repayments								
- Interests		64.039	48.029	32.019	16.010			
- Principal		106.731	106.731	106.731	106.731			
Installments		170.770	154.760	138.751	122.741			
Working capital loan								
Months considered	2							
Interest rate	15%							
Loan amount		60.254	60.254	60.254	60.254			
Repayments								
- Interests		9.038	9.038	9.038	9.038	-	-	-
- Principal								

6. The following table illustrates the profit and loss of the vet franchisee activity, considering a mark-up of 20% on the basket of medicines sold for cattle and a mark-up of 25% of the basket of medicines sold for shoats (the basket price being MZM 500 and MZM 100 respectively).

Table 41: Profit and Loss statement (MZM)

Items	Y1	Y2	Y3	Y4	Y5	Y6	Y7
Revenues							
- Margin on vet products	391.429	421.429	442.857	442.857	442.857	442.857	442.857
- Margin on small equipments	107.143	107.143	107.143	107.143	107.143	107.143	107.143
Total Revenues	498.571	528.571	550.000	550.000	550.000	550.000	550.000
Expenses							
Salaries and social charges	248.976	248.976	248.976	248.976	248.976	248.976	248.976
Electricity	49.920	49.920	49.920	49.920	49.920	49.920	49.920
Transport costs	50.400	50.400	50.400	50.400	50.400	50.400	50.400
Miscellaneous	12.225	12.225	12.225	12.225	12.225	12.225	12.225
Total Expenses	361.521	361.521	361.521	361.521	361.521	361.521	361.521
Profit before financial expenses	137.050	167.050	188.479	188.479	188.479	188.479	188.479
- Interests Investment loan	64.039	48.029	32.019	16.010	-	-	-
- Interests Working capital loan	9.038	9.038	9.038	9.038	-	-	-
Net profit	63.973	109.983	147.421	163.431	188.479	188.479	188.479
Cash-flow							
- Beginning of period	60.254	17.496	20.747	61.437	118.137	306.616	495.094
- Operations	63.973	109.983	147.421	163.431	188.479	188.479	188.479
- Loan principal repayment	106.731	106.731	106.731	106.731	-	-	-
- End of period	17.496	20.747	61.437	118.137	306.616	495.094	683.573

7. The activity generates a good profit. The veterinarian is linked with the importer under a franchising contract, which ensures him a regular supply of quality medicines. The one/two assistants will enable the activity to reach livestock producers in remote areas and will also participate in the upgrading of animal health and compliance with standards.

OVERALL FINANCING NEEDS

1. The following tables detail the overall financing needs for each activity supported by the project. The programme will implement or will finance:
 - 6 horticulture hubs;
 - 200 greenhouses;
 - 6 cassava flour and chips processing hubs;
 - 18 cassava chips producing units;
 - 1 slaughterhouse;
 - 7 main Livestock Producers Organisations
 - 7 Meat Traders Organisations;
 - 7 Breeding centers and livestock collection centers;
 - 7 vet franchisees.

HORTICULTURE VALUE CHAIN

FINANCING NEEDS	PY1	PY2	PY3	PY4	PY5	PY6	PY7	TOTAL	Financiers
A. HORTICULTURE									
Hubs									
a/ Equity financing									
- Producers' associations	-	25.009	50.018	-	-	-	-	75.028	Beneficiaries
- Private investors/traders/processors	-	150.055	300.111	-	-	-	-	450.166	Priv. Invest.
- PFIs	-	325.120	650.239	-	-	-	-	975.359	IFAD
b/ PFIs - Incremental Investment loan	-	333.456	583.548	-	-	-	-	917.004	IFAD
c/ PFIs - Incremental Working capital loan	-	183.026	443.301	-	-	-	-	626.327	IFAD
d/ Grant	-	210.000	420.000	-	-	-	-	630.000	IFAD
<i>Sub-total Hubs</i>	-	1.226.666	2.447.218	-	-	-	-	3.673.884	
Greenhouses									
a/ Investment cost									
- Beneficiaries	-	6.073	-	10.122	24.293	-	-	40.489	Beneficiaries
- Grant	-	36.440	-	60.733	145.759	-	-	242.931	IFAD
- PFIs - Incremental Investment and Working capital loan	-	79.531	-	92.256	252.733	-	-	424.520	IFAD
<i>Sub-total Greenhouses</i>	-	122.044	-	163.111	422.785	-	-	707.940	
Producers' Associations									
a/ Working capital									
- Beneficiaries									Beneficiaries
- PFIs - Incremental Working capital loan									IFAD
<i>Sub-total Producers' Associations</i>	-	-	-	-	-	-	-	-	
Total Horticulture	-	1.348.710	2.447.218	163.111	422.785	-	-	4.381.824	

CASSAVA VALUE CHAIN

FINANCING NEEDS	PY1	PY2	PY3	PY4	PY5	PY6	PY7	TOTAL	Financiers
B. CASSAVA									
Farmers' Associations									
a/ Working capital	considered as a grant for start-up kit								
- Beneficiaries									Beneficiaries
- PFIs - Incremental Working capital loan									IFAD
<i>Sub-total Farmers' Associations</i>	-	-	-	-	-	-	-	-	
Processing units									
<i>Chips processing unit</i>									
a/ Investment cost									
- Beneficiaries	-	-	-	5.360	10.720	10.720	21.441	48.241	Beneficiaries
- Grant	-	-	-	9.429	18.857	18.857	37.714	84.857	IFAD
- PFIs - Incremental Investment loan	-	-	-	48.241	86.834	67.538	144.724	347.337	IFAD
- PFIs - Incremental Working capital loan	-	-	-	26.746	53.493	53.493	106.986	240.718	IFAD
<i>Sub-total Small processing unit</i>	-	-	-	89.776	169.905	150.608	310.864	721.154	
<i>Flour processing hubs</i>									
a/ Equity financing									
- Union of cassava producers	-	10.256	-	20.512	-	-	-	30.768	Beneficiaries
- Private investors	-	92.305	-	184.609	-	-	-	276.914	Priv. Invest.
- PFIs	-	102.561	-	205.122	-	-	-	307.682	IFAD
b/ PFIs - Incremental Investment loan	-	136.748	-	227.913	-	-	-	364.661	IFAD
c/ PFIs - Incremental Working capital loan	-	129.309	-	258.618	-	-	-	387.927	IFAD
d/ Grant	-	28.286	-	56.571	-	-	-	84.857	IFAD
<i>Sub-total Processing hubs</i>	-	499.464	-	953.345	-	-	-	1.452.809	
Total Cassava	-	499.464	-	1.043.122	169.905	150.608	310.864	2.173.963	

LIVESTOCK VALUE CHAIN

FINANCING NEEDS	PY1	PY2	PY3	PY4	PY5	PY6	PY7	TOTAL	Financiers
C. LIVESTOCK									
Slaughterhouse									
a/ Equity financing									
- Livestock Producers Associations		25.091						25.091	Beneficiaries
- Meat Traders Associations		250.911						250.911	Priv. Invest.
- Private investors/traders/processors		75.273						75.273	Priv. Invest.
- Investment Fund		150.547						150.547	IFAD
b/ PFIs - Incremental Investment loan		334.549						334.549	IFAD
c/ PFIs - Incremental Working capital loan		208.212	108.854	77.753	-	-	-	394.819	IFAD
d/ Grant		26.357						26.357	IFAD
<i>Sub-total Slaughterhouse</i>	-	1.070.940	108.854	77.753	-	-	-	1.257.547	
Breeding centers									
a/ Investment cost									
- Private investors		264.257	176.171	176.171	-	-	-	616.600	Priv. Invest.
- Grant		46.286	30.857	30.857	-	-	-	108.000	IFAD
- PFIs - Incremental Investment loan		264.257	110.107	66.064	-	-	-	440.429	IFAD
<i>Sub-total Breeding centers</i>	-	574.800	317.136	273.093	-	-	-	1.165.029	
Meat Traders Associations									
a/ Investment cost									
- Private investors	-	55.393	36.929	36.929	-	-	-	129.250	Priv. Invest.
- PFIs - Incremental Investment cost	-	55.393	-	-	-	-	-	55.393	IFAD
b/ PFIs - Incremental Working capital loan	-	108.980	168.010	204.337	108.980	45.408	-	635.714	IFAD
<i>Sub-total Meat Traders Associations</i>	-	219.765	204.939	241.265	108.980	45.408	-	820.357	
Livestock Producers Associations									
a/ Working capital loan - Voucher mechanism									
- Cattle raisers contribution			73.240	197.526	369.898			640.663	Beneficiaries
- PFIs - Incremental working capital loan			148.699	23.673	-	-	-	172.372	IFAD
- Grant		221.939	147.959	147.959	-	-	-	517.857	IFAD
<i>Sub-total Livestock Producers Associations</i>	-	221.939	369.898	369.158	369.898	-	-	1.330.893	
Vet Franchisee Network									
a/ Investment cost									
- Beneficiaries		6.338	4.225	4.225	-	-	-	14.788	Beneficiaries
- Private investors		45.742	30.495	30.495	-	-	-	106.731	Priv. Invest.
- Grant		28.929	19.286	19.286	-	-	-	67.500	IFAD
- PFIs - Incremental Investment loan		45.742	19.059	11.435	-	-	-	76.237	IFAD
b/ PFIs - Incremental Working capital loan		6.456	4.304	4.304	-	-	-	15.063	IFAD
<i>Sub-total Vet Franchisee Network</i>	-	133.206	77.368	69.745	-	-	-	280.319	
Total Livestock	-	2.220.650	1.078.195	1.031.014	478.878	45.408	-	4.854.145	
TOTAL	-	4.068.824	3.525.413	2.237.247	1.071.567	196.016	310.864	11.409.931	

ATTACHMENT 5 – DRAFT TERMS OF REFERENCE FOR HUB STAFF

B. Draft Terms of Reference for Hub Manager

Functions

The main functions for the service Hub Manager are:

- Participate in the recruitment of the hub staff;
- Participate in the training of the hub staff as well as in the training of lead members of farmers;
- Lead the implementation of the Hub procedures manual;
- Daily management of the service hub including cash-flow and financial management;
- Daily supervision of staff work;
- Assess each staff member on an annual basis;
- Negotiate and finalize contracts for service providers to open points of services in the service hub;
- Determine procedures related to storage of farmers' produces (whether produces are bought by the hub or produces are simply deposited); + organising a proper storage system, i.e. allowing to record quantities and grades brought by each single farmer and to store them until they can be sold at a good price.
- Determine budget for operating expenses of the service hub and elaborate a cost-recovery mechanism based on profit generated by the sale of produces either by the hub or by farmers;
- Provide technical advice on market-oriented production, based on close network with chain specific specialists in the private sector (companies and private farmers), as well as public sector (research and extension service providers);
- Supervise the work of the Technical Advisor as well as all other service providers;
- Elaborate budget and financial projections for the hub;
- Supervise the elaboration of the hub financial statements and review activity and financial progress and performance against budget;
- Negotiate terms and conditions of working capital loans, investment loans, and leasing with participating financial institutions;
- Keep track and record of prices changes on market for each production;
- Advise farmers on the right time window for selling their stored production if the ownership is still with farmers;
- Report on each sale for each production to Board members (quantity sold, sale price, purchase price, gross margin, operating costs, net profit per kilo);
- In collaboration with the Hub Technical Advisor, provide market information and notably on harvesting, quality (including standards and grading) and processing (including packaging) requirements of the chain actors;
- Facilitate interaction between local private sector actors, farmers and public sector services;
- Be part of the local innovation platform and facilitate the recording of good practices for appreciation by the regional value chain platform;
- Implement decisions taken by the Board of Directors;

- Propose allocation of net operating profit to the Board of Directors and general Assembly;
- Propose changes in the procedure manual to the Board of Directors;
- Provide all information required by the participating financial institution which will be holding equity in the hub;
- Advise farmers and producers on the financial mechanism implemented for them to purchase the shares held by the participating financial institution in the share capital of the hub;
- Advise and participate in the training of members with regards to warehouse receipt financing.

Contract

The Hub Manager will be hired on an annual performance and incentive based renewable contract established by the hub Board of Directors. The hub's Board of Directors will assess performance and decide on contract renewal.

Qualifications

The Hub Manager will have a BSc in management and at least 10 years' experience in business management preferably in agriculture sector. Chain specific practical and theoretical knowledge in terms of production, marketing, service provision and farmers' organisations. Strong coordination, networking and relationship building skills, and ability to interact with a wide variety of public, private, large and small-scale farmers. Attitude which is gender sensitive, open-minded, management oriented, transparent, inquisitive and innovative. Commanding of local language spoken in hub area would be an advantage.

Terms of Reference for Hub Technical Advisor

Qualifications

The Hub Technical Advisor will have a BSc in agriculture or related field and at least 5 years' experience in market-oriented agriculture development the sector. Chain specific practical and theoretical knowledge in terms of production, marketing, service provision and farmers' organisations. Proven experience of working with farmers' organisations and the private sector. Strong coordination, networking and relationship building skills, and ability to interact with a wide variety of public, private, large and small-scale farmers. Attitude which is gender sensitive, open-minded, agribusiness oriented, transparent, inquisitive and innovative. Commanding of local language spoken in hub area would be an advantage.

Functions

The Hub Technical Advisor will work under the authority of the Hub Manager and under the guidance and overall supervision of the Lead Service Provider. The main functions for the service hub technical advisor are:

- Provide technical advice on market-oriented production, based on close network with chain specific specialists in the private sector (companies and private farmers), as well as public sector (research and extension service providers).
- Assist farmers' organisations in the preparation of simple business/production plans, in accordance with market requirements, and in the monitoring of their costs and revenue.
- In collaboration with the Hub Manager, provide market information and notably on harvesting, quality (including standards and grading) and processing (including packaging) requirements of the chain actors.
- Provide information on access to financial services.
- Assist in the training on organisational development, business plan development and innovation, including through farmer field and business school approach.
- Coordinate all activities aimed at strengthening farmers' organisations developed by the Lead Service Provider, including Farmers' Field Schools, and provide follow-up to farmers' organisations on the training and capacity development.
- Ensure inclusive and gender-balanced participation of farmers in all capacity building activities and promoting the development of cohesive, inclusive and gender equitable farmers' organisations.
- Organise and participate in a Joint Team of Experts (also including the hub's input dealer, a trader and a commercial farmer as identified during the scoping study), which will provide training and advisory services on technical subjects to farmers, and organise demonstrations on new varieties, new techniques and innovations.
- Facilitate interaction between local private sector actors, farmers and public sector services.
- Jointly with the Hub Manager and under the guidance of the Lead Service Provider, set up and implement the Hub Monitoring
- Be part of the local innovation platform and facilitate the recording of good practices for appreciation by the regional value chain platform.
- Advise the management of the service hub about service demand.

- Any other technical services that emerge from the scoping studies or interaction between chain actors in the local innovation platform or the regional value chain platform.

Contract

The Hub Technical Advisor will be hired on an annual performance and incentive based renewable contract established by the hub company. The hub's Board of Directors will assess performance and decide on contract renewal.

The Hub Technical Advisor will be supported by the Lead Service Provider for the value chain through advice and capacity development.

ATTACHMENT 6 – LAND TENURE SECURITY

A. DATA ON EXISTING DUATS

Concessionary DUATs

Table 1 – Authorised DUATs as at 2010

	All	≥ 50ha	< 50 ha
Total number of registered and authorised DUATs ⁽¹⁾	23,409	2,681	20,728
Total number likely to be classed as <i>prédios rústicos</i> ⁽²⁾	6,955	2,416	4,539
Total area of registered and authorised DUATs (ha)	3,280,599 ha	3,231,803 ha	48,796 ha
Total area covered by DUATs likely to be classed as <i>prédios rústicos</i> ⁽³⁾ (ha)	2,446,196 ha	2,415,955 ha	30,241 ha

Table 2 – Status of DUATs in Gaza, Inhambane & Maputo

Status	No.	% of awards	Area (ha)	% of Area
Lodged	7,119	26.7%	1,295,752	25.5%
Provisional approval	19,215	72.0%	3,742,450	73.7%
Final approval	344	1.3%	37,473	0.7%
Grand Total	26,678	100%	5,075,674	100%

Table 3 – Status of rural DUATs in the 3 Provinces

Rural Status	No.	% of awards	Area (ha)	% of Area
Lodged	2,408	25.4%	912,299	20.4%
Provisional approval	6,837	72.2%	3,517,205	78.8%
Final approval	230	2.4%	36,037	0.8%
Grand Total	9,475	100%	4,465,542	100%

⁽¹⁾ Provisionally or definitively authorised. Does not include community delimited areas.

⁽²⁾ Selected on the basis of the registered land use.

⁽³⁾ Based on the requested area, rather than the approved area, and therefore likely to be an over-estimation.

Table 4 – Rural status by province

Rural Status by Province	No.	% of awards	Area (ha)	% of Area
Lodged	2,408	25.4%	912,299	20.4%
Gaza	263	2.8%	233,308	5.2%
Inhambane	546	5.8%	223,126	5.0%
Maputo	1,599	16.9%	455,866	10.2%
Provisional approval	6,837	72.2%	3,517,205	78.8%
Gaza	1,539	16.2%	1,780,732	39.9%
Inhambane	1,081	11.4%	885,543	19.8%
Maputo	4,217	44.5%	850,930	19.1%
Final approval	230	2.4%	36,037	0.8%
Gaza	16	0.2%	29,667	0.7%
Inhambane	214	2.3%	6,370	0.1%
Grand Total	9,475	100%	4,465,542	100%

Table 5: Provincial percentage of total number and area

Province	No.	% of awards	Area (ha)	% of Area
Gaza	3,947	14.8%	2,167,963	42.7%
Inhambane	6,223	23.3%	1,518,431	29.9%
Maputo	16,508	61.9%	1,389,281	27.4%
Grand Total	26,678	100%	5,075,674	100%

Table 6: DUAT area as percentage of Provincial area

Province	Total Area (ha)	DUAT Area (ha)	% of Area
Gaza	7,570,900	2,167,963	29%
Inhambane	6,861,500	1,518,431	22%
Maputo	2,605,800	1,389,281	53%
Grand Total	17,038,200	5,075,674	30%

Table 7: Rural / Urban breakdown

Rural / urban	No.	% of awards	Area (ha)	% of Area
Rural	9,475	35.5%	4,465,542	88.0%
Urban	17,203	64.5%	610,132	12.0%
Grand Total	26,678	100%	5,075,674	100%

Table 8: Rural / urban breakdown by Province

Rural / urban	No.	% of awards	Area (ha)	% of Area
Rural				
Gaza	1,818	19.2%	2,043,707	45.8%
Inhambane	1,841	19.4%	1,115,039	25.0%
Maputo	5,816	61.4%	1,306,795	29.3%
Grand Total	9,475	100%	4,465,542	100%
Urban				
Gaza	2,129	12.4%	124,255	20.4%
Inhambane	4,382	25.5%	403,391	66.1%
Maputo	10,692	62.2%	82,486	13.5%
Grand Total	17,203	100%	610,132	100%

Table 9: Rural DUAT area as a percentage of Provincial area

Province	Total Area (ha)	DUAT Area (ha)	% of Area
Rural			
Gaza	7,570,900	2,043,707	27%
Inhambane	6,861,500	1,115,039	16%
Maputo	2,605,800	1,306,795	50%
Grand Total	17,038,200	4,465,542	26%

Table 10: Rural land use a percentage of total rural DUATs

Use summary	No.	% of awards	Area (ha)	% of Area
Crop	3,872	35.1%	521,702	11.7%

Table 11: Average size by rural land use.

Use summary	No.	Area (ha)	Average size
Crop	3,872	521,702	135

Crop & l.stock	2,553	38.0%	791,990	17.7%	Crop & l.stock	2,553	791,990	310
Livestock	1,273	14.6%	1,342,773	30.1%	Livestock	1,273	1,342,773	1,055
Forestry	50	0.3%	109,569	2.5%	Forestry	50	109,569	2,191
Tourism	1,409	7.8%	624,525	14.0%	Tourism	1,409	624,525	443
Wildlife	3	0.0%	30,000	0.7%	Wildlife	3	30,000	10,000
?	315	4.1%	1,044,983	23.4%	?	315	1,044,983	3,317
Grand Total	9,475	100%	4,465,542	100%	Grand Total	9,475	4,465,542	471

Community Land Delimitations

Table 12: National Data

Province	No.	Hectares	Average Ha
Maputo	19	?	
Gaza	22	462,042	21,002
Inhambane	11	588,509	53,501
Sofala	18	1,526,070	84,782
Tete	27	3,928,911	145,515
Zambézia	83	1,842,923	22,204
Nampula	106	797,514	7,524
Niassa	8	462,831	57,854
Cabo Delgado	11	?	
Grand Total	305	9,608,800	
<i>less Maputo & Cabo Delgado</i>	<i>275</i>	<i>9,608,800</i>	<i>34,941</i>

Tables 12 and 13: Gaza, Inhambane and Maputo

Table 12: Provincial percentage of total number and area

Province	No.	% of total	Hectares	% of area
Gaza	22	42%	462,042	44%
Inhambane	11	21%	588,509	56%
Maputo	19	37%		0%
Grand Total	52	100%	1,050,551	100%
<i>Average ha</i>	<i>33</i>		<i>31,835</i>	
<i>Gaza</i>	<i>22</i>		<i>21,002</i>	
<i>Inhambane</i>	<i>11</i>		<i>53,501</i>	

Table 13: Community DUATs by District

Province	District	No.	Hectares
Gaza	Bilene	1	9,749
	Chicualacua	1	25,419
	Chigubo	2	26,414
	Chokwé	1	14,817
	Manjacaze	2	52,897
	Massingir	6	92,792
	Mbalane	1	183,630
	Xai-Xai	2	11,009
	?	6	45,315
	Gaza Total		22
Inhambane	Funhaloro	1	172,000
	Massinga	1	364,200
	Omuine	2	10,164
	?	7	42,146
Inhambane Total		11	588,509
Maputo	?	19	
Maputo Total		19	
Grand Total		52	1,050,551

B. Land Tenure Cost Estimates

Table 1: Indicative budget details by value chain

	Activity	Cost Cat	Qty	Unit	Unit Cost	Total	Yr1	Yr2	Yr3	Yr4	Yr5	Yr6
Horticulture	Mapping of land registration *	TA	13	days	750	9,750	4,875	975	975	975	975	975
	Group analysis, civic education & land use mapping	TA	20	Assoc	5,280	105,600	31,680	52,800	21,120	0	0	0
	Land tenure security	TA	20	Assoc	10,725	214,500	0	64,350	107,250	42,900	0	0
	Implementation & supervision support *	TA	69	days	750	51,750	18,113	6,728	6,728	6,728	6,728	6,728
Sub Total:					381,600	54,668	124,853	136,073	50,603	7,703	7,703	
Cassava	Mapping of land registration *	TA	10	days	750	7,500	3,750	750	750	750	750	750
	Group analysis, civic education & land use mapping	TA	25	Assoc	3,840	96,000	28,800	48,000	19,200	0	0	0
	Land tenure security	TA	25	Assoc	7,800	195,000	0	58,500	97,500	39,000	0	0
	Implementation & supervision support *	TA	63	days	750	47,250	16,538	6,143	6,143	6,143	6,143	6,143
Sub Total:					345,750	49,088	113,393	123,593	45,893	6,893	6,893	
Livestock	Mapping of land registration *	TA	12	days	750	9,000	4,500	900	900	900	900	900
	Group analysis, civic education & land use mapping	TA	10	Assoc	3,520	35,200	10,560	17,600	7,040	0	0	0
	Land tenure security	TA	10	Assoc	7,150	71,500	0	21,450	35,750	14,300	0	0
	Implementation & supervision support *	TA	23	days	750	17,250	6,038	2,243	2,243	2,243	2,243	2,243
Sub Total:					132,950	21,098	42,193	45,933	17,443	3,143	3,143	
TOTAL:					860,300	124,853	280,438	305,598	113,938	17,738	17,738	

* Activities to be carried out by the Land Tenure Adviser.

**PRO-POOR VALUE CHAIN DEVELOPMENT PROJECT IN THE
MAPUTO AND LIMPOPO CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 5: CLIMATE CHANGE ADAPTATION APPROACH

ANNEX 5: CLIMATE CHANGE ADAPTATION APPROACH

TABLE OF CONTENTS

<u>I.</u>	<u>SUMMARY</u>	1
<u>II.</u>	<u>BACKGROUND</u>	5
<u>III.</u>	<u>ASAP INVESTMENTS</u>	10
	<u>A. Development and Promotion of Climate Resilient Value Chains</u>	11

- Attachment 1: Pesticide usage/guidelines for various horticultural crops in Mozambique
- Attachment 2: Trilateral Cooperation on Food Security (U.S.-Brazil-Mozambique)
- Attachment 3: Guidelines for a Basic Meteorological Station
- Attachment 4: Environmental Impacts of Cassava Processing

ANNEX 5: Climate Change Adaptation Approach

I. SUMMARY

1. **PROSUL** has been designed to address the Mozambican Government's long-term objective of raising rural incomes⁹⁰ through the value chain (VC) approach that will develop input and output markets in the Limpopo Corridor. The three value chains identified during earlier scoping mission, that will form the focus of PROSUL, are Horticulture, Cassava and Red Meat⁹¹. The project will be implemented in 17 districts of the three Southern Provinces, 5 districts in Maputo, 7 districts in Gaza and 5 districts in Inhambane. A detailed description of the project is given in the text of the Main Report, with specific details for each of the three value chains and the associated financial and management components given in Annex 4.

2. **ASAP.** IFAD is enhancing its approach to rural development in the context of environmental threats, including climate change⁹². To ensure earmarked climate and environmental finance is channelled to smallholders through IFAD-supported programmes, the 'Adaptation for Smallholder Agriculture Programme' (ASAP) was established in 2012⁹³. A USD 4.95 million grant from this programme will contribute to the financing of PROSUL with a view to increasing the climate resilience of the three value chains and reduce the impact of climate change on the productivity and profitability of the targeted smallholder farming systems. This would be achieved through the following components and activities that are embedded into the various project components described in the Main Report, Annex 4 and the Working Papers for each VC.

3. **Promotion of climate resilient value chains.** Recent studies by the Institute for Disaster Management (INGC) and the *Instituto de Investigação Agrária de Moçambique* (IIAM) on land use capability suggest that within ten years the impact of climate change will be increasingly felt within the Limpopo Corridor, particularly the lowering of soil moisture content prior to the onset of the rains⁹⁴. The ASAP grant in PROSUL would finance the initial assessment of current land use capability and potential impact of climate change over the next 10 to 20 years (although it only finance studies in the project implementation period) as part of the scoping studies that would kick-start operations in the project target districts, in collaboration with INGC and IIAM.

4. See table 1 below for a detailed summary of the activities specifically covered by ASAP that are integrated into PROSUL, with a focus on the incremental impacts.:

Table 1: ACTIVITIES FUNDED BY ASAP AND EXPECTED INCREMENTAL IMPACTS

Narrative Summary	Key Indicators and Targets by June 2017	Means of Verification	Assumptions
GOAL AND DEVELOPMENT OBJECTIVES			
ASAP Incremental Impact Goal: The livelihoods of small farmers in 17 districts of the Maputo and Limpopo Corridors are more resilient to climate change	<ul style="list-style-type: none"> Increased assets for participating households (HH)-disaggregated by gender # of HH whose climate resilience had been increased by ASAP 	<ul style="list-style-type: none"> Project baseline and impact surveys National statistics 	<ul style="list-style-type: none"> Favourable economic environment Continued government commitment to improve returns to farmers in agricultural value chains
ASAP Incremental Impact Objective: To increase the climate resilience of three value chains in horticulture, cassava and red meats, and reduce the impacts of climate change on the productivity and profitability of the smallholder farming system through the promotion of environmentally sustainable adaptation policies, techniques and technologies:			

⁹⁰ *Strategic Plan for Agricultural Development* (PEDSA - 2011-2020)

⁹¹ Detailed analysis available in Working Paper – Value chains analysis in Project Life File.

⁹² IFAD Strategic Framework 2011-2015 http://www.ifad.org/sf/strategic_e.pdf

⁹³ <http://www.ifad.org/climate/asap/>

⁹⁴ INGC (2009). *Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique*. [van Logchem B and Brito R (ed.)]. INGC, Mozambique

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 5: Climate Change Adaptation Approach

Narrative Summary	Key Indicators and Targets by June 2017	Means of Verification	Assumptions
GOAL AND DEVELOPMENT OBJECTIVES			
Incremental Outcomes			
<p>Incremental outcome for component 1: Climate resilient Horticultural Value Chains developed and promoted in 8 districts of Gaza and Maputo Provinces</p> <p>Outputs:</p> <p>1. More climate resilient practices that allow the efficient and sustainable production of selected horticultural crops to occur in both the traditional dry seasons and the wet season evaluated and promoted through Farmer Field Schools</p> <p>Budget – 350,000 USD</p> <p>2. Farmer field schools established to evaluate and promote climate resilient packages developed in 1 above.</p> <p>Budget – 188,641 USD</p> <p>3. Meteorological facility at IIAM’s research station in GAZA enhanced</p> <p>Budget – 25,000 USD</p>	<ul style="list-style-type: none"> • IIAM report on climate resilient practices that allow the efficient and sustainable production of selected crops to occur in both the traditional dry seasons and the wet season completed • Seven Farmer Fields Schools operational • Participatory adaptive trials completed using the FFS and guidelines on the use of low cost greenhouses for seedling and wet season production provided • Productivity of selected vegetable production increased by 30% in both dry and wet seasons • IIAM Research Station at Gaza makes reliable meteorological observations that contribute to national data base and can be used by growers in forecasting pest and disease out breaks 	<ul style="list-style-type: none"> • Project surveys • Reports from service providers on adaptive trials • Value chain platform reports • IIAM meteorological report for Gaza 	<ul style="list-style-type: none"> • Links with Strategic Program For Climate Resilience Mozambique (co-financed by the World Bank and AfDB) established • Private investors interested in importing shade cloth materials for bush greenhouses • Flooding due to extreme climatic events controlled by water authorities • Horticultural hubs establish appropriate business arrangements with input suppliers
<p>Incremental outcome for component 2: Climate resilient Cassava Value Chains developed and promoted in 5 districts of Inhambane Province and 1 in Gaza Province</p> <p>Outputs:</p> <p>1. Biophysical and socioeconomic baselines established in target districts during inception phase of PROSUL</p> <p>Budget – 100,000 USD</p> <p>2. System for the rapid multiplication of improved drought tolerant and disease resistant cassava varieties operational</p> <p>Budget -IIAM – 84,591 USD - Hubs – 134,256 USD</p> <p>3. Meteorological facility at IIAM’s research station in Inhambane enhanced</p> <p>Budget – 25,000 USD</p> <p>4. Cassava Production Systems</p>	<ul style="list-style-type: none"> • Baseline scoping study completed year 1 that includes current land use capability assessments for the target districts and highlight potential impacts of climate change 10 and 20 years in the future. • Rapid multiplication unit established at IIAM’s research station • 6 service hubs establish 0.25 ha multiplication nurseries • Participatory adaptive trials on sequential planting, harvesting, weeding, intercropping and fertilizer regimes to optimize cassava production completed using FFS and guidelines prepared • 6 Farmer Fields Schools associated with Hubs operational • Improved production practices promoted through FFS demonstration plots at 6 service hubs • Cassava yields increased by at least 50% over baseline • 50% of participating households adopt mixed cropping practices to ensure household food security 	<ul style="list-style-type: none"> • Project surveys • Reports from service providers on adaptive trials • Value chain platform reports • IIAM meteorological report for Inhambane 	<ul style="list-style-type: none"> • Links with Strategic Program For Climate Resilience Mozambique (co-financed by the World Bank and AfDB) established • Animal traction equipment and the necessary spare parts can be imported • Private investors interested in importing animal traction equipment • Projected changes in Cassava pest and diseases due to climate change are positive. • Private sector companies invest in Cassava Chain development

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 5: Climate Change Adaptation Approach

Narrative Summary	Key Indicators and Targets by June 2017	Means of Verification	Assumptions
GOAL AND DEVELOPMENT OBJECTIVES			
<p>intensified and mixed cropping practices promoted through Farmer Field Schools to ensure household food security</p> <p>Budget – 177,121 USD</p> <p>5. Farmer Field Schools established to evaluate and promote practices developed in output 4 above</p> <p>Budget 129,655 USD</p>	<ul style="list-style-type: none"> • IIAM Research Station at Nahcoongo makes reliable meteorological observations that contribute to national data base and can be used by PROSUL to make between season comparisons of production at mid term and end of project evaluations 		
<p>Incremental outcome for component 3: Climate Resilient Red Meat Value Chains developed and promoted in 7 districts of Gaza and Maputo Provinces.</p> <p>Outputs:</p> <p>1. Biophysical and socioeconomic baselines established in target districts during inception phase of PROSUL</p> <p>Budget – 100,000 USD</p> <p>2. Farmer Field Schools established to evaluate and promote practices identified in output 3 and 4</p> <p>Budget 109,143 USD</p> <p>3. 7 Community Based Natural Resource Management Plans developed and implemented through Farmer Field Schools</p> <p>Budget – 41,055 USD</p> <p>4. Climate resilient livestock and grazing practices developed and promoted through Farmer Field Schools</p> <p>Budget – 200,000 USD</p> <p>5. Water storage and water management facilities at 7 key concentration points established</p> <p>Budget – 1,076,022 USD</p> <p>6. Fodder Banks established at 7 key concentration points</p> <p>Budget- 354,712 USD</p>	<ul style="list-style-type: none"> • Baseline scoping study completed year 1 that includes current land use capability assessments for the target districts and highlight potential impacts of climate change 10 and 20 years in the future. • 7 Farmer Fields Schools associated with key concentration areas/Innovation Platforms in each district established • 7 Community Based Natural Resource Management Plans prepared and under implementation through Farmer Field Schools • Adaptive trials on climate resilient livestock management and grazing practices implemented through FFS and guidelines prepared • Improved production practices promoted through FFS demonstration plots at 6 service hubs • Fodder banks established at 7 key concentration areas/Innovation Platforms • Water storage and management facilities established at 7 key concentration points/Innovation Platforms • Productivity increased by 10% over baseline • Soil carbon stocks increased in grazing areas by at least 1 tonne per ha by the mid term evaluation 	<ul style="list-style-type: none"> • Project surveys • Reports from service providers on adaptive trials • Value chain/Innovation platform reports 	<ul style="list-style-type: none"> • Links with Strategic Program For Climate Resilience Mozambique (co-financed by the World Bank and AfDB) established • Cost effective means of monitoring soil carbon in rangelands available and accepted
<p>Incremental outcome for component 4: Climate resilient investments in infrastructural development promoted in 3 Value Chains through development of appropriate financial mechanism by PROSUL</p>	<ul style="list-style-type: none"> • Low cost greenhouses (shade cloth or some similar low cost materials) designed and promoted to enhance production of tomatoes and other high value horticultural crops in the hot season. • Water supply/storage facilities designed, 	<ul style="list-style-type: none"> • Project surveys • Reports from service providers on adaptive trials 	<ul style="list-style-type: none"> • Links with Strategic Program For Climate Resilience Mozambique (co-financed by the World Bank and AfDB) established • Private investors interested in importing shade cloth

Narrative Summary	Key Indicators and Targets by June 2017	Means of Verification	Assumptions
GOAL AND DEVELOPMENT OBJECTIVES			
<p>Outputs:</p> <p>1. Financial mechanism, part grant and part loan, established to support households in the purchase of 200 low cost greenhouses</p> <p>Budget Grant – 243,000 USD Budget Loans – 526,500 USD</p> <p>2. Financial mechanism, part grant, equity agreement and part loan, established to support the development of water supply/storage facilities at 6 Cassava Hubs facilities</p> <p>Budget Grant – 18,000 USD Budget Equity – 12,600 Budget Loans – 16,800 USD</p> <p>3. Financial mechanism, part grant and part loan, established to support the development of water supply/storage facilities at 18 small cassava processing facilities</p> <p>Budget Grant – 27,000 USD Budget Loans – 137,700 USD</p> <p>4. Financial contribution to the design and building of a biogas plant for slaughter house waste management and renewable energy to operate meat processing equipment .</p> <p>Budget – 50,000 USD</p> <p>5. Financial mechanism, part grant and part loan, established to support the development of Livestock Veterinary Stores at 7 key locations within the Livestock Value Chain</p> <p>Budget Grant – 67,501 USD Budget Loans – 106,729 USD</p>	<p>constructed and operational at 6 Cassava Hubs</p> <ul style="list-style-type: none"> • Water supply/storage facilities designed, constructed and operational at 18 small cassava processing facilities • Financial mechanism established for each value chain and loan repayment schedules agreed • Feasibility study on Biogas plant completed • Biogas plant for waste management and production of renewable energy operational • Private, district-based network of veterinary pharmacies at established in 7 key livestock concentration areas • Reduction in incidence of ticks and tick borne diseases over baseline 	<ul style="list-style-type: none"> • Value chain platform reports 	<p>materials for bush greenhouses</p> <ul style="list-style-type: none"> • Loans repaid and revolving fund established to enable further households/hubs to benefit from investments in infrastructural development • Communities interested in investing the development of the Cassava Hubs • Private investors interested in investing in slaughter houses • Private investors interested in investing in veterinary pharmacies • Biogas plant is a cost efficient and reliable energy source compared to other source of energy available
<p>Incremental outcome for component 5: Institutional support and project management (CEPAGRI, and specifically its delegation for the southern provinces mainstream climate change adaptation in policy instruments to promote climate proof commercial agriculture)</p> <p>Outputs</p> <p>1. CEPAGRI is equipped with policy and strategic tools to climate proof commercial agriculture, and contribute to the broader national and regional climate change agenda</p>	<ul style="list-style-type: none"> • Institutional capacity needs assessment for mainstreaming the Mozambique climate change agenda within CEPAGRI completed during the project inception phase • At least 3 core CEPAGRI staff received training in and exposure to issues related to the broader national and regional climate change agenda • In service training for CEPAGRI staff in the areas of <ul style="list-style-type: none"> ○ Technical/production related issues ○ Financial issues ○ Product enhancement • Climate change adaptation knowledge sharing mechanism established within 	<ul style="list-style-type: none"> • Project surveys • CEPAGRI Reports • Minutes of National and Regional Climate Adaptation Forums 	<ul style="list-style-type: none"> • Favourable economic environment • Continued government commitment to improve returns to farmers in agricultural value chains • CEPAGRI commit staff resources to participate in National and Regional Climate Adaptation Forums • Linkages with relevant institutions (particularly MICOA and INGC) and the Strategic Program For Climate Resilience Mozambique co-financed by

Narrative Summary	Key Indicators and Targets by June 2017	Means of Verification	Assumptions
GOAL AND DEVELOPMENT OBJECTIVES			
Budget – 550,00 USD 2. ASAP Evaluations Budget - 60,000 USD 3. Final Impact Assessment Budget - 46,000 USD	CEPAGRI and links established with the IFAD ASAP KM initiative • Climate change adaptation included in policy instruments to promote climate proof commercial agriculture.		the World Bank and AfDB established and maintained
Total Costs financed by ASAP	4,907,560 USD		

II. BACKGROUND

5. Mozambique is situated on the eastern coast of southern Africa, between parallels of 10° 27' and 26° 52' south latitude and 30° 12' and 40° 51' east longitude. It borders the Republic of Tanzania to the north, Malawi, Zambia, Zimbabwe, South Africa and Swaziland to the west, and South Africa to the south. The east coast of Mozambique is on the Indian Ocean. The country spans an area of about 799,380 km², of which 786,380 km² is land and 13,000 km² is surface water. Agriculture is the mainstay of its economy contributing 40% to the nation's GDP. Some 25% of the cultivated soils are located in low-lying soils, which during floods are largely inundated⁹⁵. The focus of this project will be the drought prone provinces of Maputo, Gaza and Inhambane (Figure 1) and supports the strategic focus of the Mozambican Government agricultural development and the reduction of rural poverty⁹⁶. A detailed description of PROSUL is given in the text of the Main Report, with specific details for each of the three value chains and the associated financial and management components given in Annex 4.

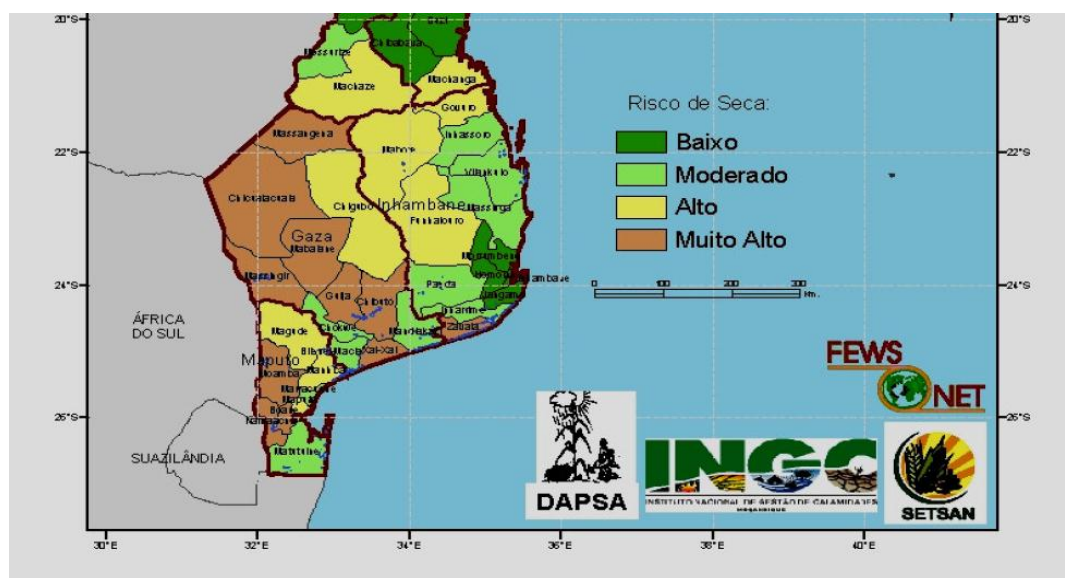


Figure 1 Drought Prone Areas of Southern Mozambique
 (Source: National Adaptation Programme of Action (NAPA), 2007)

6. According to the 2003 National Household Survey, 70% of the population lives in rural areas and 80% of the workforce is in the agriculture sector (90% of the women and 70% of the men) against

⁹⁵ INGC (2009). *Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique*. [van Logchem B and Brito R (ed.)]. INGC, Mozambique

⁹⁶ *Strategic Plan for Agricultural Development (PEDSA - 2011-2020)*

15% in the service sector and only 5% in manufacturing. Rural families are estimated to generate about 80% of their income from farming, while the other 20% has in any case a strong link with the local economy, again depending on agriculture. The impact of agriculture on poverty reduction has been estimated to be more significant than any other sector, accounting for more than two thirds of the 15 percentage points in total poverty reduction. Nevertheless, the country still ranks towards the bottom of the list in terms of its Human Development Index, number 172 out of 182 countries worldwide⁹⁷.

7. The three southern provinces are home to 4.3 million people (excluding Maputo City), constituting 21% of the country's total population. As shown in Figure 1, this southern region is prone to droughts and is predominantly arid to semi-arid, with scarce irregular rainfall averaging 500 to 600 mm per annum (IGNC, 2009)⁶.

8. A relatively dense network of rivers crossing from west to east provides ample potential for irrigation, mostly in the inland part of Maputo province and southern Gaza. Only 5% of small-scale farmers use some form of irrigation, and of the 75,000 ha with irrigation equipment, less than 30% is currently operational because of poor maintenance, degradation of infrastructure, tenure issues and weak management institutions.

9. Extensive agriculture and animal husbandry constitute the primary and secondary sources of income for about 70% of the population. Proximity to South Africa and to Maputo City provides for a wider set of economic opportunities, including wage labour, trade and remittances. However, this does mean that a growing number of households are female headed, where the women have access to, but no control over natural resources and other property rights.

10. With an estimated population growth rate of 2% per annum, agricultural production must increase accordingly. The *Poverty Reduction Action Plan* (PARP - 2011-2014) aims at reducing the incidence of poverty from 54.7 % in 2009 to 42% in 2014, by promoting pro-poor, inclusive growth. PARP's first objective is to increase agricultural production, primarily by boosting the productivity of the family sector. This can be achieved through expanding the area of cropped/irrigated land or increasing productivity per unit area through the promotion of improved practices, facilitating market access and improving the sustainable management of natural resources. These priorities are developed in the *Strategic Plan for Agricultural Development* (PEDSA - 2011-2020), whose goal is to convert subsistence farming into a market-oriented agriculture ensuring food security and securing farmers' income, along an annual 7% agricultural growth, with the Maputo/Limpopo Corridor being one of the six areas identified for investments.

11. **Mozambique's current climate variability**^{98,10} is defined by its seasonal patterns of precipitation and temperature and the frequency with which abnormal, or "extreme" weather events occur. Months of high precipitation occur between December and March for all of Mozambique in all provinces. The Inter-tropical Convergence Zone (ITCZ) is positioned over the north of the country at this time of year, bringing 150-300 mm of rainfall per month whilst the south receives 50-150 mm per month. Topographical influences, however, cause local variations to this north-south rainfall gradient with the highest altitude regions receiving the highest rainfalls. In southern Mozambique, both rainfall (400 to 1200 mm) and temperatures (14-22°C in the Winter months, 24-32°C in Summer) vary with location. Precipitation variability in the central and south portions of Mozambique appears to have increased between the 1990's and present time. Absolute rainfall deviations appear to have higher magnitude during these years especially in the southern and coastal regions of Mozambique also suggesting that variability may be increasing with time.

⁹⁷ Human Development Report, HDR 2009

⁹⁸ *Mozambique : Economics Of Adaptation To Climate Change. 2010. EACC Publication and Reports. The World Bank*

12. There has been an observed mean annual decrease in annual rainfall across Mozambique over the last two decades at an average rate of 2.5mm per month (3.1%) per decade between 1960 and 2006. This annual decrease is largely due to decreases in DJF rainfall, which has decreased by 6.3 mm per month (3.4%) per decade. Daily precipitation observations indicate that despite observed decreases in total rainfall, the proportion of rainfall falling in heavy4 events has increased at an average rate of 2.6% and 5-day annual rainfall maxima have increased by 8.4 mm per decade, with largest increases in the wet season, DJF. Mean annual temperature has increased by 0.6°C since between 1960 and 2006, an average rate of 0.13°C per decade. This increase in temperature has been observed in the seasons DJF, MAM, and JJA only, at a rate of 0.15-0.16°C per decade, but no discernible warming has been observed in the season SON⁹⁹.

13. Mozambique is recognized to be one of the countries of Africa that are most vulnerable to the vagaries of climate along its coasts. It is prone to severe droughts every 3 to 4 years that have contributed to about 4,000 deaths between 1980 and 2000¹⁰⁰. The country is also victim to floods caused by tropical cyclones that pass over Mozambique 3 or 4 times a year. The heavy rainfall associated with these events contributes a significant proportion of wet season rainfall over a period of a few days. Survival and everyday life in these areas depend to a large extent on local resources, such as rain-fed farming and fishing, while infrastructure is weak or even non-existent^{11,12}.

14. **Climate Change^{11,12}**: From a Pan-African perspective the smallholder farmers and producers in the Limpopo Basin of Mozambique are a group facing particularly high climate risks. All 22 General Circulation Models (GCMs) approved by the International Panel for Climate Change (IPCC) indicate an overall reduction in annual rainfall for Mozambique, with greater inter and intra annual variations, accompanied by a general increase in temperature. Consequently, climate change will have impacts across all sectors in Mozambique, so ensuring that appropriate adaptation plans are integrated across the economy is a responsibility shared by all line ministries and agencies. A recent review of responsibilities for climate policy suggested that these are not well defined and legal and regulatory provisions for addressing climate change are fragmented across a range of different legal and regulatory instruments and institutional mandates¹⁰¹.

15. Detailed climate modelling presented by World Bank (and corroborated by INGC, see above) suggests that increased evaporation, associated with increasing temperatures, could have an important impact, particularly by lowering soil moisture before the onset of the rains. In all scenarios, the net average crop yield for the entire country is lower relative to baseline yield without climate change. The impact of climate change over the next forty years would lead to a 2-4% decrease in yields of the major crops, with yield decreases especially significant in the Central region. The increasing variability and unpredictability of rainfall may have an even more profound effect than changes in average annual temperature and rainfall levels. Unfortunately, Mozambique's climate can be strongly influenced by ENSO, as current model simulations show wide disagreements in projected changes in the amplitude of future El Niño events, this contributes to a degree of uncertainty in climate projections for this region.

16. **Institutional Framework for Climate Adaptation in Mozambique.** The Ministry for the Coordination of Environmental Affairs (MICOA), created by presidential Decree n° 2/94 of 21 of December is the institution responsible for promoting a better inter-sectoral coordination and coordinate appropriate planning and utilization of natural resources in Mozambique in the face of climate change. It also has responsibility for monitoring compliance with obligations under the

⁹⁹ INGC (2009). *Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique.* [van Logchem B and Brito R (ed.)]. INGC, Mozambique

¹⁰⁰ INGC (2009). *Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique.* [van Logchem B and Brito R (ed.)]. INGC, Mozambique

¹⁰¹ STRATEGIC PROGRAM FOR CLIMATE RESILIENCE MOZAMBIQUE PPCR/SC.8/6, June 14, 2011. Climate Investment Funds.

UNFCCC and other Rio conventions. On these, MICOA works closely with the Ministry of Agriculture (MINAG) through the Technical Secretariat for Food Security and Nutrition (SETSAN – the body responsible for coordinating the implementation of the National Food Security and Nutrition Strategy), the Ministry for Foreign Affairs, through the Institute for Disaster Management (INGC – the coordinating body for disaster risk management), the Mozambique Red Cross (CVM) that provides immediate assistance to vulnerable people during and immediately after natural disasters, and with other relevant institutions such as Eduardo Mondlane University as a research institution. These institutions integrate several inter-institutional groups led by MICOA whose main task is to impel the implementation of existing legislation and actions.

17. Within the framework of the UNFCCC, Mozambique completed a first National Communication¹⁰² and a National Adaptation Programme of Action (NAPA¹⁰³). Unfortunately, gender issues are not well-addressed in both the first national communication and the NAPA, hence, any new initiatives can assist in mainstreaming of gender perspective in climate change adaptation.

18. The NAPA, INGC Phase 1 study, and the recent economic analysis of climate change adaptation by the World Bank have improved the evidence base for climate adaptation planning. They make a strong case for investments now in adaptation to reduce the scale of future impacts to the poor and to Mozambique's fragile economy. Key areas that need to be addressed include:

- a) Road redesign, rather than the current 5-year maintenance plan to preserve a usable driving surface and reduce the impact of erosion from precipitation. The studies considered a number of options for “climate-proofing” roads, given resource constraints and the trade-offs between improving “basic access” and having “fewer but stronger” roads. The conclusion is that Mozambique would be well advised to focus investments on climate-proofing highly targeted areas, such as culverts, to ensure that designs minimize broader erosion risks, and to set aside some funds from the investment budget for additional maintenance so that “basic access” roads can be quickly repaired following heavy rainfall.
- b) Reduction in the vulnerability of national water supply through strategic investments in new dams and hydro-schemes. Currently only 7% of Mozambicans have access to electricity. The potential energy deficit due to climate change relative to the baseline's generation potential, from 2005–50, is of approximately 110,000 GWh. The most significant impact would be from increased evapotranspiration (and hence less water available for electricity) from the reservoirs. Though not included in any of the models, it is essential dam levels are monitored and water releases the operators of the hydropower generation plants will need to pay particular attention to the timing of water releases to ensure sufficient downstream flow at times of low water availability and to avoid interference with port activities.
- c) Raising agricultural productivity by an additional 1% each year over baseline productivity trends offsets remaining damages to agriculture. However, economic analysis suggests that investments in irrigation might not be cost-effective – given difficulties in access to credit and the poverty of most farmers. Less costly approaches such as water harvesting, soil/moisture conservation, and agroforestry and farm forestry might prove to be better investments for building climate resilience in the medium term. Improved woodland and forest management will also have broad impacts on the resilience of land and on water absorption capacity. Other, “softer” strategies include support for improved access to markets and inputs, value addition for agricultural and forest products and reduction of post-harvest losses. Improved livestock and fisheries productivity are other options worth

102 MICOA. (2003). Mozambique initial national communication to the UNFCCC. MICOA. Maputo

103 MICOA/DNGA. (2007). NAPA (National Adaptation Programme of Action). 2007. “Ministry for the co-ordination of environmental affairs.” Report Approved by the Council of Ministers at its 32nd Session, 4 Dec. 2007, Maputo.

exploring in more detail. Lessons from more than 40 years of research clearly show that measures to increase the resilience of agriculture to climate change must view food, energy, water and waste management systems as interconnected, mutually dependent and as part of circular, instead of linear throughput systems¹⁰⁴.

19. **Mainstreaming Gender.** Recent studies¹⁰⁵ have shown that women and men are differentially impacted by climate change due to current power relations and their differentiated roles in the communities. For example women have access to, but no control over natural resources and other property rights. In addition, within the rural household women do most of the reproductive and part of the productive work – whilst men are only responsible for productive work. With the migration of men in search of off farm employment their proportion of household productive work has increased. On the positive side, men's migration has enhanced women's participation in the decision-making structures. To strengthen women capacity for better adaptation to climate change it is essential that existing policies are fully implemented and programmes allocate the necessary resources for capacity building and reinforcement of women's participation in local institutions. Due to the key role women play in these communities, they should always be considered as the priority group in any activity. Consequently, a particular focus should be placed on gender aspects, as climate change can exacerbate existing inequalities, in any future adaptation investments.

20. Adaptation measures are needed to develop smallholder resilience to climate variability and offset elevated risks which both threaten their livelihoods and often discourage them from investing in modern inputs and equipment.

21. In parallel, the demand for agricultural products is expanding, as a result of growing urban markets, increasing income and growing private investment in the agri-food and tourism sectors. A number of donors (including IFAD with the Rural Markets Development Programme – PROMER and the Climate Investment Fund's Strategic Program For Climate Resilience Mozambique) are already involved in promoting market-oriented agriculture and the development of agri-business. Most of these interventions, however, concentrate on the northern and central provinces, leaving the south largely uncovered.

22. The PEDSA (2011-2020) aims at gradually integrating agricultural producers into competitive value chains along inclusive and equitable approaches, giving priority to crops and meat production for the domestic market. PROSUL will support small farmers in the southern provinces so that they can achieve such an objective, by focusing on two PEDSA's strategic pillars, which are to improve access to services to increase farmers' productivity, and to promote agribusiness entrepreneurs and linkages with small producers. The PEDSA goal is to convert subsistence farming into a market-oriented agriculture ensuring food security and securing farmers' income, along an annual 7% agricultural growth. PEDSA's strategy is based on the promotion of a value chain approach and on the development of partnerships between the public sector and private actors.

23. Although southern provinces are characterized by less favourable agro-ecological conditions and higher climatic risks than the north of the country, they have significant potential for the production of several agricultural products that are in great demand on domestic, regional and/or export markets, including livestock products, horticulture in irrigated areas, fruits, cassava, cashew and forest resources. It benefits from its proximity to major domestic (i. e. Maputo, the capital city) and regional markets (i.e. South Africa) as well as from easy access to export markets through the port of Maputo. Yet according to the most recent household survey, the three southern provinces are among the poorest in the country.

¹⁰⁴ Planning adaptation for food and farming: lessons from 40 years' research. IIED Briefing Note May 2012 Download the pdf at <http://pubs.iied.org/17131IIED>

¹⁰⁵ Ribeiro, N. and Chaugue, A., 2010. Gender and Climate change: Mozambique Case Study, Heinrich Böll Stiftung, Southern Africa.

24. **PROSUL** has been designed to address the Mozambican Governments long term of objectives of raising agricultural productivity and rural incomes¹⁰⁶ through the value chain (VC) approach that will develop input and output markets in the Limpopo Corridor. The three value chains identified during earlier scoping mission, that will form the focus of PROSUL, are Horticulture, Cassava and Red Meat¹⁰⁷. The project will be implemented in 17 districts of the three Southern Provinces, 5 districts in Maputo, 7 districts in Gaza and 5 districts in Inhambane. A detailed description of the project is given in the text of the Main Report, with specific details for each of the three value chains and the associated financial and management components given in Annex 4.

25. **Adaptation and mitigation of Climate Change.** Extreme climatic hazards, both droughts and floods constitute the major factors of vulnerability faced by smallholder farmers in southern Mozambique, and are expected to further increase as the century unfolds¹⁰⁸. PROSUL will assist farmers in offsetting the risks that threaten their livelihoods and discourage them from investing in modern inputs and equipment, by promoting technological and investment packages that can reduce the impacts of extreme climatic events, including the development of irrigation, better water use and management, improved soil and crop management practices and the promotion of climate smart agriculture where appropriate. The ‘Adaptation for Smallholder Agriculture Programme’ (ASAP) grant is fully embedded within PROSUL project activities detailed in Annex 4 and will contribute to mainstreaming climate change adaptation in support of the three value chains, thus reducing the vulnerability of the actors in the three value chains to the impacts of climate change.

26. **IFAD and other programmes.** PROSUL will contribute to all three objectives of IFAD’s Country Strategic Opportunities Programme (COSOP), i.e. to (i) increase the access of small producers to production factors, technologies and resources; (ii) increase their access and participation to markets that can bring them equitable shares of profit; and (iii) increase the availability of and access to appropriate and sustainable financial services in the rural areas. It will develop linkages with other IFAD-financed projects, and particularly with: (i) the National Agricultural Extension Programme (PRONEA), to identify and deliver most appropriate extension approaches for disseminating innovative technical packages, and to provide assistance in the organisation of Farmer Field Schools (FFS) ; (ii) the Rural Markets Promotion Programme (PROMER), to exchange knowledge on value chain development in other parts of the country, and (iii) ImGoats, an IFAD grant project developing innovative approaches to promote goat production and marketing. Synergies will also be developed with DFID (investment fund), USAID and Brazil (action research in horticulture), AfDB (water supply in support to livestock raising), the Netherlands (agribusiness education and agriculture business centre), InfoDev/World Bank (SME incubation centres) and with the European Union (local development in the southern provinces).

III. ASAP-SUPPORTED ACTIVITIES

27. **ASAP.** IFAD is enhancing its approach to rural development in the context of environmental threats, including climate change. To ensure earmarked climate and environmental finance is channelled to smallholders through IFAD-supported programmes, ASAP was established in 2012. A USD 4.9 million grant from this programme will contribute to the financing of PROSUL with a view to increasing the climate resilience of the three value chains and reduce the impact of climate change on the productivity and profitability of smallholder farming. This would be achieved through the following activities that are embedded into the various project components described in the Main Report, Annex 4 and the Working Papers.

¹⁰⁶ *Strategic Plan for Agricultural Development* (PEDSA - 2011-2020)

¹⁰⁷ Detailed analysis available in Working Paper – Value chains analysis in Project Life File.

¹⁰⁸ *Mozambique : Economics Of Adaptation To Climate Change. 2010. EACC Publication and Reports. The World Bank*

¹⁰⁸ INGC (2009). *Synthesis report. INGC Mozambique*

A. Development and Promotion of Climate Resilient Value Chains

PROSUL Component 1: Horticulture (ASAP contribution: USD 560,000)

28. **Constraints.** Low productivity, lack of access to improved seeds and inputs, lack of access to profitable markets, lack of access to financial resources to finance innovations, mechanization, necessary inputs and finally absence of technical service providers to improve the quality of production are factors hindering the production of smallholders in rural areas. Apart from some large irrigated schemes, most farmers are growing horticulture on a small plot of land which barely provides them with a sustainable income. In addition, most farmers are growing the same products and considering the lack of storage facilities, these productions are hitting markets at the same time; hence very low market prices.

29. **PROSUL Interventions.** The Horticulture component of PROSUL (See Section 1 Annex 4) comprises three sub-components and innovations:

- i. *Improvement, rehabilitation and expansion of existing irrigated perimeters*, including activities related to the implementation and capacity building of Water Users' Associations (WUAs);
- ii. *Strengthening linkages between value chain stakeholders*, including promoting smallholders' access to services and markets through service hubs and outgrowers' schemes, promoting innovation to develop production in accordance with market requirements, supporting farmers' organisations so that they can integrate the value chain
- iii. *Developing a conducive value chain environment* by setting up multi-stakeholders' platform and supporting knowledge management and communication.

30. **Innovation.** Innovative agriculture practices will be promoted through the following instruments: (i) PROSUL will facilitate access to financing (through Component 4, see Annex 4) for about 200 *low-cost greenhouses*, which will enable small farmers, of which at least 50% of women, to supply markets year-round; (ii) as an incentive to introduce quality inputs, farmers operating in target irrigation schemes will benefit from a *start-up kit* on a maximum of 0.25 ha per household; (iii) *FFSs* will be organised for enhanced production of quality vegetables along an agribusiness orientation; and (iv) cost-effective *climate resilient packages* (including on-farm trials and demonstration plots) will be developed in conjunction with IIAM to ensure appropriate, climate-resilient crop and soil management practices.

ASAP's Incremental outcome for Component 1: Climate-resilient Horticultural Value Chains developed and promoted in 8 districts of Gaza and Maputo Provinces

27. The ASAP investment is aimed at facilitating the diversification of horticultural crops and the promotion of more climate resilient practices that allow the efficient and sustainable production of selected crops to occur in both the traditional dry seasons and the wet season. This will include the promotion of low-cost greenhouses (shade cloth or similar low-cost materials) ensuring year-round production and increased efficacy of agro-chemicals; production of seedlings in a cost efficient and timely manner; demonstrations and trials at IIAM's research station in Chokwe, including the establishment of a basic meteorological facility. The investment will enable the dissemination, on wider a basis, of climate proven technologies that would improve horticultural crop yields and improve the efficacy of agro-chemical usage. It will also promote efficient utilization of both surface and underground water to boost horticultural productivity. Specific outputs from these ASAP i

28. **Output 1: More climate resilient practices that allow the efficient and sustainable production of selected crops to occur in both the traditional dry seasons and the wet season evaluated and promoted through FFS trials and demonstrations.** Key results will be increased land productivity and increased efficacy of agro-chemicals through the increased use of simple

greenhouses. Work will be required to identify most appropriate pest management practices and initial contributions have been sought from IIAM to help develop this programme, as there is little up to date knowledge on crop varieties and appropriate agro-chemicals available in the market place (see Attachment 1). As a result, many farmers spray tomato and cabbage crops up to 12 times in a production cycle depending on whether it is wet or dry season with whatever agro-chemicals they can find on the local market. Final selection of interventions to be tested will be decided after the initial VC scoping study (Annex 4, paragraph 42) and inputs from the IIAM-EMBRAPA-University Florida Tri-partite cooperation on Food Security (see Attachment 2 for a summary).

29. **Output 2: FFSs established to evaluate and promote climate resilient packages.** A joint Team of Experts will be trained to support the adoption of the technological packages developed in 28. Farmers' Field Schools will also be used as a main conduit to disseminate packages and good practices (Annex 4, paragraph 57, bullet 3), and access to inputs will be facilitated through a 'Starter Kit Programme' funded under the main PROSUL components (Annex 4, paragraph 57, bullet 2). Every effort will maintained to ensure balanced gender participation within the FFS.

30. **Output 3: Meteorological facility at IIAM's research station in GAZA enhanced** and makes reliable meteorological observations that contribute to national data base and can be used by growers in forecasting pest and disease out breaks. Basic guidelines, taken from the World Meteorological Center, for the establishment of a basic facility are given in Attachment 3.

31. **Expected incremental outcome.** The expected incremental outcome of the component funded through PROSUL and ASAP grant is that of the around 4,800 farmers (50% women) participating in the project, some 3,840 farmers (80%) would be adopting recommended climate-resilient technologies and thus be producing vegetables on operational, well-managed irrigated schemes in selected target zones of Maputo and Gaza province will raise their income through increased productivity, volumes and quality of vegetables reaching both traditional and modern market segments. It is expected however that an additional large population of farmers, including those cultivating other crops, will be serviced by the service hubs (See Annex 4, Component 5) and will benefit from access to improved guidelines on the use of improved production practices, including new varieties, agrochemicals and low cost greenhouses for seedling and wet season production.

PROSUL Component 2: Cassava (ASAP contribution: USD 630,000)

32. **Constraints.** To meet the demand of emerging industrial markets for cassava products, the production must be upgraded to reach higher productivity, larger volumes and adequate quality. This in turn requires the dissemination of drought-tolerant, disease resistant and high-yielding varieties through rapid multiplication, improve soil fertility through the use of intercropping and a mix of compost and chemical fertiliser, develop sequential planting and harvesting, and expand cultivated areas through the use of animal traction and mechanised weeding. Another constraint is linked to cassava's perishability and the need to develop locally-based processing capacities to transform cassava into chips (or cakes) that can be stored at collection points. However, recent modelling work for Africa clearly demonstrated that cassava has a great deal to offer smallholder farmers in terms of adaptation to climate change¹⁰⁹. One of the few benefits that Mozambique will derive will be a projected reduction in pest and disease pressures – especially Cassava brown streak virus, Cassava Mosaic Disease and Cassava Mealy bug.

33. Recognising the importance of cassava as a food security crop, but also its untapped marketing potential, a National Strategy for Cassava Development was prepared by MINAG in 2008. The strategy's objective is to transform the current rural staple food into a cash crop generating income for the rural population, through increased marketing into growing markets. Furthermore several research

¹⁰⁹ Jarvis, A. et al., 2012. Is Cassava the answer to African climate change adaptation? Tropical Biology. DOI:10.1007/s12042-012-9096-7

programmes are being supported by the government, including to release new improved cassava varieties, to develop new processing technologies and to test consumers' acceptability of bread incorporating cassava flour. Several donors are backing up government efforts, to promote cassava as a cash crop, including JICA, USAID, FAO and the European Union.

34. **PROSUL Interventions:** The Cassava component of PROSUL (see Section 2 of Annex 4) comprises three sub-components promoted over two distinct phases of the project:

35. The first phase will target the districts of Inharrime (Inhambane) and Manjakaze (Gaza), and will be implemented along three major thrusts:

- i. *First, it will develop farmers' capacities to increase cassava productivity and quality*, by developing sustainable access to high yield cassava stems building on a commercially-run multiplication system, by promoting mechanization and building farmers capacities for improved, climate-resilient farming practices that will increase productivity and mitigate drought risks.
- ii. *Second, it will develop linkages between smallholders and other players in the value chains*, to promote access to developing markets and ensure smallholders' access to support services so that production can meet market requirements. This will be achieved through innovative approaches, including through two professionally managed service hubs (See Annex 4, Component 5), one in each district, and the development of forward contracts with buyers (See Annex 4, Component 4).
- iii. *Third, it will develop a favourable value chain environment*, by setting up multi-stakeholder platforms to empower value chain stakeholders, including small farmers, in supporting value chain development, promote dialogue and ensure knowledge management and the dissemination of innovation. These will be thoroughly documented to set the basis for scaling up in the second phase.

31. By the end of the third year, a detailed review of achievements, lessons learnt and of further market prospects would be carried out in conjunction with the project mid-term review. Building on outcomes, activities would be expanded to a larger range of production areas in the four additional districts Jangamo, Massinga, Morrumbene and Zavala (Province of Inhambane), where service hubs would also developed.

36. *Innovation.* Innovative agriculture practices will be promoted through the following instruments: (i) in collaboration with IIAM, the project will support the development of a commercially based system for the multiplication of *new high-yield, drought and pest-resistant cassava varieties*; (ii) as an incentive to introduce quality inputs, members of participating FOs will have access to a *start-up kit* on a maximum of 0.30 ha per household; (iii) *FFSs* will be organised for enhanced production of quality cassava along an agribusiness orientation; and (iv) *cost-effective climate resilient packages* will be developed in conjunction with IIAM to ensure appropriate, climate-resilient crop and soil management practices (see Annex 4 paragraph 89 for more details).

ASAP's Incremental outcome for Component 2: Climate resilient cassava value chains developed and promoted in 5 districts of Inhambane Province and 1 in Gaza Province

37. The ASAP investment is aimed at facilitating the sustainable intensification of the cassava crop in response to increasing market demands as a result of PROSUL activities. The investment will enable the dissemination, on wider a basis, of climate proven technologies, including fertilization and weeding regimes that will strengthen households abilities to participate in the evolving cassava value chain without jeopardising household food security. It will also promote efficient utilization of both surface and underground water to boost the productivity of local cassava processing plants, with due environmental considerations given to waste handling and disposal. For example the waste processing water will be used to water the cassava nurseries, and if the volume of physical waste is great enough

biogas plants may be promoted (see Attachment 3 – Environmental impacts of cassava processing). Alternatively the solid waste can be used as animal feeds, fuel or soil conditioners. Specific outputs will be:

38. **Output 1: Biophysical and socioeconomic baselines established in target districts during inception phase of PROSUL.** A baseline scoping study will be completed in year 1 that includes current land use capability assessments for the target districts and highlight potential impacts of climate change 10 and 20 years in the future. To date, various national studies have been undertaken, or are underway, and these are contributing to a gradual improvement of the evidence-base for shaping investments in climate change action for Mozambique. Recent studies by the INGC and IIAM on land use capability suggests that within ten years the impacts of climate change will be felt within the Limpopo Corridor, particularly the lowering of soil moisture content prior to the onset of the rains. The teams from INGC and IIAM that undertook the recent land use capability studies and projected yields of 9 staple crops nationally will be involved in the baseline study to provide current land use capability assessments for the target districts and highlight potential impacts of climate change 10 and 20 years in the future for the districts targeted for each value chain. It is planned that these activities will complement those of the Cassava VC Scoping study (Annex 4, paragraph 80) and the Land Tenure Security Studies (Annex 4, Section 8) and where possible will be carried out by the same teams.

39. The following information, amongst other, will be collected during the baseline study:

- Land areas by current usage and intensity (area devoted to each crop, number of crops per year)
- Soil analysis
- Current cultivation practices (tillage operations, method of planting, fertilization, weeding, pest management, irrigation practices)
- Crop protection inputs used and possible effects on health and environment
- Yield/production assessments
- Harvesting and post-harvest handling and losses
- Basic Livelihood data (household income, assets and welfare data according to the IFAD Results and Impact Monitoring System (RIMS) guidelines)
- Baseline assessments of soil carbon (ICRAF Geoinformatics unit to advise)

40. **Output 2: Meteorological facility at the IIAM research station in Inhambane enhanced .** Basic guidelines, taken from the World Meteorological Center, for the establishment of a basic facility are given in Attachment 3. The meteorological observations taken will contribute to the national data base and will be used by PROSUL to make between season comparisons of production at mid-term and end of project evaluations.

41. **Output 3: Facilities for the rapid multiplication of improved cassava varieties established.** Rapid multiplication unit established at IIAM's research station, and 6 service hubs to establish 0.25 ha multiplication nurseries each (see Annex 4, Section 2 for further details).

42. **Output 4: Climate-resilient packages.** Cassava Production Systems intensified and mixed cropping practices promoted through FFSs to ensure household food security. Participatory adaptive trials on sequential planting, harvesting, weeding, intercropping and fertilizer regimes to optimize cassava production undertaken with the FFS and guidelines prepared. These trials will be conducted by IIAM together with selected smallholder farmers. IIAM will produce extensive documentation and farmer training materials on this basis.

43. **Output 5: Farmer Field Schools established to evaluate and promote practices developed in climate-resilient packages.** Further details of the establishment and operation of the Farmer Field Schools is given in Annex 4, Section 2.

44. **Expected incremental outcome.** The expected incremental outcome of the component funded through PROSUL and ASAP grant is that of the around 8,000 farmers (50% women) in five districts of the province of Inhambane and one district of the province of Gaza participating in project activities, some 4,800 farmers (50% women) would adopt recommended technologies in general. They will participate in the cassava value chain activities and will sustainably raise their income through increased productivity, volumes and quality of cassava reaching both traditional and modern market segments. It is expected however that an additional large population of farmers, including those cultivating other crops, will be serviced by the service hubs and will benefit from access to improved plating materials and mixed cropping production practices. Of these, around 4,000 farmers (50% women) would be adopting recommended climate-smart technologies, especially using climate-resilient cassava cultivating practices.

PROSUL Component 3: Red meat (ASAP contribution: 1,770,000 USD)

45. **Constraints:** Rangelands persistently affected by droughts cannot easily produce pastures with adequate feed intake and enough nutrient content to sustain acceptable livestock production standards. A lack of stock management during these periods exacerbates these problems and hinders rangeland recovery and productivity of the system. Reductions of climate related risks and adaptation to climate change are not easy and require long term approaches. This is because the fundamental systems and processes that must be changed or adapted are communal in nature, unless there is a radical shift in the current cultural norms of rangeland and livestock management is achieved. For example, only productive animals within a herd should be retained – undesirable and unproductive animals must be culled. Planned and controlled range management programmes must be implemented, with grazing areas realistically divided into manageable blocks that allow for rotational grazing with managed rest periods. To achieve this Land Tenure issues must also be addressed (see Annex 4, Section 8). Such systems must be based on established rangeland carrying capacities¹¹⁰.

46. In fact, livestock owners of the rangelands of Gaza Province have a critical role to play in managing grasslands to not only support the development of the proposed livestock value chain but also for climate change and mitigation. Rangelands are a source of good and services such as wild foods, energy and wild life habitat. They also, when well managed/conserved provide carbon and water storage, and watershed protection for major river systems. Many management techniques intended to increase fodder production have the potential to increase soil carbon stocks, thus sequestering up to 0.35 tonnes of atmospheric carbon per ha per year in the soils.

47. **PROSUL Interventions** The Red meat component of PROSUL (See Annex 4, Section 3) comprises three sub-components:

- i. *Firstly, developing a conducive value chain environment* by setting up multi-stakeholders' platform, supporting knowledge management and promoting an appropriate policy and legislative framework;
- ii. *Secondly, production improvement*, including supporting farmers' organisations (see Annex 4, Section 7) so that they can integrate the value chain, promoting innovative approaches to develop quality production, improving climate resilience and sustainable management of natural resources, and improving access to support services;
- iii. *Thirdly, Market linkages through* the better organisation of cattle fairs, the creation of Meat Traders' Organisations, the development of outgrower schemes (see Annex 4, Section 6) and the establishment of a new slaughterhouse in the outskirts of Maputo.

48. **Innovation.** Innovative practices will be promoted through the following instruments:

- i. *FFSs* will promote farmers' acquisition of technical and management skill

¹¹⁰ Conant, R.T., 2010. Challenges and opportunities for carbon sequestration in grassland systems; A technical report on grassland management and climate change mitigation. Integrated Crop Management 9. FAO

- ii. Livestock Producer Organizations (LPOs) will be supported to prepare and enforce *Natural Resource Management Plans* to improve the management of pasture land and to decide on strategic location for project investments
- iii. cost-effective *climate resilient packages* will improve dry season feeding and promote climate-resilient technologies;
- iv. *fodder banks* designed to bridge forage scarcity in the dry season will be established and develop into commercial, LPO-managed ventures; etc.
- v. *breeding units* will be set up in partnership with commercial farmers, whereby small raisers will exchange their livestock against improved breeds, which they will then fatten and sell to the commercial farmer;
- vi. as an incentive to adopt regular animal treatment members of participating LPOs will have access to a *start-up kit* composed of basic animal drugs and sprays for a maximum of 5 cows and 8 goats per household.
- vii. *access to water* will be secured through water facilities (small earth dams, boreholes and water troughs for livestock) managed by LPOs.

ASAP's Incremental outcome for Component 3: Climate Resilient Red Meat Value Chains developed and promoted in 7 districts of Gaza and Maputo Provinces.

49. The ASAP investment will include development of community-based natural resource management plans; promotion of climate resilient livestock and grazing technologies and practices to increase fodder production as well as soil carbon stocks; fodder banks; support to the establishment of private district-based network of veterinary pharmacies at district level; and establishment of water storage and management facilities at key concentration points. Specific outputs will be:

50. ***Output 1: Biophysical and socioeconomic baselines established in target districts during inception phase of PROSUL.*** A baseline scoping study will be completed in year 1, similar to that analysing the cassava VC (see Output 1 of Component 2 above). It is envisaged that the study will complement those of the Red Meat VC Scoping study (Annex 4, Para 109) and the Land Tenure Security Studies (Annex 4, Section 8) and where possible will be carried out by the same teams.

51. The following information, amongst other, will be collected during the baseline study:

- Land areas are assessed by current usage and intensity (area devoted to cattle and shoats)
- Soil and land cover analysis
- Current grazing management practices
- Yield/production assessments
- Biodiversity assessments
- Basic Livelihood data (household income, assets and welfare data according to the IFAD Results and Impact Monitoring System (RIMS) guidelines)
- Baseline assessments of soil carbon (ICRAF Geoinformatics unit to advise)

52. ***Output 2: FFSs established.*** The FFSs will focus on promoting and evaluating the practices identified in outputs 3 and 4 (see below). Further details of the establishment and operation of the FFSs are given in Annex 4,, Paragraph 121.

53. ***Output 3: Community-based Natural Resource Management (CBNRM) Plans developed in 7 districts.*** Many management techniques intended to increase fodder production have the potential to also increase soil carbon stocks, thus sequestering up to 0.35 tonnes of atmospheric carbon per ha per year in the soils. Therefore, the exploration of C sequestration management/ carbon accounting may contribute to the sustainable development of the livestock value chain. In addition, the location of water points (output 5) and fodder banks (output 6) will be identified during the development of these plans (see Annex 4, paragraph 120).

54. ***Output 4: Climate resilient livestock and grazing technologies and practices developed.*** Participatory adaptive trials on climate resilient livestock management and grazing practices will be

conducted by IIAM together with selected smallholder farmers. IIAM will produce extensive documentation and farmer training materials on this basis.

55. **Output 5: Water storage and water management facilities at 7 key concentration points established.** The project will finance the establishment of water access in the areas where LPOs and communities herds and flocks graze, at locations selected through the CBNRM exercises. The exact number and locations of water facilities will be finalised in coordination with the AfDB-funded Sustainable Land and Water Resources Management Project. The budget for this activity has been estimated on the basis of one small earth dam and three multifunction boreholes with water troughs for livestock per district. Water infrastructure will be managed by LPOs, who will receive appropriate capacity building from the Livestock LSP.

56. **Output 6: Fodder Banks established at 7 key concentration points identified in Output 3.** The fodder banks will be established and operated by LPOs on a commercial and thus sustainable basis at locations selected through the CBNRM exercises.

57. **Expected incremental outcome.** The expected incremental outcome of the component funded through PROSUL and ASAP grant is that of the around 5,600 smallholder producers (50% women) of ruminants participating in the districts of Manhiça, Magude, Chokwe, Guijá, Massingir, Mabalane and Chicualacuala in Gaza Province, some 3,360 herders (50% women) will raise their income through increased productivity and quality of livestock and improved market linkages. Of these, around 2,800 herders (50% women) would be adopting recommended climate-smart technologies, especially climate-resilient management of grazing areas.

PROSUL Component 4: Financial services (ASAP contribution: 1,210,000 USD)

58. **Constraints:** The agricultural sector, in general, is characterized by the following factors: (i) little diversification in production; (ii) most products are marketed at the same time (harvest time or shortly after) when supply is high, hence low prices; (iii) lack of storage facilities that would enable farmers to wait for higher market prices; (iv) small plots of land unsuitable for a profitable crop farming activity; (v) low level of mechanization; (vi) irrigation schemes not- or badly maintained especially when maintenance is vested with farmers' groups; (vii) lack of production of quality preventing farmers to compete with imported agricultural products from South Africa, Zimbabwe or Zambia; (viii) in Gaza and Inhambane districts, agricultural value chains are not structured (only around some advanced farmers that are assisting their neighbours with inputs, production and marketing), preventing most smallholders to access large urban markets and forcing them to sell their production in local markets; (ix) low level of infrastructure allowing cost-efficient transportation of goods from production areas to markets, and (x) poor access to inputs at affordable price. All these factors contribute to the perception by financial institutions of agriculture and rural areas as 'highly risky sectors' for financing.

59. Some of the reasons given by financial sector stakeholders for their low level of investments in the agricultural sector include:

- Difficulties in securing access to reliable markets;
- Low technical knowledge of farmers and rural entrepreneurs;
- Lack of business and entrepreneurial skills (quality control and cost-efficient production, limited ability to prepare and follow investment and business plans);
- Lack of business development services and technical support;
- Limited cultivated land owned by smallholders and thus lack economies of scale;
- Lack of collateral;
- Loans required below banks' perceived viable amount

60. **PROSUL Interventions.** The objective of Component 4 (see Annex 4, Section 4) is to ensure the access of value chain stakeholders (including smallholders as well as other players down the value

chain such as commercial farmers, LVSs, MTOs and cassava processors) to adequate financial services provided at an affordable cost by sustainable MFIs using innovative delivery mechanisms to increase their outreach. There is currently no bank or microfinance institution that is in a position to provide the whole range of required financial instruments on their own resources and at an affordable rate. Project financial resources will be extended to an investment fund, which will on-lend them to microfinance institutions (MFIs), allowing these to provide the range of financial services required. To make sure that they can do this at an affordable interest rate for value chain stakeholders, the investment fund will take an equity position in the share capital of selected MFIs, which will open the possibility to also make a long-term deposit in their shareholders' account. The hosting institution for the investment fund would be the Catalytic Fund set up in the framework of the Beira Agriculture Growth Corridor initiative, a limited liability share company created under the laws of Mozambique with the objective to invest in and provide financial resources to agribusiness, including smallholder operations. Its bylaws leave open the possibility of extending its activities beyond the Beira Corridor and the Catalytic Fund has expressed an interest to participate in the project along the approach developed in the project report, subject to approval by its Board.

61. To avoid creating an excessive financial burden on newly created companies developing activities related to PROSUL-supported value chains such as storing or processing, alternative financing mechanisms to debt financing should be promoted under PROSUL. Such instruments should give the possibility to companies to differ the reimbursement of their loan and to modulate the service of related interest in accordance with the amount of profit generated. In that respect, equity financing represents a financially viable alternative to debt-financing: (i) equity financing comes with no-predetermined reimbursement schedule; (ii) the service of equity financing is strictly linked to the annual profit of the company, and (iii) the increase of share capital enables the company to leverage additional resources to finance its investments. Furthermore, shares subscribed by a third-party financier can be purchased by the other shareholders under either a call- or a put-option scheme.

62. Equity financing should not substitute debt-financing: both should come together in a package. Careful consideration should be given to: (i) financing investment through a balanced proportion of equity financing and debt financing (equity financing should not represent more than 60% of the total investment cost), and (ii) ensuring that the third-party financier does not hold the majority in the share capital.

63. The component is organized in two sub-components: (i) Financial services, and (ii) Capacity building. The first sub-component 'Financial services' relates to the flow of additional resources allocated to microfinance institutions, which these will disburse to PROSUL target beneficiaries through different financial instruments. The second sub-component 'Capacity Building' relates to building the capacities of participating financial institutions to manage and monitor the financial activities implemented under the first sub-component.

64. **ASAP's Incremental outcome for Component 4: Climate resilient investments promoted in 3 Value Chains through appropriate financial mechanisms**

65. The ASAP investment will include development of financial mechanisms (see Annex 4, Section 4 for details) that will support beneficiary investments in the following:

- ***Output 1: Financial mechanism (grant and loan) established to give households access to 200 low-cost greenhouses.*** Traditional farming on irrigated or rainfed lands results in similar harvesting periods for all farmers producing within the same area. Fluctuations on market prices range from 150 to 1 000% depending on products. The project will address this issue by providing storage facilities through the service hubs, and by establishing small greenhouses (200 m² each) for seedling and wet season production to supply markets irrespective of seasons and harvest time and fetch higher market prices. Greenhouse farming will also increase the return and the net profit of the storage facilities implemented within the

project, which will be operated all year round. Regular greenhouses and/or shade cloth greenhouses (assessment to be carried out by the LSP) will be financed through a mix of 30% grant, 5% beneficiary contribution and debt financing (per greenhouse: about USD 1 220 grant, USD 2 630 loan and USD 200 farmer's contribution). Selection of the smallholders benefiting from a greenhouse will be based on the level of income and their ability to farm (physical ability) and maintain the equipment in good conditions. The project will ensure that poorest smallholders are prioritized for the greenhouse production facility. Technical assistance and training will be provided by the horticulture LSP (for technical skills) and by the MFI for bookkeeping, credit, cash-flow and financial management. The profitability of such a greenhouse was found very high (internal rate of return: 89.5%), which will significantly increase the farmer's revenue. The pattern of implementation of greenhouses will be based on a pilot phase during which 30 greenhouses will be implemented. The mid-term review will assess results, and, should the evaluation be positive, another 170 greenhouses will be established. Women should make up 50% of the beneficiaries.

- **Output 2: Financial mechanism (grant, equity and loan) established to give access to water supply facilities at 24 Cassava Hubs.** Cassava hubs will include processing units, with an annual capacity of about 7,000 t each, which will produce chips and high quality flour in accordance with prior market exploration. They will be equipped with a borehole and water tank for the washing operations of cassava tubers, and a source of water for the rapid multiplication of new cassava varieties. The water installation will be financed by ASAP for 6 chip and flour producing hubs (per hub: about USD 3 000 grant, USD 2 100 equity, USD 2 800 loan and USD 880 farmer's contribution) and for 18 chip producing hubs (per hub: about USD 1 500 grant, USD 7 650 loan and USD 1 020 farmer's contribution). Care will be taken during the design of these facilities to ensure waste handling is undertaken in an environmentally sensitive way (see Attachment 4).
- **Output 3: Design and build a slaughterhouse biogas plant.** ASAP will contribute to the establishment of a biogas plant for the project supported slaughterhouse with a grant of USD 50 000. Improved slaughterhouse waste management will result in reduced public health and environmental hazards and reduced gas emissions from livestock slaughtering operations, plus an alternative energy source to help power the slaughterhouse meat processing equipment. Studies undertaken by INGC and the World Bank¹¹¹ suggest that even with significant investments in hydropower between now and 2050, there will still be shortfalls in electricity supply and load shedding occurring to balance demands between industrial and domestic usage. Hence alternative energy sources for many commercial enterprises are to be encouraged.
- **Output 4: Financial mechanism (grant and loan) established to give private operators access to 7 Livestock Veterinary Stores.** While farmers have limited access to inputs, field observations also revealed that Community Animal Health Workers established in the context of previous projects often lack access to essential medicines, simple equipment (e.g. syringes and sprays) and transport, and are demotivated by the low and insecure income generated by their work with farmers. However, innovative approaches that have proved significant degrees of effectiveness¹¹² exist and are characterized by the following common features: (i) veterinary products and livestock inputs and equipment are sold in village pharmacies that are privately owned; (ii) such village pharmacies have reliable and constant access to vet products warehouses located in main urban centres enjoying good communication; (iii) a number of private veterinarians and paravets operate in the same location as village pharmacies; (iv) smallholder farmers recognize the importance of treating animals because it

¹¹¹ Mozambique : *Economics Of Adaptation To Climate Change*. 2010. EACC Publication and Reports. The World Bank

¹¹¹ INGC (2009). *Synthesis report*. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique. [van Logchem B and Brito R (ed.)]. INGC, Mozambique

¹¹² E.g. Sindai Company in Kenya - <http://www.sidai.com>.

translates in better conditions, therefore in a better price on the market. ASAP will support the development of an innovative approach that attempts to capture the abovementioned features. A public tender will be launched to identify a private pharmaceutical company interested in developing a commercial network of Livestock Vet Stores located in each target district. ASAP will facilitate the access to finance (per store: about USD 9 640 grant, USD 15 250 loan), with the balance financed locally (per store: about USD 15 250 loan from MFIs and USD 2 110 operator's contribution) to build Livestock Vet Stores and equip them and facilitate access to working capital.

Expected incremental outcomes. The expected incremental outcome of the component is the timely and adequate access of value chain stakeholders to a diversified range of affordable financial products.

66. PROSUL Component 5: Institutional support and project management (ASAP contribution: 660,000 USD)

67. PROSUL Objective and approach. The objective of Component 5 is to strengthen CEPAGRI, the government agency responsible for project implementation, so that: (i) it can deliver project outcomes and outputs according to plans; and (ii) build capacities so that innovative business models developed under the project can be further sustained and replicated and that value chain development can continue beyond project completion. These efforts will be complemented by a Land Tenure Security programme, and by the provision of support to strengthen linkages with agri-business education institutions in the southern provinces.

ASAP's Incremental outcome for Component 5: Climate resilient institutional development and project management

68. PROSUL, with ASAP funding, will provide institutional support to CEPAGRI and specifically to its delegation for the southern provinces, to mainstream climate change adaptation in policy support for the three value chains. This will include:

- (i) An institutional capacity needs assessment for mainstreaming the Mozambique climate change agenda within CEPAGRI during the inception phase of the project (see attachment 5 for a draft checklist);
- (ii) The development of policy and strategic tools to promote climate proof agriculture and to increase the resilience of project-supported value chains, which would be led by the LSPs for each value chain. Initial needs assessment would be undertaken during the inception phases for each value chain and policies and tools developed as appropriate in collaboration with members of the Innovation Platform/Regional VCP (See Annex 4)
- (iii) Contributions to the project KM strategy by sharing climate adaptation knowledge appropriate to the needs of each Innovation Platform/Regional VCP (See Annex 4)
- (iv) Building the capacities of CEPAGRI staff with regard to the broader national and regional climate change agenda and to develop strong linkages with the national climate change platform; and
- (v) Develop linkages with relevant institutions (particularly MICOA and INGC) and with the Strategic Programme for Climate Resilience co-financed by the World Bank and AfDB. To achieve this key staff of CEPAGRI will actively participate in the National Climate Change Forum and invite representatives of that forum to participate in the annual Regional VCP meetings.

69. Output 1: CEPAGRI is equipped with climate-proof policy and strategic tools. These tools will enable CEPAGRI to promote climate-proof commercial agriculture, and contribute to the broader national and regional climate change agenda. This will include:

- At least 3 core CEPAGRI staff trained in and exposed to issues related to the broader national and regional climate change agenda – the nature of this training will be determined by the Lead Service Provider for each Value Chain following the scoping studies and baseline assessments.
- In service training for CEPAGRI staff in the areas of
 - Technical/production related issues
 - Financial issues
 - Product enhancement
- Climate change adaptation knowledge sharing mechanism established within CEPAGRI and seasonal climate forecasts shared during the annual meetings for the development of Value Chain Development Action Plan (VC DAP). The establishment of these different project innovation platforms are described in detail for each Value chains in Annex 4 (Horticulture Para 60 and 61; Cassava Para 93 to 96; Red meat para 110, 111)

70. **PROSUL Evaluations:** Some USD 60,000 have been included to cover the additional cost of evaluations to supplement the PROSUL M&E agenda (see Main report, section III.C). This will include additional support to carbon assessments in the cassava and red meat VCs.

71. **Final Impact Assessment.** Some USD 46,000 have been included to cover the additional cost of assessing climate-resilience impacts as part of the overall PROSUL impact assessment.

I. IMPLEMENTATION ARRANGEMENTS

72. International Lead Service Providers (LSPs) will be contracted through the PCU for each VC through a competitive bidding process and would bear responsibility for coordinating the implementation of the three value chains components and the blended ASAP activities within in each value chain, in collaboration with the PCU and CEPAGRI. In addition, the LSPs will work with the National Directorate for Agricultural Services, the Department for Livestock Services, IIAM and INGC as required. Full details of the implementation arrangements for each component can be found in Annex 4, with an overview given in Section III of the Main Report.

PROSUL Impact Indicators Relevant to climate-resilience

73. Annex 4 provides the full list of draft PROSUL impact indicators. Many of these indicators are of the key dimensions of climate resilience relevant to each value chain. Those most related to the incremental impact of ASAP funding across the three PROSUL Value Chains are set out below. Key indicators (see Logframe) are shown in italics. Indicators will be disaggregated by gender where this is possible.

Component 1 (Horticulture)

- y) *3,840 farmers (50% women) adopting recommended climate-resilient technologies (RIMS 2.2.2, COSOP and ASAP indicator contributing to ASAP key indicator no. 1, goal-level) (for the 20 schemes, based on 80% adoption, assuming that all recommended technologies will be climate-resilient);*
- z) Average yield for selected vegetable production in both dry and wet seasons (increased by at least 100%) (ASAP indicator);
- aa) % change in water use efficiency (in terms of water use per annual volume of sales by hubs (m³/t) (30% increase over baseline) (ASAP key indicator no. 7, outcome-level);

Component 2 (Cassava)

- v) 4,000 farmers (50% women) adopting recommended climate-smart technologies (defined as: using climate-resilient cassava cultivating practices) (ASAP indicator, contributing to ASAP key indicator no. 1, goal-level) (based on 50% adoption);
- w) *# increase in hectares of land managed under best practices (2,880 ha) (ASAP key indicator no. 6, outcome-level);*
- x) % increase in number of on-farm plant species per smallholder farm supported (in terms of average number of plant species cultivated by participating farmers in the cassava value chain) (30% increase over baseline) (ASAP key indicator no. 4, purpose-level);

Component 3 (Red meat)

- hh) 2,800 herders (50% women) adopting recommended climate-smart technologies (defined as: using climate-resilient management of grazing areas) (ASAP indicator, contributing to ASAP key indicator no. 1, goal-level) (based on 50% adoption);
- ii) *# increase in hectares of land managed under best practices (defined as: Tenure protected area for LPOs with documented improvements in vegetative coverage) (ASAP key indicator no. 6, outcome-level)*
- jj) Change in grazing areas soil carbon stock (1.2 t of additional C / ha by project end; to be measured at baseline, after 4 years and at project end) (ASAP indicator)

Attachment 1: Pesticide usage/guidelines for various horticultural crops in Mozambique

Personal Communication from Carvalho Carlos Ecole, IIAM Entomologist

1. The Mozambican Agriculture Research Institute through a FAO Project developed a manual about pest, diseases and weeds of the staple food and vegetable crops grown in the country in 1980 and published by (Segeren *at al.* 1994). This publication is out of date when we consider that many crop varieties have been changed, many of the active ingredients of the pesticides recommended in the manual have been banned or have been changed or some of pesticides are no longer available in the market, new pest and diseases are being reported in Mozambique and the phenomenon of climate changing bring together new challenges for crop managements practices.
2. Recently IIAM published technical guidelines notes for the main crops grown in Mozambique by (Calisto Bias and collaborators, 2010). This manual although is updated, it is still not specific on addressing solutions for phytosanitary problems affecting vegetable crops. For locations like Moamba, Chokwe and green belt of Maputo, there are some un systematized information regarding to the intensive use of pesticides for white fly and fruits miner on tomato production, and DBM (*Plutella*) control on head cabbage.
3. Eight to ten times can be the number of high toxic pesticides application during cabbage production life cycle in the Green belt of Maputo. In such locations there is no any recommendation about the daily pesticide ingestion dose. This type of recommendation it can be just developed by research.
4. Having a research Project on horticulture/vegetable crops value chain, in the Southern part of Mozambique it could be valuable tool on developing technological packages in intensive and health vegetable crops production and consumption that in fact could promote not just a sustainability but also to achieve international market. This statement justify the research intervention to review the available material as well as generation of strategies toward rational pest and disease control and protection of the consumers in all levels
5. **Question.** Do you think staking/use of trellising/shade cloths for tomatoes might reduce the amount of pesticides required for production in both the cool and the wet seasons? Would it be worthwhile undertaking some adaptive field work to see if a change in management practices changed pest and disease patterns?
6. The pest and diseases management as well as good agricultural practices are always advisable educative processes with high return for the consumers by gaining top biological quality food at their table. The implementation of such processes requires an interaction between producers and researchers, being in mind that those actors are also consumers. On the other hand it is very important to remember that the Mozambican agriculture being for small holder's sustainability, there is no pesticides use. However this agriculture is extensive and of the low input and low income. The adoption of combined alternative practices with the rational pesticide use seems to be more adequate at the time when the group behaviour is improving in the quality of such alternative practices by reducing the high toxicity pesticides use or trough investing on low toxic pesticides.
7. The staking and trellising/shade cloths techniques contribute on improvement of the other crop management practices as well fruit protection and harvesting. However these practices are not common in Mozambique.
8. We understand that vegetable production comprise a agribusiness with high finances return if there is a technological upgrade, whose success generally occur by diffusion among stakeholders. Meaning that neighbouring producers of someone who has been supported by Extension and research and correctly adopted new technologies can influence positively to new potential adopters by showing possibility for success.

Attachment 2: Trilateral Cooperation on Food Security (U.S.-Brazil-Mozambique)

Background

1. The University of Florida (UF) has been awarded a USD 7.9 million Cooperative Agreement with the United States Agency for International Development (USAID) to negotiate, plan, coordinate, and implement the USAID-funded component of the Trilateral Cooperation Agreement between the United States and Brazil. Trilateral cooperation is where two governments partner to implement technical cooperation and development activities in a third country, in this case Mozambique.

Goal and Objectives

2. The goal of the trilateral program is to cut poverty and hunger in Mozambique by improving agricultural productivity, food security, and human nutrition through the joint efforts of U.S., Brazilian, and Mozambican partners. All activities are aligned with Feed the Future (FTF), the U.S. Global Hunger and Food Security Initiative (www.feedthefuture.gov). Mozambique is one of 20 focus countries where FTF is working to reduce poverty, hunger, and malnutrition. As a strategic partner in the FTF initiative, Brazil brings expertise and resources that complement those of the U.S. and offer the possibility of more effective capacity building, technical assistance, policy engagement, and promotion of development for the benefit of Mozambique.

3. The program is focused on two main objectives:

- Improve the institutional and human resource capacity of the Institute of Agricultural Research of Mozambique (IIAM) to conduct research on horticultural value chains to determine the best intervention options along the food supply chain from inputs, to production, to marketing and processing, and to consumption. To facilitate the coordination of activities along a value-chain approach, teams of specialists have been formed around three main components: (1) socio-economics, (2) production systems, and (3) postharvest and processing technologies. The program also focuses on understanding gender-based constraints and ways to enhance participation and leadership by women in value chains.
- Improve the institutional and human resource capacity of the Ministry of Education for implementing sustainable school feeding programs that link local agricultural production and agro-processing. School feeding is an important platform for delivering nutritious food and for potentially improving the health and cognitive ability of school-aged children.

Partner Institutions

4. **U.S.:** USAID, University of Florida (*lead institution*), and Michigan State University (*partner*).

Brazil: Brazilian Cooperation Agency (ABC – Agência Brasileira de Cooperação), Embrapa (Brazilian Agricultural Research Corporation), National Fund for Educational Development (FNDE – *Fundo Nacional de Desenvolvimento da Educação*).

Mozambique: Institute of Agricultural Research of Mozambique (IIAM – *Instituto de Investigação Agrária de Moçambique*), Ministry of Education – Department of Production and School Feeding within the Office of Special Programs (MINED).

Program Duration and Funding

5. January 2011 – December 2014; USD 7,905,241

Attachment 3: Guidelines for a Basic Meteorological Station

Weather station site requirements

1. Station location requirements are based on the need to for the site to be representative of the surrounding region and to be far away from trees and tall buildings that may unduly influence the measurements. According to World Meteorological Organisation (WMO) guidelines the following applies to the different sensors:
2. *Rain gauges* should be a minimum of 30 cm off the ground though higher is recommended as in-splashing may occur, especially over solid flat surfaces such as concrete (better to have gauge at > 1m). It is also recommended that they are at least four times as far away as the height of any nearby obstructions (EPA recommendation)
3. *Temperature and humidity sensors* should have a ventilated radiation shield, be 1.25 - 2.0m above the ground (usually 2.0m) and preferably be > 30m from paved areas with > 9m of surrounding open space (avoiding damp hollows and vegetation);
4. *Wind speed and direction* should be measured at a height of 10m and it is recommended that it is at least 10 times as far away from nearby buildings/trees as their respective height;
5. *Pyranometers for measuring solar radiation* should be away from shadows and reflective surfaces and preferably on the northernmost side of the weather station (in the southern hemisphere);
6. *Soil moisture* probes, where deployed, should be placed on level surfaces typical of the surrounding area (not in depressions where water may accumulate) at depths of 5, 10, 50 and 100 cm
7. Before installation of the weather station it is often appropriate to level the ground (though the choice of site should mostly accommodate this requirement) and set concrete foundations for any structure upon which the sensors and equipment will be placed. Additionally if the data collected at these sites are to be used for insurance purposes, the site must be secure and not accessible to the public. This often requires installation of a security fence, gates and padlocks to ensure that tampering with the data/instruments is not possible. Figure 2 summarises the current location of Meteorological Stations in southern Mozambique.

Data and quality control

8. Any data collected at a weather station must undergo quality control procedures. Such quality control procedures are flexible and often depend on whether historical or real-time measurements are being evaluated. For example, complex statistical techniques that detect discontinuities in time series (usually indicating the relocation or deterioration of a sensor) can be used with historical data but are not appropriate for evaluating real-time data. However, some simple quality control tests can be used in both cases:
 - Remove negative rainfall, or rainfall above station-specific unrealistic values;
 - Remove where maximum temperatures and less than minimum temperatures or either are within 3 - 6 standard deviations of the long-term mean.
 - Additionally, when checking real-time data the co-evolution of different variables can be used to flag where data is not realistic. For example, temperatures generally drop with the onset of rainfall and solar radiation has an apparent daily cycle that is reduced by cloud-cover

that precedes rainfall. In particular, quality control should be implemented every day to detect where any drifts or failures of sensors may be occurring. This requires that the data is either downloaded via a telecommunications network or manually downloaded every 1 - 2 days.



Figure 2 Location of current Meteorological Stations in southern Mozambique (IIAM GIS Unit 2012)

Attachment 4: Environmental Impacts of Cassava Processing

(Adapted from <http://www.fao.org/docrep/007/y2413e/y2413e0d.htm>)

1. Cassava processing, especially in areas where the industry is highly concentrated, is regarded as polluting and a burden on natural resources. Some forms of processing, particularly for starch, have developed beyond traditional methods and are now water intensive yet often sited in areas of water scarcity. By its nature, cassava processing for starch extraction produces large amounts of effluent high in organic content. If untreated this may be displayed in the form of stagnant effluent ponds from which strong odours emanate. Other forms of processing, despite not requiring water, generate very visible dust waste. As a consequence of the visual display of pollution, cassava is often perceived by local populations as contributing significantly to environmental damage and water deficit. Yet, despite this notion, supported mainly by the visual display of pollution, few systematic impact studies have been conducted and those that have been summarised by FAO (<http://www.fao.org/docrep/007/y2413e/y2413e0d.htm>).

2. Cassava processing methods are a combination of various operations, each having a different potential impact on the environment. Most studies tended to focus on the quantity and composition of waste produced by this industry, but do not consider the potential environmental impacts summarised in Table 1.

Table 1. Types of waste and their environmental impact of various unit operations used in cassava processing

Unit operation	Type of waste generated	Expected environmental impact
1. Washing	Organic matter, soil.	Little impact.
2. Retting/Soaking	Cyanide diffused into rivers, ponds or back-water. Organic matter.	High HCN concentration in the waste water can be a problem if used directly on land. Dissipation is rapid if passed to waterways. Organic matter is a problem, causing high BOD and COD, and eutrophication of waterways and foul odors.
3. Peeling	Peels with high fibre and high cyanide content.	Can contaminate ground water supply during rain. Foul odor. Cyanide is a problem if used as a feed.
4. Squeezing	Effluent with high content of cyanide and organic matter (mainly starch).	High HCN may kill plants if effluent is allowed to run out on land. Dissipation should be rapid if released into waterways. Organic content may contaminate ground water supply and cause eutrophication of surface water and foul odor.
5. Drying and cooking	Cyanide vapors, ash (from firewood).	Cyanide vapor is not likely to be a problem unless processing is done in an enclosed space.
6. Sieving	Fibrous waste.	If exposed to rain, the seepage of organic material from stored waste could contaminate the ground water
7. Sedimenting	Starch residue. Waste water.	Foul odour Organic matter is a problem, causing high BOD and COD, and eutrophication of water ways.

3. The impact of cassava processing should be considered at two levels - broad scale and site-specific. Generally, the maximum impact will be at the site-specific level.

Water Usage

4. As a rule, the amount of water used for starch processing varies, depending on the processing scale and the level of technological sophistication; requirements range from 21-76 m³ per tonne of dry starch (Table 2). The apparent increasing demand for water with scale of operation reflects a need for higher quality of the final product. The only study reviewing the impact of starch processing on groundwater supply suggests that such problems are usually site-specific and are not directly the result of starch processing. Despite perceptions to the contrary, starch processing in most areas probably does not consume a significant proportion of the groundwater.

Table 2. Water consumption in the processing of various cassava products

Country/region	Product	Water consumption	
		(m ³ /tonne fresh roots)	(m ³ /tonne dry starch)
Brazil	sour starch	6-7	21-32
Brazil	sweet starch	10	
India/Tamil Nadu	starch	6	31
Ecuador	sweet starch	9-12	36-76
Colombia/Cauca	sour starch	12-15	60-75
Thailand	starch	10-18	25-45
Indonesia	starch	5-11	
Vietnam/north	starch	8	
China/Guangxi	starch	10	40

5. The proportion of water used by the starch processing industry is small compared to overall use (i.e. industrial, agricultural and domestic), and broad impacts are not usually expected. Site-specific problems, however, can occur, especially if processors are clustered and are close to other major water users. Within a cluster of processors, the combined demand for water can have a significant impact on the water level in open wells in the immediate vicinity. This situation is exacerbated if the processors are situated close to domestic users. As a useful strategic planning tool, a model based on local recharge rates and demand by other users should be available to assist the determination of a critical number of processors within a cluster.

6. In Africa, the demand for water tends to be self-regulating when processing methods are traditionally selected and adapted to the amount of available water in a specific geographic location.

Wash water and effluents

7. Waste water from cassava processing, if released directly into the environment before proper treatment, is a source of pollution. In many areas where traditional processing is practiced, waste water is normally discharged beyond the "factory" wall into roadside ditches or fields and allowed to flow freely, settling in shallow depressions. Eventually this will percolate into the subsoil or flow into streams.

8. The sources of waste water include water released from cassava during: *pressing and washing*. The press water, although produced in relatively low volumes (250-300 liters per tonne of roots), is the main problem because of its high biological oxygen demand (BOD) of 25,000-50,000 mg/l and a typical cyanide concentration of more than 400 mg/l. In contrast, the BOD of wash water can be on the order of 500-2,500 mg/l.

9. *In general waste water generated by small-scale processors, unless they are highly concentrated, has minimal impact on the environment. In contrast, the much higher volumes generated by larger factories can have a significant and serious impact on the environment.*

Solid wastes

10. *Solid* waste is created by all forms of cassava processing. For example, in the artisan production of starch about 60-66% of the fresh root is liberated as waste material (including water). Solid waste from cassava starch processing is divided into three categories:

1. Peelings from initial processing
2. Fibrous by-products from crushing and sieving (pulp waste)
3. Starch residues after starch settling

11. *Under most conditions, solid waste will not create an environmental problem. However, if conditions for storage are inappropriate, problems can occur during periods of heavy rainfall. In the dry season, there is little problem except for a foul odour. The waste can be used as animal feed, dried and used as a fuel, or even applied to the soil as a conditioner.*

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 6: IMPLEMENTATION AND FINANCIAL ARRANGEMENTS

ANNEX 6: IMPLEMENTATION AND FINANCIAL ARRANGEMENTS

Table of Contents

I.	INTRODUCTION	1
II.	BACKGROUND	1
A.	Public Institutions: Structure and Capacities	1
B.	Service Providers	5
C.	Financial institutions	6
III.	IMPLEMENTATION ARRANGEMENTS	6
A.	Overall Organisation	6
B.	Key Implementing Institutions	8
C.	Project Oversight	10
D.	Programme Management Team	11
E.	Service Providers	14
F.	Financial Management and Flow of Funds	16
A.	Project Accounts and Flow of Funds	17
B.	Accounting and Audit	19
C.	Procurement and Contract Management	20
D.	Preparatory Activities	20
E.	Risks And Risk Mitigation Measures	21
	Attachment 1: Existing and projected staff at CEPAGRI Delegation for the Southern Provinces	22
	Attachment 2: PROSUL Organisation Chart	23
	Attachment 3: Draft TOR for Programme Management Team, DPA Focal Points and Manager of PROSUL Department in Catalytic Fund	24
	Attachment 4: Draft TOR for main service providers	34
	Attachment 5 : PROSUL Flow of Funds	40
	Attachment 6: Procurement	41
	Attachment 7 – Draft 18-month Procurement Plan	49
	Attachment 8: PROSUL start-up activities	53
	Attachment 9 – Code of Practices for Project Management in Mozambique	54
	Attachment 10 - Outline of PIM	61
	Attachment 11- PROSUL District Phasing	63

ANNEX 6: IMPLEMENTATION AND FINANCIAL ARRANGEMENTS

1. INTRODUCTION

The purpose of this working paper is to describe implementation and financial arrangements for the execution of PROSUL. The paper is organised in five sections as follows:

- Section I contains a review of the organizational structure and capacities of the public institutions that will participate in project implementation at the national, provincial and district level, as well as of the types of service providers that could take up the role of Lead Service Provider for the implementation of the project's value-chain based components (components 1 to 3);
- Section II outlines PROSUL implementation arrangements, including overall organisation, key implementing agencies, project oversight modalities, roles and responsibilities of the Programme Management Team, and role of main service providers;
- Section III outlines main financial management arrangements;
- Section IV describes start-up activities ; and
- Section V outlines the risks and their mitigating measures.

2. BACKGROUND

A. Public Institutions: Structure and Capacities

CEPAGRI. The *Centro de Promoção da Agricultura* (CEPAGRI) is an institution with legal and administrative autonomy that is placed under the authority of the ministry of Agriculture (MINAG). Its main mandate is to promote commercial agriculture and agri-business. CEPAGRI is managed by a General Director and, at central level, comprises three departments:

- *Agribusiness*, aiming primarily to promote private sector initiatives, linkages between national farmers and outside investors, implementation of value chains and mobilize financial resources to be channelled for agribusiness initiatives through commercial banks;
- *Analysis and Information*, which carries out analysis and studies to support policy development and business promotion;
- *Administration and Finance*, which is mainly concerned with financial management, including the management of assets and human resources.

The total number of staff at CEPAGRI is 34, of these, 3 holds Master degree, 17 are BSc and 6 are Agriculture Technicians.

At provincial level, CEPAGRI is to be represented by Provincial Delegations. So far only one province – Zambezia – has its own delegation. The remaining provinces have been grouped based on geographical criteria. Cabo Delgado and Niassa province share the same delegation based in Nampula, the central provinces of Manica, Sofala and Tete have a delegation in Manica and the southern Provinces of Gaza, Maputo and Inhambane share the same delegation based in Gaza (Xai-Xai).

The Gaza Delegation (Southern Provinces Delegation), was formally established in 2011. It is managed by a Provincial (Regional) Delegate and comprises three Divisions that mirror CEPAGRI's national departments: Agribusiness, Analysis and Information, and Administration and Finances. Additionally they have one Focal Point within each of the Provincial Directorates for Agriculture (DPA). Currently, the total number of staff in the Delegation is 8 (five in the Delegation in Xai-Xai plus three Focal Points) and projections for a fully functional delegation is for 17 staff (see Attachment 3). The Regional Delegate is the only one that holds a Master Degree level.

As the project implementing agency, CEPAGRI is expected to play key roles with regard to both overall project management and coordination with other government and non-government agencies

participating in the project. For this, CEPAGRI has both strengths and weaknesses. Main strengths include:

- the mandate of CEPAGRI, which is clearly geared towards promoting agribusiness and value chain development, as well as supporting linkages between the public and private sectors;
- the cross-cutting nature of CEPAGRI's mandate, which encompasses both agriculture and livestock value chains, as compared to MINAG and DPAs, which are organised by sectors and sub-sectors and have a stronger focus on production;
- the agribusiness strategy developed by CEPAGRI and currently in the final stages of approval by the Cabinet, which is based on a preliminary diagnostic and sets up quantitative targets;
- linkages with all major initiatives to promote agribusiness in the agriculture sector, through membership in related boards and coordinating structures (including the Catalytic Fund of the Beira Agriculture Growth Corridor and Agrifuturo).

CEPAGRI's active participation in the two design missions, including in coordinating participating government organisations at national and provincial level, further demonstrates the institution's strong commitment to take charge of project implementation.

Main CEPAGRI's weaknesses include:

- young and inexperienced management and staff;
- a lack of strategic focus;
- weak planning and monitoring capacities.

While CEPAGRI has some management experience, which is related to pilot initiatives developed at provincial level, its mandate is not one of an agency implementing large-scale investment projects, but rather of a facilitating and coordinating body.

DNSA. The *Direcção Nacional de Serviços Agrários (DNSA)* is a national directorate within MINAG. Its main mandate is to coordinate the design, implementation, monitoring and evaluation of policies, strategies and legislation of agricultural development, in particular in the areas of plant protection, seed certification, agricultural mechanization and irrigation. DNSA at central comprises six departments: (i) Plant Protection, (ii) Seeds, (iii) Irrigation, (iv) Early Warning, (v) Planning and (vi) Administration and Finance. The total number of staff at DNSA central level is 99 (8 with master degree, 35 graduates, 16 agriculture technicians and administrative/support staff). At the provincial level, DNSA is represented by the *Serviço Provincial da Agricultura (SPA)*, which is part of the DPA. DNSA is a highly recognised institution with good representation country-wide. Weaknesses include a limited capacity to deal with a wide number of complex issues and a low supervision capacity.

- B. INIR.** *Instituto Nacional de Irrigação (INIR)*, is a new institution (created in April 2012) with legal and administrative autonomy that is placed under the authority of MINAG. Its main mandate is to: promote development of studies for sustainable use and management of land and water for agricultural development;
- C.** construction, rehabilitation, operation and maintenance of irrigation schemes;
- D.** mapping exercises of irrigation perimeters;
- E.** development of land use planning indicating potential areas for the promotion of irrigation schemes;
- F.** promote establishment of farmers' organisations (FOs) around irrigation schemes and provide necessary capacities and supervision to them on sustainable use and management of irrigation schemes;
- G.** promote public-private partnership for the management of irrigation infrastructures;
- H.** approve irrigation projects and programmes; and
- I.** adopt impact mitigation measures for environmental effects resulting from irrigation activities.

INIR is managed by a General Director appointed by the Prime Minister. Within 60 days following the approval by the Cabinet, the Minister of Agriculture will propose the organizational structure, both at

central level and at decentralised level, which will then need to be approved by the Ministry of Civil Service DNSA staff formerly attached to the Direção de Equipamento Hidraulico (DEH) (five agronomists, one economist, one civil engineer and two architects) was already transferred to the new INIR.

DNSV. The *Direção Nacional dos Serviços Veterinarios (DNSV)* is a national directorate within MINAG. Its main responsibilities are to promote animal health, animal disease surveillance, and public protection from zoonotic diseases; and to promote increased livestock numbers and availability of meat, eggs and other livestock sub-products. DNSV at central level comprises six departments: (i) Epidemiology, (ii) Hygiene and Public Health, (iii) Prevention and control, (iv) Animal Production, (v) Wildlife, and (vi) Tse-Tse Fly. It has two crosscutting divisions: Planning and Statistics and Administration and Finance. Total staff at DNSV at central level is 39 (1 PhD, 3 Master Degree, 18 Graduates and Administrative/support staff). At provincial level, DNSV is represented by the *Serviço Provincial de Promoção da Pecuaria (SPPP)*, which is part of the DPA. The heads of SPPs in the provinces all holds at least a graduate level in Veterinary sciences. As for the DNSA, the DNSV strengths includes being a highly recognised institution with experienced professionals. Weaknesses are also similar, including weak capacity to deal with a wide number of complex issues, a lack of reliable statistics and a low capacity to supervise.

IIAM. *The Instituto the Investigação Agraria de Mocambique (IIAM)* is the national public research institute. It was created in 2004. Its mandate is to contribute with technological solutions to the sustainable development of agribusiness, food security and nutrition. IIAM at central level comprises four technical directorates: Agronomy and Natural Resources, Animal Science, Training and Technology Transfer, and Administration and Finance. IIAM staff comprises 187 professionals (total work force is 936). Of these 112 are graduates, 61 (41 in Maputo) hold Master Degrees and 15 (11 in Maputo) hold PhDs. IIAM has four regional delegations, called Zonal Agriculture Centres. The Southern Zonal Centre (CZS), with headquarters in Chokwe, covers the three southern provinces targeted by PROSUL. Within MINAG, cassava related matters - research, production, post-harvest and processing - fall under the responsibility of IIAM. Therefore, for the implementation of PROSUL, IIAM will hold the main responsibility for all activities related to the cassava vale chain, whereas for horticulture and ruminants, it will only responsible for research activities.

INGC National Institute of Disaster Management (INGC) is the national institute for disaster management. – need to complete cannot download the info

PROSUL target value chains benefit from a host of research programmes, with 10 researchers for horticulture, 12 researchers for cassava and 9 researchers for ruminants. The majority are MScs and BScs, backed up by at least one PhD researcher for each commodity. IIAM is a highly recognised institution with experienced professionals. It is affected by high staff turn-over.

DNEA. The *Direção Nacional de Extensão Agrária (DNEA)* is a national directorate within MINAG. Its main mandate is to lead the development of policies and strategies to promote the development of pluralistic and demand-driven extension services, in line with the Extension Master Plan (2007-2016). The plan describes seven main areas of change that will be promoted by DNE: (i) decentralization of district extension governance to the district level; (ii) deconcentration of extension implementation to the district level; (iii) pluralist agricultural extension system with public, private and civil society service providers; (iv) farmer economic and social empowerment in value chains and active participation in the demand of extension services; (v) outsourcing by districts of services that cannot be provided by the public sector; (vi) development of partnerships with other actors in the innovation system: market actors, input suppliers (including credit) and other service providers (e.g. research); and (vii) promote extension approaches that focus on the facilitation of learning between farmers and other actors, aiming at value chain and local economic development for the betterment of rural livelihoods.

DNEA comprises two main departments at central level: (i) Operations and (ii) Planning Monitoring and Evaluation. The total staff of DNEA at central level is 28, of which 1 with master degree, 9

graduates and 4 agriculture technicians. At provincial level, DNEA is represented by the *Serviço Provincial de Extensão Rural* (SPER), which is part of the DPA. The heads of SPERs in the provinces all hold at least a graduate level, mostly in agriculture. Under the decentralization process, some 800 public Extension Officers previously attached to DNEA are currently part of the District Services for Economic Activities (SDAEs) (see below), but still receiving methodological guidance and supervision from DNEA/SPER. Of these, 232 Extension Officers are attached to the three southern provinces covered by PROSUL with the following distribution: Maputo (62), Gaza (80) and Inhambane (90), which gives an average of about 10 extensionists per district.

Main weaknesses of the public extension system in Mozambique include low numbers of extension officers, high turnover, high concentration on production to the detriment of market and value chain related aspects, supply driven orientation, lack of participatory approaches and very weak linkages with research and input supply systems.

Since 2007 IFAD has been supporting the National Extension Programme (PRONEA), a programme aimed at operationalizing the National Agricultural Extension Master Plan. IFAD contributes to the programme through a Loan Agreement which became effective in October 2007 and amounts to USD 20 million, as part of the overall PRONEA budget of USD 50 million for the referred period.

The purpose of the National Extension Programme (PRONEA) is to attain increased returns and improved household food security of subsistence farmers, particularly female-headed and disadvantaged households, through a steady uplift in production efficiency. This is to be achieved through: wider access to effective technical support services focused on districts; better organized producer groups influencing supply of services; and delivery of support services in response to requests. PRONEA is organized in three components: Supply-side Development of Agricultural Extension Services, Demand-side Development of Agricultural Extension Services, and Agricultural Extension Services Provision.

The recent mid-term review of the IFAD project carried out in October 2011 recommended that the project focus on smallholder agriculture in an inclusive way, notably through associations, which need to develop into well-established organizations with clear economic objectives and business plans. Extension will also work with farmers who have leadership skills or other skills that allow them to operate as farmer promoters, facilitators, etc. All this requires that extensionists are provided with the necessary skills to recognize different categories and notably on how to involve these, as well as different gender and age categories. The project will also support the development of Farmers' Field Schools (FFS) at country level, building on successful experience carried out by FAN and national NGOs.

DPAs. The *Direcção Provincial de Agricultura (DPA)* is a provincial institution attached to the provincial government. Its mandate is to coordinate agricultural development in the province, with particular focus on planning and coordination of agricultural activity, including law enforcement and agriculture inspection. The DPA is managed by a provincial Director who responds primarily to the Provincial Governor. DPAs have a uniform structure throughout the country, which comprises the following services and departments: (i) Extension (SPER), (ii) Land (SPGC), (iii) Crops (SPA), (iv) Livestock (SPP), (v) Forestry and Wildlife (SPFFB), (vi) Human Resources, (vii) Economics and (viii) Administration and Finance. Staff numbers, qualifications and capacities vary between DPAs. DPA Maputo has 185 professionals (of which 34 with graduate degree and 78 agriculture technicians); DPA Gaza has 127 professionals (of which 35 graduate and 42 technicians); and DPA Inhambane comprises 138 professionals (of which 25 graduate and 57 technicians).

SDAEs. Under the framework of the Law of Local Government Organs (LOLE), the formulation and the implementation of strategic socio-economic development plans and annual operational plans and budgets were decentralized to provinces and districts. The decentralization of the planning and management of public administration activities was followed by the restructuring of the District

Government, which is still under way. A District Government now comprises: a District Administrator, who leads the local government and is assisted by a Permanent Secretary responsible for coordinating the district planning and for managing the district budget; a District Service of Planning and Infrastructure responsible for physical planning, land management and public infrastructure; a District Service for Social Matters (Health, Education, Culture, etc.); and a District Service for Economic Activities (SDAE). SDAEs integrate all government activities related to economic sectors (agriculture, fisheries, natural resources management, industry, commerce, tourism, mining, etc.) and are also responsible for developing extension activities.

Since 2005, the government has been channelling substantial amount of resources to the districts to support entrepreneurship development at district level. These resources, known by District Development Fund (FDD), are vastly used for the support of agriculture and agribusiness development in the districts. Linked to this, extensionists have a role to play: (i) by assisting the beneficiaries of the FDD to improve the selection of the enterprises to be financed by these resources and (ii) to assist them with improved production techniques and improved management of their production systems. This is a potential area where synergies could be developed with PROSUL.

Major strengths at SDAE level include the decentralized structure and modus operandi. Weaknesses however include a lack of both capacities and staff.

For PROSUL, the above description of the institutions and capacities suggests the following:

- *CEPAGRI*: CEPAGRI is the most appropriate government institution to lead project implementation, because of its mandate, policies and network of relationships with major actors in the agriculture value chains ;
- *Service providers*: in accordance with its mandate, CEPAGRI will be responsible for overall project management and coordination, for which it will receive support from a small Project Management Unit (PMT), while execution responsibilities will be outsourced to specialised service providers. Capacity building needs have been identified jointly with CEPAGRI during the final design mission and adequate support will be provided through Component 5. It is further planned that collaboration with the PMT and service providers will also improve CEPAGRI's institutional capacity in particular for planning, coordination and monitoring;
- *Capacities*: while institutional capacities vary from one institution to another, they all experience weaknesses, both in technical and management areas. PROSUL is a private-sector driven project, which focuses most of its support on producers and other private sector actors along the three value chains. While it does not have the capacity building of public institutions as its primary objective, it does include institutional support for those institutions that will be involved in project management and overseeing, primarily CEPAGRI and INRI, especially at decentralised level, so that they can fulfil their implementation responsibilities and develop their skills in relation to the promotion of inclusive and gender-balanced value chain development.

J. Service Providers

Service providers (SP) are expected to play a key role in implementing the project activities. A range of possible national and international SPs (both NGOs and consulting firms) has been identified during the project design, which can be categorized as follows:

- *well-established national NGOs*: several national NGOs, often established through donor-funded support, have a long experience in community development and in working with local communities. Some also have experience with land delimitation and facilitation of land users rights (DUATs). Their main strengths are their solid understanding of the rural sector and experience with group organisation and development. They generally have very limited

experience and weak know-how with regard to value chain promotion, market linkages, and the promotion of linkages with the private sector;

- *emerging private sector*: a new category of SPs comprises emerging private firms, with a more limited number of years in the business, that specifically focus on the provision of services in support to market-driven agriculture. Their major weakness is lack of experience and capital. Because they focus on the development of market-oriented agriculture and have well trained staff, they have good potential to become important actors in the project and to expand their activities ;
- *international service providers*: the design mission has identified a range of international service providers based in Mozambique or in neighbouring countries, with substantial expertise and experience in the implementation of projects promoting the inclusion of smallholders in agriculture value chains, the development of market linkages and the access to support services. Most of them have experience with IFAD-financed loans or grants in the region. While they can bring in valuable experience, they may be less conversant with the country's specificities, for which they need to rely on local expertise.

Therefore PROSUL implementation strategy is to promote partnerships between national and international SPs that together would possess all the skills and experience required for a successful project execution.

K. Financial institutions¹¹³

Catalytic Fund. The Catalytic Fund of the Beira Agriculture Growth Corridor Initiative (BAGC) is a limited liability share company created under the Mozambican laws which provides equity and credit resources to agribusiness, including smallholder operations. It also includes a Smallholder Support Facility, which provides grants for the implementation of sustainable models to integrate smallholder farmers into mainstream commercial agriculture. It is financed by DFID and by the Netherlands. It is at the moment the only institution able to take positions in financial institutions. While it was created in support to BAGC, its bylaws leave open the possibility of extending its activities beyond the Beira Corridor.

Microfinance institutions. A number of microfinance institutions provide services to the rural areas, usually with limited outreach and mostly to the benefit of trading activities. Their involvement in agriculture-related activities is hampered by a lack of resources, a limited range of financial products, unaffordable interest rates and inadequate terms and conditions for the agriculture sector.

3. IMPLEMENTATION ARRANGEMENTS

• Overall Organisation

PROSUL organisational framework builds on the conclusions of the Country Programme Evaluation that Project Facilitation Units have proven to be the most effective option for project implementation in Mozambique, provided linkages are established with the hosting institution to contribute to institutional building and secure sustainability. It is also in line with CEPAGRI's mandate, which is not one of implementing large-scale investment projects but rather of a facilitating and coordinating body. And finally, it is in accordance with the nature of the project, which is to promote the development of business relationships between private actors, which requires a mix of public and private sector competences, and to promote innovative approaches to the development of pro-poor value chain, which requires external expertise.

¹¹³ See details in Annex 4, Section 4 – Financial Services.

Main features of PROSUL implementation setting are as follows:

- *CEPAGRI* is the implementing agency that has overall responsibility for the management, coordination and oversight of the project. Day-to-day management responsibilities will be carried out by CEPAGRI Regional Delegate for the Southern Provinces under the authority of CEPAGRI General Director;
- A *Programme Management Team* based at the regional delegation will assist CEPAGRI in carrying out project implementation responsibilities and will contribute to building CEPAGRI management capacities (as part of Component 5);
- *National MINAG departments* DNSA, DNSV and DNEA, as well as INIA (for cassava) will collaborate with CEPAGRI and in overseeing the project and in providing technical advice;
- *DNSA, IIAM, INIR* and the *National Road Authority (ANE)* will furthermore be involved in the execution of specific activities, namely: (i) the irrigation sub-component in Component 1 – Horticulture Value Chain Development, which will be implemented by INIR; (ii) research activities across Component 1 to 3 and the multiplication of clean planting material in Component 2 – Cassava Value Chain Development, which will be implemented by IIAM; and (iii) road construction, which will be implemented by ANE;
- *DPA*s will facilitate project implementation at the provincial level, through the appointment of fully dedicated Focal Points, who will promote close linkages between CEPAGRI/Lead Service Providers and relevant departments in the DPAs and in the SDAEs of participating districts and participate in monitoring and evaluation as well as in knowledge management;
- *Lead service providers* with recognised international expertise, teaming up with national service providers, including private sector and NGOs, will take responsibility for implementing activities planned for each of the value chain-based components (1 to 3). The *Catalytic Fund* established in the framework of the Beira Agriculture Growth Corridor will be responsible for implementing Component 4 – Financial Services, in partnership with a limited number of competitively selected Microfinance Institutions (MFIs);
- A *Project Steering Committee* gathering the representatives of main stakeholders involved in project implementation will provide overall guidance and oversight;
- A *Regional Value Chain Platform (VCP)* will be established for each value chain. VCPs will gather the representatives of key value chain stakeholders in the southern provinces as well as relevant national institutions, and will provide a venue to discuss project achievements, identify successes and problems as well as good practices, discuss possible solutions including non-project based solutions and identify policy issues. They will also be involved in the preparation of Annual Work Plans and Budgets (AWPB). They will progressively evolve into permanent multi-stakeholder value chain platforms at the regional level. Additionally, *Innovation Platforms* will be developed in each participating district or cluster of districts, with a view to develop a similar mechanism at a more local level.

The roles and responsibilities of each of the implementation stakeholders are further described below, starting with key implementing institutions, followed by project oversight structures, then the Programme Management Team and finally Lead Service Providers. The organisational chart in Attachment 2 represents PROSUL implementation setting.

L. Key Implementing Institutions

CEPAGRI. As PROSUL implementing agency, CEPAGRI will play key roles with regard to both overall project management and coordination of government and non-government agencies participating in the project. The Director of CEPAGRI will have overall responsibility for the coordination and oversight of PROSUL. However line responsibility for day-to-day programme implementation will be delegated to the Programme Coordinator, who will carry them out in close collaboration with the CEPAGRI Delegate for the southern provinces in Xai Xai (Gaza) and with support from the Project Management Team.

Project coordination and management will be fully integrated in CEPAGRI structures and systems and will be consistent with the ongoing decentralization of the public administration. Specifically, project planning, budgeting, contracting, monitoring and evaluation and knowledge management will be harmonised with CEPAGRI's systems and will contribute to the strengthening of CEPAGRI's capacities.

DNSA. The National Directorate for Agriculture Services (DNSA) will play an advisory role for the implementation of Component 1 - Horticulture, by providing advice to CEPAGRI, to the PMT and to Lead Service Providers (LSPs) on all aspects related to agricultural policies and national strategies. It will be a member of the Project Steering Committee, and of the Horticulture VCP. DNSA will also be associated to the establishment of criteria for and selection of LSPs for Component 1 .

INIR. INIR will be responsible for the procurement and overseeing of a consulting firm to carry out the design and supervision of irrigation works and of private contractors to carry out the works. An MoU will be signed between INIR and the PMT, which will specify respective responsibilities. The MOU will be prepared by the PMT, in collaboration with INIR, DNSA and the Horticulture LSP. INIR responsibilities in this respect are further detailed in Annex 4, Section 1, which describes activities and implementation arrangements for Component 1.

DNSV. DNSV will play an advisory role for the implementation of Component 3 -Red Meat, by providing advice to CEPAGRI, to the PMT and to the LSP on all aspects related to livestock policies and national strategies. It will be a member of the Project Steering Committee, and of the Red Meat VCP. DNSV will also participate in the establishment of criteria for and selection of the LSP for Component 3.

IIAM. IIAM will play an advisory role for the implementation of Component 2 - Cassava, by providing advice to CEPAGRI, to the PMT and to the LSP on all aspects related to cassava policies and national strategies. It will be a member of the Project Steering Committee, and of the Cassava VCP. IIAM will also participate in the establishment of criteria for and selection of the LSP for Component 2.

Furthermore, IIAM will be responsible for implementing the whole range of research activities financed by PROSUL across the three value chains, and for setting up a system for the multiplication of high-yield, drought-resistant cassava stems on a commercial basis. To this effect, CEPAGRI will pass one single Memorandum of Understanding (MOU) with IIAM, which will specify respective responsibilities. The MOU will be prepared by the PMT, in collaboration with DNSA, DNSV and the three LSPs. This arrangement, rather than having a separate MOU passed for each value chain, will secure coherence in the overall research programme and ensure that it matches IIAM capacities. Activities entrusted to IIAM responsibilities are further detailed in Annex 4, Sections 1 to 3.

DNEA. DNEA will be a member of PROSUL Project Steering Committee, through which it will provide advice and feedback to project stakeholders and implementing agencies. Furthermore, DNEA will indirectly participate in project implementation through district-based extension officers, and it will be associated to knowledge management activities so as to capitalise on good practices developed through service hubs, outgrowers schemes and other mechanisms designed to facilitate smallholders'

access to services. Most appropriate methods for channelling extension and technical advisory services, building on the innovative mechanisms proposed by the project will be further developed in conjunction with IFAD-financed project that supports DNEA, PRONEA, especially for the development of FFS. Linkages will be established so as to benefit from PRONEA's interventions to the maximum, including by associating PRONEA in project supervision.

ANE. The project includes provisions for the rehabilitation of 100 km of access roads to ensure all-weather access to hubs (Components 1 and 2) and to the slaughterhouse (Component 3). Road rehabilitation works will be implemented along arrangements that have already been successfully applied by PROMER and ProPESCA. Accordingly: (i) the PMU will recruit a road engineer consultant who will be in charge of design and supervision, in close collaboration with ANE; and (ii) ANE will be responsible for road construction, for which it will contract a constructing company along its normal procedures. ANE will also include the supervision of works into its annual programme of supervision in the three provinces, and will receive support from the project-hired consultant. CEPAGRI will sign an MOU with ANE defining responsibilities, deliverables and timeframe, in line with the MOUs already established for the above mentioned projects.

DPA. As the lead institution of the agricultural sector at provincial level, DPA will play an important role in facilitating PROSUL implementation and linkages with agriculture stakeholders in the province. Specific responsibilities will include: (i) participation in the Regional Value Chain Platforms; (ii) facilitation and harmonisation of linkages between CEPAGRI, the PMT and LSPs on the one hand, and DPA departments, SDAEs in participating districts and other relevant public actors in the province on the other hand; (iii) promotion of knowledge management between districts implementing PROSUL and 'non PROSUL districts' in the province; (iv) collaboration with LSPs on the preparation of the Annual Work Plan and Budget (AWPB); (v) provision of advice to CEPAGRI on monitoring and evaluation (M&E) related aspects, in connection with DPAs own M&E systems. To strengthen the linkages between the project and DPAs and to support the implementation of such responsibilities, each DPA will appoint a Focal Point who will be working full time with the project, for which s/he will receive a salary compensation.

SDAEs. SDAEs will facilitate the setting and operation of service hubs, by facilitating linkages with local actors. They will receive regular information about project activities and outcomes in their district, have access to hubs' business plans and progress reports, have quarterly information meetings with LSPs and have access to knowledge management. SDAEs will also be represented in district-based multi-stakeholders' Innovation Platforms (see below). With regard to extension, the development of production in the target value chains will require specialised expertise and it is not expected that SDAE extensionists can specialise in all the value chains. However, SDAE extensionist will participate in technical trainings supported by the project and be invited to open a contact point within each hub to attend farmers looking for advice on other crops than those targeted by the PROSUL, especially food crops. In any event, SDAEs will benefit from project interventions, by participating in monitoring and evaluation activities and accessing knowledge management

Farmers' organisations. Farmers' organisations (FOs) and their apex structures are central stakeholders in PROSUL implementation, with regard not only to production development but also to marketing, provision of support services, participation in value chain governance and in the development of service hubs. The project strategy and programme of activities are geared towards ensuring that, by the end of the project, they have become professional players in their respective value chains. Furthermore, FOs will own shares in the equity of service hubs and of the slaughterhouse that will be built by the project, which will enable them to participate in decision-making at board level, and thereby contribute to sustainable provision of responsive and affordable services. The strengthening of FO capacities will be one of the main responsibilities of PROSUL Lead Service Providers. The PMT will specifically provide guidance for the promotion of FOs entrepreneurial skills (through the Agribusiness Specialist) and to ensure that participating FOs become inclusive and gender equitable organisations (through the Targeting and Gender Expert).

Catalytic Fund. The BAGC Catalytic Fund will implement PROSUL Component 4 – Financial Services and will operate as an investment fund on behalf of PROSUL. It will hold equity in three MFIs selected through competitive bidding and will provide them with additional resources bearing interest at a maximum of 2% per year to be on-lent to PROSUL target beneficiaries. It will also hold equity on behalf of livestock producers in a slaughterhouse to be set up with PROSUL support under the form of a limited liability company.

M. Project Oversight

Project Steering Committee. This committee will meet twice a year to: (i) review project progress against targets; (ii) assess management effectiveness; (ii) decide on corrective measures where appropriate; (iii) review lessons learned, good practices and innovation; (iv) approve AWPBs (after these have received the IFAD no-objection) and review progress reports; and (v) provide overall guidance to project implementation. It will gather the representatives of main stakeholders involved in project implementation, including:

- The Permanent Secretary, Agriculture (chair);
- the CEPAGRI Director;
- the CEPAGRI Delegate for the southern provinces;
- the Directors of DNSA, DNSV and INIR;
- a representative of DNEA and IIAM;
- a representative each of the Ministries of Finance (MOF) and Planning and Development (MPD);
- the three LSPs;
- the Catalytic Fund;
- a representative of each of the three national farmers' organisations, i.e. UNAC, FENAGRI and the *Associação Moçambicana para Promoção do Cooperativismo Moderno* (AMPCM);
- at least two representatives of the agribusiness sector, such as of the Confederation of Business Associations of Mozambique (CTA) and of the Association of Agricultural Input Providers of Mozambique (AMPIA);
- a representative chosen by farmers for each of the value chains;
- a representative chosen by the private sector for each of the value chains;
- one representative chosen by the three microfinance institutions participating in the project; and
- the Project Coordinator (secretary).

Regional Value Chain Platforms. A Regional Multi-Stakeholder Value Chain Platform (VCP) will be established for each of the target value chains. VCPs will gather the representatives of key stakeholders for the southern provinces, i.e. farmer organisations and their apex structures, service hubs managers and technical advisors, market agents (processors, traders and institutional buyers), key service providers, financial institutions (including the BAGC Catalytic Fund and participating MFIs), agribusiness education structures¹¹⁴, DPA, IIAM's Southern Zonal Centre, INRI local delegation, and CEPAGRI's Southern Delegation. They will also include representatives from MINAG at the national level (DNSA, DNSV, IIAM) to channel policy related issues of concern. They will meet at least twice a year, prior to the meeting of the Project Steering Committee. They will provide a venue to discuss project achievements, identify successes and problems as well as good practices, discuss possible solutions including non-project based solutions, providing overall project guidance and coordinating interventions, and identifying issues to be addressed at policy making level. Based on this overall dialogue, VCPs will also be responsible for approving component APWBs prior to submission to the Project Steering Committee. The LSP will assist in setting up the VCPs, establishing their internal rules and regulations and facilitating their work. It will also ensure gender-balanced participation in the VCP.

¹¹⁴ Such as the Chibuto School of Business and Entrepreneurship (Gaza), Instituto Superior Politécnico de Chokwe (Gaza) and Instituto Superior de Vilanculos (Inhambane).

Discussion on project performance will lead to discussing key issues linked to the value chain development (such as pricing, quality, access to services etc.) as well as to identify key policy areas that need to be addressed at national level. Interaction between stakeholders will help in devising coordinated and harmonised interventions, whereby each stakeholder would contribute along its role and capacities based on a shared vision of value chain potential and constraints. Such an approach should be conducive to the development of synergies and of alliances based on mutual interests among stakeholders in the value chain and contribute to developing value chain governance at the regional level. It is expected that VCPs progressively evolve into permanent multi-stakeholder value chain platforms at the regional level, for which they will receive institution building support from the LSPs. The Mid-term Review (end of 2015) will specifically review achievements of VCPs and provide orientations as to whether and how they should evolve into permanent structures.

Innovation Platforms. Similarly, multi-stakeholder platforms will be established in each of the districts where PROSUL will develop activities and for each of the value chains. They will have a similar composition as VCPs for what regards private sector actors, and will also include the SDAE and locally-based IIAM researchers. Innovation Platforms will have a similar role as that of VCPs, but at the district level, i.e. discussing issues of common interest and possible solutions, both project and non-project based ones. They will have a key role to play in promoting project knowledge management and in disseminating good practices. They will be established with support from the Lead Service Provider, building on the experience of ImGoats, an IFAD-financed grant supporting the development of the small ruminant value chain in the province of Inhambane, implemented by the International Livestock Research Institute (ILRI).

N. Programme Management Team

The Project Management Team (PMT) will assist CEPAGRI in coordinating and managing the implementation of PROSUL and will be fully accountable for the performance of project implementation and the use of funds. It will also provide support to CEPAGRI to build its capacities for project implementation and coordination, for monitoring value chain performance, and for managing information and disseminating it to value chain stakeholders.

The PMT will be based at CEPAGRI's delegation for the southern provinces in Xai Xai. It will be headed by a Project Coordinator, who will perform his/her duties under the leadership of the General Director of CEPAGRI and will be responsible for day-to-day project management and overall coordination of PROSUL implementation within CEPAGRI. It will also include the following full-time staff:

- a *Financial Manager* who will be in charge of financial management, administration and procurement;
- a *Financial and Administrative Assistant*;
- an *M&E and Knowledge Management Officer*, who will be in charge of developing and implementing the Project Learning System, in close collaboration with the Department of Analysis and Information operating in CEPAGRI's Strategic Planning Unit, and with LSPs;
- an *Agribusiness Officer*, who will be responsible for guiding and monitoring the implementation of the contracts with the three LSPs and for facilitating the linkages between the LSP on the one hand, and CEPAGRI and MINAG's departments (DNSA and DNSP) on the other hand;
- a *Targeting and Gender Expert*, who will be responsible for ensuring that targeting and gender mainstreaming is applied throughout project activities in accordance with the Targeting and Gender Mainstreaming Strategy and Implementation Plan, and in collaboration with CEPAGRI, DPAs, LSPs and participating microfinance institutions.;
- a *Financial Services Expert*, who will be responsible for the general overseeing of the component, including the overall coordination of the preparation and implementation

monitoring of the AWPB, monitoring of performance of the various service providers intervening in the component implementation, and knowledge management.

- In addition, consideration will be given to recruiting a *Climate Change Expert* to complement the PMT capacities in order to supervise the LSPs' efforts to promote climate-resilience in the supported value chains, and to ensure adequate coverage of climate change aspects in the Project Learning System. This will be considered in the preparation of the first AWPB.

All PMT positions will be recruited through competitive bidding open to external candidates, using a selection panel, based on the detailed terms of reference provided in Attachment 3, with a view to ensure the setting up of a qualified, accountable and gender-balanced team. Prior experience with gender mainstreaming will be a requirement.

Recruitment procedures and contract terms and conditions will be consistent with government policies. The final bid evaluation report and the contracting of the selected candidates will have to be approved by MINAG and then submitted to IFAD no objection. PMT members will be recruited for on an initial 6-month probationary period. Subject to good performance, contracts will then be established for renewable one-year periods. Job descriptions will specify expected deliverables and will be updated every year.

Responsibilities. Overall responsibilities of the PMT include:

- *Orientation for developing and implementing the project strategy* to ensure that all project implementation partners develop activities along a common, coherent approach in line with the Project Design Report. This will entail the provision of strategic guidance on project activities and approaches, developing strong partnership with LSPs and other main project service providers, and ensuring synergies between the various project components;
- *the financial and administrative management* of project resources in line with the Loan Agreement and IFAD rules. This will also include: (i) the management of project accounts and their timely replenishment; and (ii) the organisation of annual and final independent audits of all project accounts as per IFAD Loan Agreement;
- *the planning of project activities* and the preparation of the Annual Work Plan and Budget (AWPB) based on the annual Value Chain Development Action Plan (VC DAP) facilitated by LSPs. This will also include: (i) the provision of guidance in and the monitoring of implementation of VC DAPs and AWPBs, and (ii) assistance to CEPAGRI in preparing project investment plans for inclusion in the government's Fiscal Mid Term Scenario (CFMP);
- *the contracting and procurement of project-related services and supplies* in accordance with IFAD Loan Agreement and IFAD rules. This will also include: (i) the preparation of annual procurement plans, and (ii) the monitoring of the implementation of service providers' contracts;
- *the coordination of project activities with the various project partners* and the provision of support to CEPAGRI in coordinating and supervising PROSUL activities at provincial level;
- *the M&E and KM in relation to all activities.* This will include: (i) setting up and running a Project Learning System connected to CEPAGRI's systems for M&E and KM, in line with the prescriptions of the Project Design Report, including provisions regarding targeting and mainstreaming of gender considerations; (ii) providing regular feedback to DPAs and SDAEs with regard to project activities; (iii) assisting CEPAGRI in developing knowledge management capacity, methodologies and tools and in promoting sharing of value chain experiences and good practices; (iv) providing guidance to LSPs, the Catalytic Fund and participating microfinance institutions to set up M&E/KM systems connected to the Project

Learning System; (v) providing guidance to LSPs in incorporating a baseline survey in the scoping studies to be carried out as part of Components 1 to 3; (vi) providing guidance to the Catalytic Fund to collect baseline data for Component 4; (vii) preparing regular project progress report; and (viii) preparing the Project Completion Reports;

- *the promotion of inclusive approaches* and the mainstream of targeting and gender requirements in all of the project activities in accordance with the Targeting and Gender Mainstreaming Strategy and Implementation Plan set forth in the Project Design Report.

The PMT will also be responsible for developing the Project Implementation Manual (PIM), which will be based on the outline provided in Attachment 10 and will lay out the project organisation, implementation arrangements, Project Learning System, financial management system and procurement guidelines. A short-term consultancy will be financed at project inception to provide assistance in drafting the PIM, setting up sound basis for financial management and procurement, and launching procurement of main implementation service providers (i.e. LSPs, IIAM, Catalytic Fund, ANE, Land Tenure Security). Related terms of reference are in Attachment 8.

The planning, implementation, financial management and monitoring of project activities will be integrated as part of CEPAGRI's (and particular of its Delegation for the southern provinces) regular planning, budgeting, management and monitoring activities and systems.

PMT specific responsibilities. Detailed terms of reference for the various positions in the PMT are provided in Attachment 3. They are briefly summarized hereafter.

The **Project Coordinator** will work under the leadership of the General Director of CEPAGRI. S/he will be responsible for: (i) overall management and coordination of PROSUL activities, including the provision of strategic guidance and the oversight of implementation of PROSUL activities; (ii) advising CEPAGRI in integrating PROSUL management and learning systems in CEPAGRI's own systems; (iii) leading the PMT in designing and implementing the Project Implementation Manual, the Project Learning System and other management tools; (iv) leading the preparation of participatory AWPBs and the monitoring of their implementation; (v) coordinating and supervising project monitoring and evaluation activities; (vi) ensuring project support to CEPAGRI in developing knowledge management capabilities and activities; (vii) ensuring the implementation of PROSUL Targeting and Gender Mainstreaming Strategy and Implementation Plan through all the components; (viii) coordination and supervision of project financial management, administration and procurement; (ix) preparation of the Project Completion Report; (x) conducting project completion and loan closing activities as per the Financing Agreement.

The **Financial and Administrative Manager** will work under the supervision of the Project Coordinator. S/he will be responsible for: (i) developing and putting into operation the project financial and procurement system; (ii) managing project funds properly, ensuring that project accounts, disbursements and replenishment procedures (withdrawal applications) are managed in accordance with the procedures stipulated by the Loan Agreement and IFAD rules; (iii) ensuring administrative management of service providers' contracts; (iv) conducting training of main service providers' staff, Catalytic Fund and participating microfinance institutions to ensure that they carry out financial reporting and procurement in accordance with IFAD rules; (v) procure project goods and services at central level and assist/supervise decentralized procurement in order to ensure that all purchases at all levels are in compliance with the Loan Agreement and IFAD rules; (vi) ensuring proper use and conservation of project assets; (vii) prepare regular financial and procurement progress reports; (viii) prepare annual financial reports for project external auditing, ensuring that these are accomplished in time and in compliance to Loan Agreement; (ix) assisting the Project Coordinator in preparing the Completion Report and in conducting project completion and loan closing activities as per the Loan Agreement.

The **Monitoring and Evaluation and Knowledge Management Officer** will work under the supervision of the Project Coordinator. S/he will be responsible for: (i) developing and implementing PROSUL Project Learning System and assisting CEPAGRI to mainstream it into its own systems; (ii) conduct training of counterpart staff at central and provincial levels and in main service providers teams, and provide assistance/guidance in operating the Project Learning System; (iii) coordinating surveys and case studies to assess achievements and intermediary impact (outcomes) of PROSUL activities; (iv) assist CEPAGRI and LSPs in regularly collecting, processing and analysing relevant data to support PROSUL reporting and planning review exercises; (v) assist CEPAGRI and the Project Coordinator in regularly monitoring PROSUL implementation performance and in preparing regular progress, mid-term and completion; (vi) developing the organisation of Learning Routes and of related follow-up activities; (vii) assist CEPAGRI in developing knowledge management capacity, methodologies and tools and in promoting sharing of extension experiences and good practices.

The **Agribusiness Expert** will work under the supervision of the Project Coordinator. S/he will be responsible for: (i) providing guidance to LSPs and DPA Focal Points on the identification, planning, implementation, monitoring and evaluation of PROSUL activities for value chain support, including for the preparation, implementation and monitoring of annual Value Chain Development Action Plans (VC DAPs) and for the promotion of entrepreneurial skills in farmers' organisations; (ii) developing a strong partnership between CEPAGRI/the PMT and LSPs responsible for the implementation of the three value chain-based components, and contribute to the participatory monitoring of their performance; (iii) liaising with the Financial Services Expert to ensure adequate synergies between the value-chain based components and Component 4; (iv) promoting linkages between LSPs and relevant public national institutions (CEPAGRI, DNSA, DNSV, IIAM and other as appropriate) and other national stakeholders in the private sector.

The **Targeting and Gender Expert** will work under the supervision of the Project Coordinator. S/he will be responsible for: (i) overall development, implementation and monitoring of the PROSUL Targeting and Gender Mainstreaming Strategy and Implementation Plan; (ii) ensuring that VC DAPs include gender-sensitive and inclusive measures and provide support to their implementation; (iii) providing guidance so that capacity building programmes for farmers' organisations cover activities needed to make them inclusive and gender equitable; (iv) providing guidance to PMT staff and project implementers to ensure that project activities are inclusive and gender equitable; (v) developing capacity building programmes for project staff and project implementers in gender and inclusive methods; (vi) working closely with the M&E/KM Officer to develop and implement an inclusive and gender-sensitive Project Learning System, and to organise the Learning Route on GALs and related follow-up activities; (vii) assist CEPAGRI in mainstreaming gender and inclusion into its analytical and operational systems.

The **Financial Services Expert** will work under the supervision of the Project Coordinator. S/he will be responsible for: (i) overall monitoring and implementation support of Component 4; (ii) liaising with Agribusiness Expert to ensure adequate synergies between the value-chain based components and Component 4; (iii) monitoring the performance of the various service providers intervening in the component implementation; (iv) in collaboration with the M&E/KM Expert and service providers of component 4, developing knowledge management on innovative financial instruments.

O. Service Providers

Lead Service Providers. The implementation of Components 1 to 3 will be carried out by three specialised Lead Service Providers (LSPs). LSPs will be responsible for implementing activities in support to inclusive and gender-balanced value chain development, as specified in the description of components. Responsibilities of recruited service providers will include: (i) the preparation, implementation and monitoring of annual Value Chain Development Action Plans (VC DAPS) and related section in the AWPB, in collaboration with project stakeholders and Regional Value Chain Platforms; (ii) the contracting and procurement of services and supplies involved in implementing the component (with prior approval by the PMT); (iii) the coordination of the activities of the various component partners; (iv) setting up and supporting Regional Value Chain Platforms and Innovation

Platforms; (v) supervision, M&E and knowledge management in relation to the component activities, under PMT guidance; and (vi) the preparation of progress reports for their component.

LSPs will be contracted by CEPAGRI in coordination with DNSA (horticulture), IIAM (cassava) and DNSV (red meat) using competitive government procurement procedures and based on renewable performance based contracts. The three LSPs in turn will be responsible for the recruitment of specialised service providers, and in particular national ones, that would be required to carry out the implementation of component activities.

Phasing. LSP candidates will be requested to present their technical proposals under the form of a value chain development framework, building on PROSUL design report. The framework should be organised in three phases:

- *an initial phase* of about nine months, during which main activities will consist in: (i) carrying out the value chain scoping study; (ii) setting up all logistics arrangements; (iii) setting up the Value Chain Platform as well Innovation Platforms in the first districts of implementation, and defining their functions and mode of operation; (iv) developing the first VC DAP, together with main value chain stakeholders, and the first AWPB; (v) setting up an M&E/KM sub-system, under the guidance of the PMT, to become an integral part of the Project Learning System; and (vi) setting up administrative, financial and management systems required to comply with the requirements of the Loan Agreement and IFAD regulations;
- *a main phase* of about four years, during which LSPs will implement the VC DAP jointly with value chain stakeholders. LSPs will revise the plan on an annual basis as a preliminary step to the preparation of the Annual Work Plan and Budget (AWPB), based on actual performance and jointly with value chain stakeholders. Annual VC DAPs will be validated by Value Chain Platforms and by the Project Steering Committee. By the middle of the second phase (end of 2015), IFAD will carry out a Mid-Term Project Review (MTR), which will review achievements and approaches and propose relevant adaptations. A comprehensive Implementation Support Mission will be organised by IFAD beginning 2018, which will conduct a thorough review of achievements and make recommendations for the exit phase to ensure sustainability beyond project completion.
- *an exit phase* of about two years, during which implementation responsibilities intended to outlive the project (such as monitoring value chain performance and disseminating results, ensuring access to market information, ensuring coordination and interaction between value chain stakeholders, providing support services...) will be taken over by permanent stakeholders, including farmers' organisations, service hubs, Value Chain Stakeholders Platforms, private sector and financial institutions. Activities to be implemented by the service provider will therefore include: the provision of capacity building for the purpose (including training, coaching and methodological tools); and the preparation of value chain development strategies and plans for a new period starting right after project completion.

The exact duration and development of each phase will be adapted to the specificities of each component, in accordance with the progressive phasing in of target districts and in agreement with the PMT and CEPAGRI. Attachment 11 shows district phasing for each component. Detailed activities to be implemented by each LSP are described in Attachment 4.

Catalytic Fund. The Catalytic Fund of the Beira Agriculture Growth Corridor will be responsible for the implementation of Component 4. Arrangements will be finalized at project onset, and will be consigned in a Subsidiary Financing Agreement signed by the Fund and the Ministry of Finance, which will stipulate the terms and conditions under which PROSUL resources will be transferred to the Fund. An MOU with the PMT will further detail the role and responsibilities of both the Catalytic Fund and PROSUL PMT. Main responsibilities of the Catalytic Fund would include: (i) the creation of an adequately staffed specific department for PROSUL activities with an office in the project area; (ii) the preparation of annual AWPBs building on VC DAPs and the implementation of related activities;

(iii) the monitoring of participatory microfinance institutions and other SMEs; (iv) quarterly reporting to PROSUL PMT on activities, financial progress and achievements; and (v) provision of technical assistance to microfinance institutions and SMEs in which it holds equity. Details are provided in Annex 4, Section - 4 Financial Services.

Other service providers. Main other service providers include:

- *IIAM* : IIAM will be responsible for setting up a commercially-based multiplication system for high-yield, drought-resistant varieties of cassava. It is also expected to contribute to the development of cost-effective technological packages to ensure appropriate, climate-resilient crop and soil management practices in the horticulture and cassava value chains. The extent of such collaboration will be further specified at project inception, building on the outcomes of the scoping studies.
- *ANE*: ANE will be responsible for the rehabilitation of 100 km of access roads to secure all-weather access to service hubs and to the slaughterhouse, along modalities explained above (para. 33);
- *Land tenure security*: a specialised Land Tenure Service Provider (LTSP) will be contracted to: (i) support the analysis by FOs of members' access to land and tenure security, (ii) provide civic education on land tenure and management related policies and legislation, (iii) documenting land use management regulation, and (iv) facilitating community delimitations or granting of DUATs to FOs across all three value chains. In addition to the LTSP, a part-time Land Tenure Advisor will be contracted to support the PMT and other service providers in identifying and supervising the LTSP's inputs;
- *Micro-finance institutions*: three MFIs will participate in PROSUL. They will be responsible for providing the range of financial instruments required to support value chain development, through resources channelled through the Catalytic Fund. A partnership agreement (for the equity participation) and a loan contract (for the long-term deposit) will be signed between each MFI and the Catalytic Fund, spelling out the role and responsibilities of each party, as well as quantified deliverables to be achieved by the MFIs. In addition, a capacity building MOU will be signed between each MFI and UNCDF, spelling out the to define the area of support in terms of training; study tours; assistance for the development/fine-tuning of products and services.

All non-public service providers, except the Catalytic Fund, will be selected based on a competitive bidding process subject to approval by both Government and IFAD and their remuneration will include a fixed part and a performance-based bonus. Prior experience with gender mainstreaming and the recourse to gender-balanced teams will be part of the selection criteria.

Contracts and MOUs (for public institutions) of all service providers will specify clear deliverables (outputs and outcomes), which will also reflect gender and inclusion targets and indicators. They will also specify payment modalities and schedules.

P. Financial Management and Flow of Funds

Financial management system. Financial management refers to the budgeting, accounting, internal control, funds flow, financial reporting, procurement and auditing arrangements by which the borrowers and grantees receive funds, allocate them and record their use. The proceeds of the IFAD loan and grant financing will be used solely for the purpose intended.

The financial management system must:

- ensure that funds are used only for the purpose intended under the Loan agreement, in an efficient and economical way and in accordance with the activities described in the Project Design Report and in the Annual Work Plans and;
- enable the preparation of accurate and timely financial reports;
- ensure that funds are properly managed and flow rapidly, adequately, regularly and predictably;

- enable project management to monitor the efficient implementation of PROSUL and;
- safeguard the assets and resources procured using project funds.

The financial management system will be under the responsibility of the Project Coordinator and of the Financial Manager. In order to ensure a strong financial management system, the following requirements must be met: (i) the internal control system should ensure the conduct of an orderly and efficient payment and procurement process, and the proper recording and safeguarding of assets and resources; (iv) the PMT's accounting system should support the project's requests for funding and meet reporting obligations to both the Government and IFAD; (v) the project's financial statements and internal controls should be the subject of an independent annual audit.

- **Project Accounts and Flow of Funds**

CEPAGRI will open and maintain an account designated to receive IFAD resources in advance. The account, called Designated Account (DA), will be opened at the Bank of Mozambique in USD. From this account:

- *all funds required to meet project expenditure, except funds to be disbursed by the Catalytic Fund* will flow into the national finance, budgetary and reporting system, namely: the *Conta Unica do Tesouro (CUT)* or Single Treasury Account, and e-SISTAFE, the government's electronic public finance budgetary and reporting system;
- *funds to be disbursed by the Catalytic Fund* (i.e. Sub-component 1 of Component 4, with the exception of the due diligence exercise and financial audit) will be transferred to the Catalytic Fund as per a Subsidiary Financing Agreement (SFA) to be signed between the Ministry of Finance and the Catalytic Fund (with prior IFAD no-objection). The SFA will stipulate the terms and conditions under which PROSUL resources will be transferred to the Catalytic Fund (see details in Annex 4, Section 4 Financial Services).

The DA will operate with an advance payment from IFAD, which will be determined by IFAD based on expected patterns of expenditure, withdrawal application processing timeframe, and requirements for financial efficiency. The DA will be replenished following the rules set out in the IFAD Disbursement Handbook provided with the Letter to the Borrower. As a general rule, a 6-monthly advance based on the approved AWPB will be made to the DA, to be replenished based on the succeeding quarterly cash-flow requirements, adjusted for (minus) the current account balance at the time of preparation of the withdrawal application, plus estimated payments until the quarter end. Each replenishment withdrawal applications shall include an interim financial report (IFR).

In order to avoid difficulties in the replenishment of funds, the PMT Financial and Administrative Manager must ensure that all expenditure made with project funds are duly justified by proper documentation on a strict regular basis as per procedures developed in the Project Implementation Manual (PIM).

Start-up Account. The government may request a start-up advance of up to USD 800,000 upon entry into force of the financing agreement, to be disbursed to the DA. For local payments, CEPAGRI will also open a Start-up Account in MZM to receive funds from the DA. The Start-up Account will be operated by the same signatories as the DA.

Advance Account. The use of the CUT and of e-SISTAFE is the declared preferred modality of financing by the government of Mozambique, and it is gradually introduced for all public institutions and external financed programmes. Pressure is high from both government and other large donors, as well as from the IMF, on all partners to make the move towards broader use of CUT. This is also consistent with principles advocated by IFAD's governing bodies towards harmonization and use of national systems. The government is however adopting a pragmatic approach of allowing partners to

gradually test and introduce e-SISTAFE for externally financed projects and programmes. While the system still experiences a number of weaknesses¹¹⁵, it only allows payments that can be processed through bank transfers, which leaves out a range of payments required in project implementation (such as for example the payment of per diem to participants in workshops or in Learning Routes). In such cases, e-SISTAFE allows for a transitory use of advanced transfers and projects are allowed to open an account, called Advance Account, which is operated through checks.

CEPAGRI will therefore open a local currency Advance Account in Xai Xai, at any commercial bank acceptable to IFAD, to process small payments that cannot be accommodated in the e-SISTAFE system. Funds will be transferred from the CUT to the Advance Account.

Both the DA and the Advance Account will be in the name of the project, appropriately coded within the CUT and e-SISTAFE coding framework. The DA will be operated by the signatories as directed by the Ministry of Finance and MINAG. The Advance Account will be operated by the CEPAGRI Delegate for the Southern Provinces and the Head of the Administration and Finance Department in the Delegation (joint signatories) and by the Project Coordinator and the PMT Financial and Administrative Manager (joint signatories).

Road Fund. Funds relating to the implementation of the MOU between PROSUL and ANE (see above para. 69) will go directly from the CUT to the Road Fund, which is placed under the authority of the Minister of Public Works.

Attachment 5 presents a chart summarizing PROSUL flow of funds.

Preliminary conditions to disbursement. The following conditions need to be met by for IFAD to make the first disbursement of project funds to the DA:

- the following documentation is submitted to IFAD: (i) supporting evidence of opening of the Designated and Advance Accounts; (ii) details of the persons/titles authorized to operate these accounts; (iii) a letter from the Minister of Finance, designating the name(s) of official(s) authorized to sign withdrawal applications, including their authenticated specimen signature(s);
- the recruitment of the Project Coordinator, of the Financial Manager, the M&E and knowledge management officer, and the Agribusiness Officer of the PMT is completed;
- the first Annual Work Plan and Budget has received IFAD's no-objection (this condition is part of IFAD's General Conditions);
- the Project Steering Committee has been established;
- the draft of the Project Implementation Manual (PIM) has been submitted to IFAD.

Disbursements. The amount of expenditure to be financed within any one financial year will be based on approved AWPB forecasts. Disbursements will be done in quarterly advances on the basis of withdrawal applications supported by e-SISTAFE expenditure reports for previous quarters, following the systems and procedures already in place for ProPESCA. The limit of the advance will be based on approved AWPB forecasts and reflect available cash balance.

¹¹⁵ Including: (i) funds are not released from CUT if government is short of cash; (ii) funds can be delayed at the beginning of the year while carry forward is in process; (iii) user training is uneven meaning that the system is not yet operating in its optimal level; (iv) lengthy procedure to follow, including detailed AWPB by quarter by currency; (v) no flexibility in case of need to replenish additional funds to project, change the AWPB for government funds, reallocate between provinces and respond to changes in currency flow needs; (vi) delays in processing petty cash payments; (vii) heavy procedures for internal controls; (viii) access to internal (counterpart) funds takes at least one month following request.

Q. Accounting and Audit

To ensure that funds are used only for their intended purpose, the PMT will provide regular information about the project's financial position, performance and resources flows. This information will be prepared in accordance with the national standards and with IFAD requirement.

Accounting. Project accounting systems will be consistent with international accounting standards and principles as well as with government requirements, and internal financial controls will regularly be applied. CEPAGRI will be accountable to the government and financiers for the proper use of funds in line with legal agreements. The Financial Management Manual (part of the PIM) will include the main operational methods, procedures and arrangements to be followed by the PMT. It will include (not exhaustively): the chart of accounts; the codification of accounts by component, by cost centre, by location, by category and origin of funds; practical measures for bank reconciliation, for payment by bank transfer or petty cash and all internal control measures to ensure a proper record keeping and effective balancing and checking of the accounts; and physical safety and security measures.

Reporting obligations. Reporting obligations as defined in the Loan Agreement are related to project financial statements, independent audit reports and project progress reports. The PMT will prepare quarterly financial reports as well as annual financial statements within three months of the end of each fiscal year. It will also be responsible for organising an annual audit within six months of the end of each fiscal year.

Financial Reporting. Financial reports will follow the guidelines of the Code of Practice for Project Management in Mozambique (in Attachment 9) and will include financial progress statements covering expenditure for the quarter and cumulative results for the year, as well as for the implementation period to the date of the end of the quarter. In summary financial reports to be submitted quarterly together with the progress reports should cover:

- summarised actual expenditure by categories against the budget for the overall project and by source of funds. Suitable explanations should be provided on main variances;
- summarised actual expenditure by components against the budget for the overall project and by source of funds. Suitable explanations should be provided on main variances;
- report of actual expenditure for activities implemented against budgetary provisions;
- cash balance on Designated and Advance Accounts;
- status of funds, reconciled to IFAD records, including cumulative withdrawal applications.

Audit. Every fiscal year, project accounts will be audited in accordance with auditing standards acceptable to IFAD and with IFAD's Guidelines on Project Audits. Audits will be performed by an independent auditor (contracted private auditor) selected through competitive bidding and acceptable to IFAD.

An audit report on the financial statements, with a separate opinion on the use of the Designated Account and Statement of Expenditures, is required each year from the independent auditor, within 6 months of the end of the financial year. The non-reception within 180 days from the original due date may trigger suspension of further disbursements.

The auditor should also prepare a management letter, addressing the adequacy of the accounting and internal control systems, including management reply and action plan. The PMT will implement follow-up measures to abide by the audit recommendations. The Borrower will submit the reply to the management letter of the auditors to IFAD within one month of receipt thereof. If the auditor's recommendations are not complied with or are not satisfactory to IFAD, sanctions may be applied, including suspension of further disbursements.

Recovery of advance at loan closure. Cash flow requirements in the final months of the project life will be carefully. Any remaining funds held in CUT/ e-SISTAFE on completion of the project will be

reimbursed by the government to IFAD. The financing proceeds from the project shall be used in accordance with approved AWPBs throughout project implementation

R. Procurement and Contract Management

Regulations. Procurement of goods and services will be carried out in accordance with the national provisions of the Government of Mozambique's procurement regulations (decree 54/2005), to the extent that they are consistent with IFAD Procurement Guidelines (September 2010).

Procurement plan. A Procurement Plan will be established annually and will form an integral part of the AWPB. It will be prepared following a standard format as per IFAD template. The first procurement plan will be for an 18 months period and will then be up-dated annually. A draft procurement plan is provided in Attachment 7.

Register of contracts. A register of contracts will be kept by the PMT and regularly updated. It will be submitted to the IFAD Country Project Manager every quarter.

Detailed requirements regarding procurement and contract management are provided in Attachment 6.

S. Preparatory Activities

Start-up funds. To facilitate a quick project start-up, an amount of USD 400 000 of the IFAD grant will be made available to CEPAGRI upon signature of the loan agreement and before the disbursement conditions will have been met. These funds will be used to set up the PMT and carry out preparatory activities that are required until the disbursement conditions will have been met (see above para. 82). Funds will cover PMT activities over six months, the baseline study, technical assistance for M&E and the Project Expeditor (see below).

Project Expeditor. Start-up funds will also be used to finance a short-term consultancy (3 months) to assist CEPAGRI in recruiting the PMT. The Project Expeditor (see Attachment 8 for the draft TOR) will also provide assistance in:

- drafting the Project Implementation Manual (PIM);
- setting up sound basis for financial management and procurement;
- launching the procurement of main service providers as well office equipment and vehicles;
- designing an Implementation Support and Supervision Plan.

Project inception workshop. Towards the end of the 6-month preparatory phase, a 2-day inception workshop will be conducted in Xai-Xai by CEPAGRI and the PMT, with the participation of all relevant project stakeholders, including main service providers (LSPs, Catalytic Fund, Land Tenure Service Provider and Land Tenure Advisor). The workshop will ensure a sound understanding of the project approach and its operating modalities. Short training sessions for finance and procurement staff, and information sessions for potential service providers and private partners will be integrated in the workshop.

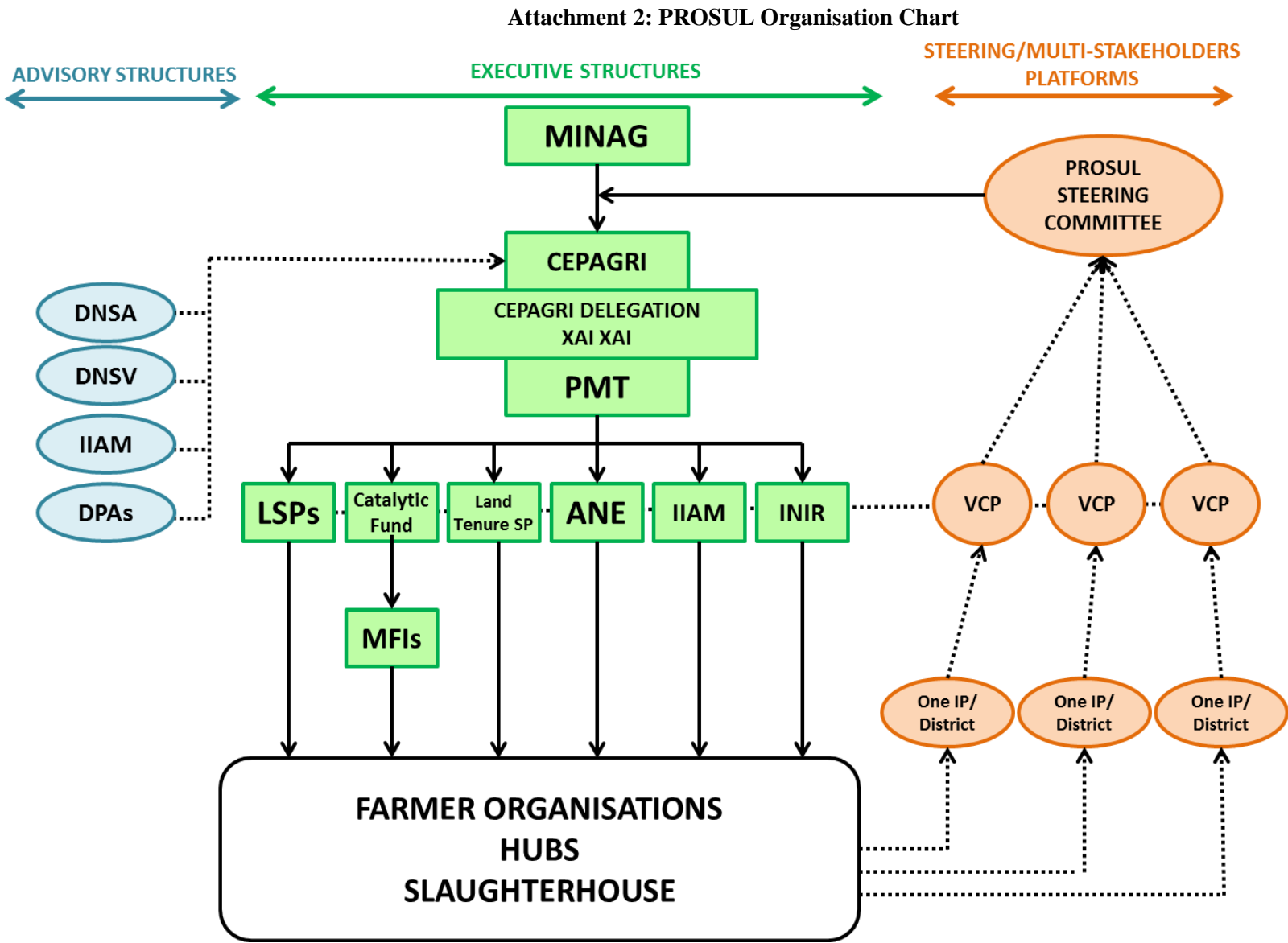
A Financial Services consultant¹¹⁶ will attend the workshop to familiarize participants with the content and implementation arrangements of Component 4. S/he will also carry out the due diligence exercise of the Catalytic Fund and provide assistance in preparing the Subsidiary Financing Agreement to be signed between the Ministry of Finance and the Catalytic Fund.

¹¹⁶ To be paid through the budget line allocated for due diligence and financial audit for the Catalytic Fund in the cost tables of Component 4.

T. Risks And Risk Mitigation Measures

The following table describes main risks and mitigation measures regarding project management.

Risks	Risk mitigation measures
Local service providers have little experience with value chain and agribusiness programmes	Procure experienced service providers within the region and internationally to be Lead Service Providers and encourage partnerships with local ones
CEPAGRI's mandate does not cover project management, and its management experience is limited	PROSUL is mostly implemented through service providers and capacity building will be provided to CEPAGRI in project coordination, monitoring and overseeing
INIR is a very new institution that was approved by the cabinet only recently	INIR will benefit from the institutional development programme. The support to INIR will become clear once the organizational structure has been approved and the INIRs capacities and needs are known
DPAs have a role to play in facilitating project implementation at provincial level but have limited capacity	A fully dedicated Focal Point will be appointed in each participating DPA to liaise with the project and facilitate implementation, and they will receive capacity building from the PMT
Delays in setting up the PMT and contracts with service providers	A Project Expeditor will assist CEPAGRI in setting up the PMT and its systems, and in launching the procurement of main service providers



Attachment 3: Draft TOR for Key Positions

1. PROJECT COORDINATOR

Contract duration: Initial duration of 3 years, renewable following positive annual performance assessment.

Duty station: CEPAGRI /Gaza Delegation, with frequent travel to the provinces.

Qualifications: High level degree in Economics, Agricultural Economics or Business Management, preferably with an orientation on Agribusiness or Agriculture Development. Knowledge on climate change issues in the smallholder sector would be advantageous. Highly experienced in managing development programmes with a minimum of 10 year experience in managing agriculture and/or rural development projects. Proven experience in leading multi- and to interact with government and non-government partners. Ability to guide and develop capacities of team members, counterpart staff and other key stakeholders. Proven experience in team building, communication and negotiation skills. Full working knowledge of main MS Office software. Fluency in spoken and written Portuguese and English.

Duties

The Project Coordinator will be responsible for coordinating and managing the project, and for delivering project expected outcomes, under the leadership of the Director of CEPAGRI and in close collaboration and coordination with heads of departments and key technical and administrative staff. This will include the following specific duties:

- Project development, including:
 - providing orientations for the development of the Project strategy and methodology;
 - guiding the development of the most appropriate implementation tools and management methods to ensure Project performance, in accordance with national policies and with the financing agreements;
 - advising CEPAGRI in integrating PROSUL management and learning systems in CEPAGRI's own systems and supporting related capacity building of CEPAGRI. ;
 - ensuring that project activities are developed in coordination with Regional Value Chain Platforms (VCP) and ensure that key value chain stakeholders and government institutions fully participate in the process;
 - ensuring coordination and team working of PROSUL staff, local actors and programme partners;
 - ensuring appropriate synergies between Project components to maximise their impact.
 - Foster a close interaction between the project learning system and international efforts by IFAD and partners aligned to ASAP to build knowledge on climate resilient smallholder agriculture.
- Project implementation, including:
 - supervising the implementation of Project activities in accordance with the financing agreements, with the decisions of PROSUL Steering Committee and with the agreements with IFAD;
- leading the PMT in designing and implementing the Project Implementation Manual, the Project Learning System and other management tools;
- supervising the preparation, negotiation and oversight of memoranda of understanding, agreements and other contracts with project partners and services providers;

- ensuring and overseeing the implementation of the Targeting and Gender Mainstreaming Strategy and Implementation Plan through all the components;
 - ensuring and overseeing the Climate Change Adaptation Approach through all project components;
 - preparing consolidated Annual Work Plans and Budgets (AWPBs), building on AWPBs prepared by implementing partners and in line with the recommendations of VCPs, for approval by CEPAGRI / MINAG and IFAD;
 - preparing progress and thematic reports;
 - executing the approved budget, and ensure payments;
 - identifying areas which require support from external consultants, and recruiting them;
 - guiding the efforts of consultants, experts and contractors towards the realization of planned Project outputs and evaluating their performance;
 - Leading the design and operationalization of the Project Implementation Manual.
-
- Project monitoring, including:
 - overseeing the setting up process and effective operation of the M&E/KM system;
 - ensuring the solid internal use of the M&E/KM system
 - ensuring the timely preparation of progress and financial reports
 - Project external relations, including the coordination of activities with other projects pursuing similar objectives, within and outside Mozambique; and sharing the experiences of value-chain development and climate-resilience with a wide range of stakeholders both in outside of Mozambique.
 - Project administrative management, including:
 - reviewing and approving pre-selection of project partners, bidding documents, job descriptions and terms of reference for PROSUL staff and external services providers;
 - supervising and managing PROSUL staff;
 - maintaining internal transparency for the most important technical and project management decisions through regular meetings with PROSUL staff;
 - ensuring proper use and conservation of Project assets, in line with the national legislation and financial agreements;
 - ensure transparent and efficient financial management of project fund in compliance with the Loan rules and procedures
 - conducting Project Completion and Loan Closing activities in compliance with the Loan conditions

2. M&E AND KNOWLEDGE MANAGEMENT OFFICER

Contract duration: Initial duration of 3 years, renewable following positive annual performance assessment.

Duty station: CEPAGRI /Gaza Delegation, with frequent travel to Maputo and the provinces.

Qualifications: Advanced degree in Project Management, Rural Development, Development or Agricultural Economics, or Business Administration. Knowledge on climate change issues in the smallholder sector would be advantageous. Proven knowledge and practical experience of at least 5 years in project M&E and KM. Computer literacy (Microsoft office and statistical software). Communication and result oriented management skills. Fluency in spoken and written Portuguese and English. Ability to guide and develop capacities of counterpart staff. Excellent drafting and communications skills.

Duties

Under the direct supervision of the Project Coordinator, the M&E and Knowledge Management Officer will be responsible for developing and managing the PROSUL Project Learning System and developing linkages with international efforts by IFAD and partners aligned to ASAP to build knowledge on climate resilient smallholder agriculture.. This includes developing an open system with upwards and downwards accountability and a culture where project staff and stakeholders learn from experience and share knowledge and information between one another in an organic matter. Specific responsibilities include but are not limited to:

- Oversee the development of a strategy and plans to ensure systematic, continuous learning, improvement and knowledge sharing;
- Establish a Monitoring and Evaluation System taking into account CEPAGRI and the Government monitoring frameworks, ASAP indicators, IFAD RIMS and project objectives;
- Develop a Management Information System (MIS) for managing data and information for overall monitoring.
- Revise and update regularly the Project Logframe. Define participatory methodologies and tools for assessing project performance and outcomes involving stakeholders.
- Define and establish the programme's monitoring formats, and impact indicators;
- Guide scoping studies at project inception to ensure that they capture required baseline data;
- In collaboration with Lead Service Providers and Regional Value Chain Platforms, establish implementation targets, monitor implementation processes and performance, assess outputs and outcomes, and analyse successes and failures;
- Facilitate the programme's annual review workshops, impact assessment studies, Mid Term Review and completion review;
- Collate essential data to be included in quarterly, semi-annual and annual reports;
- Monitor financial and physical progress as well as reporting back to stakeholders to create a better learning environment;
- Organize training events for project staff and partners as required
- Improve programme performance by providing relevant and well researched information to the PMU on a timely basis;
- Collect and implement data in GIS system;
- Oversee development of annual work plans and budgets;
- Develop and implement processes to ensure that lessons learned and good practice are captured systematically, shared, and used to improve programme implementation;
- Coordinate the development and implementation of capacity building, including coaching and mentoring, to build knowledge management, M&E, communication and other relevant skills and competencies of project and partnering staff at all levels;
- Ensure that innovative experiences, learning and good practices are captured, synthesized, documented and shared continuously within the Project, within CEPAGRI, and with in-country partners/service providers, IFAD and other regional and international partners;
- Commission short-term technical assistance and undertake any other duties that may be assigned to him/her by the Project Coordinator;
- Capture and enter data in the GIS system and produce visual representation of the geographical location of project objects and physical infrastructure

3. FINANCIAL MANAGER

Contract duration:	Initial duration of 3 years, renewable following positive annual performance assessment.
Duty station:	CEPAGRI /Gaza Delegation, with frequent travel to the provinces.
Qualifications:	High degree in economics or finance administration; at least 10 years in financial management and accounting and procurement in internationally financed programmes; good skills in using computer financial management and accountancy software; fluency in spoken and written Portuguese and English; experience in implementing IFAD funded projects will be an advantage.

Duties

Under the direct supervision of the Project Coordinator, the Financial Manager will be responsible for the financial management, procurement and administration in relation to PROSUL implementation. Specific responsibilities include but are not limited to:

- Designing and implementing the Project Financial and Procurement system and tools;
- Conducting the financial management, accounting, procurement and contracting of goods and services of the project;
- Managing project funds
- Preparing annual budgets and procurement plans in the framework of the annual planning process;
- Ensuring all project accounts, disbursement and replenishment procedures are managed with respect to disbursement and replenishment in accordance with the procedures stipulated by the Loan Agreement;
- Preparing tender documents according to the Loan Agreement rules and procedures and assisting in conducting all tendering and contracting activities. Keeping of update records of all tendering processes;
- Assisting and supervising decentralized procurement and ensuring that all purchases at all levels are in compliance with loan conditions. Monitoring decentralized contract disbursements and service provider contracts for accountability and transparency;
- Conduct training and mentoring activities to improve capacity of Lead Service Providers with regard to financial management and procurement and ensure that they comply with IFAD and Loan Agreement requirements;
- Preparing regular financial and procurement progress reports as required by the government of Mozambique and IFAD;
- Preparing of annual and final Project Financial reports for external auditing and provide all required assistance to Project external auditors.
- Assisting the Project Coordinator in elaborating the Project Completion Reports, by providing update detailed project financial and procurement statements;
- Assisting the Project Coordinator in conducting Project Completion and Loan Closing activities in compliance with Loan conditions.

4. AGRIBUSINESS EXPERT

Contract duration:	Initial duration of 3 years, renewable following positive annual performance assessment.
Duty station:	CEPAGRI /Gaza Delegation, with frequent travel to the provinces.
Qualifications:	Higher degree in marketing, agribusiness, agricultural economics or equivalent, with at least 5 year experience in agribusiness and agriculture/livestock value chain development. Experience in private sector would be an asset. Demonstrated skills and track record in undertaking market/value chain analysis for a wide range of agricultural sub-sectors within the Southern African Region. Good knowledge of the Mozambican agricultural and agribusiness environment. Knowledge on climate change issues in the smallholder sector would be advantageous. Excellent writing skills, strong networking and relationship building skills, excellent communication and negotiation skills. Fluency in spoken and written English and a good working knowledge of Portuguese

Duties

Under the direct supervision of the Project Coordinator, the Agribusiness Expert will be responsible for orienting and ensuring the implementation of PROSUL activities for value chain development. Specific responsibilities include but are not limited to:

1. providing guidance to LSPs and DPA Focal Points on the identification, planning, implementation, monitoring and evaluation of PROSUL activities for value chain support, including for the preparation, implementation and monitoring of annual Value Chain Development Action Plans (VC DAPs) and for the promotion of entrepreneurial skills in farmers' organisations;
2. guide the preparation of Annual Work Plan and Budgets by main service providers;
3. developing a strong partnership between CEPAGRI/the PMT and LSPs responsible for the implementation of the three value chain-based components, and oversee the participatory monitoring of their performance;
4. ensure the sound integration of climate-resilient technologies in value chain development activities supported by the project;
5. liaising with the Financial Services Expert to ensure adequate synergies between the value-chain based components and Component 4;
6. promoting linkages between LSPs, relevant public national institutions (CEPAGRI, DNSA, DNSV, IIAM and other as appropriate) and stakeholders in the private sector;
7. guide the preparation and implementation of the scoping studies to be carried out by Value Chain Lead Service Providers at project inception;
8. participate in developing the Project Learning System in collaboration with the PMT M&E/KM Officer;
9. monitoring the development of innovative business models and, in collaboration with the M&E/KM Officer, ensure related knowledge management, identify policy lessons, and build CEPAGRI capacities for further development and replication;
10. identifying training needs for public and private sector stakeholders and planning and implementing a capacity building programme based on identified need;
11. assist in the preparation, implementation of and follow up to Learning Routes.

5. TARGETING AND GENDER EXPERT

Contract duration: Initial duration of 3 years, renewable following positive annual performance assessment.

Duty station: CEPAGRI /Gaza Delegation, with frequent travel to the provinces.

Qualifications: Higher degree in socio-economics, economics, social sciences or other relevant area. At least 5 year experience in implementing inclusive and gender balanced programmes. Demonstrated skills and track record in undertaking gender and poverty analysis and in designing and implementing mitigation programmes. Good knowledge of the Southern Provinces would be an asset. Excellent writing skills, strong networking and relationship building skills, excellent communication skills. Fluency in spoken and written Portuguese and English.

Duties

Under the direct supervision of the Project Coordinator, the Targeting and Gender Expert will be responsible for the overall development, implementation and monitoring of the PROSUL Targeting and Gender Mainstreaming Strategy and Implementation Plan. Specific responsibilities include but are not limited to:

- ensuring that annual Value Chain Development Action Plans (VC DAPs) include gender-sensitive and inclusive measures and provide support to their implementation;
- providing guidance so that capacity building programmes for farmers' organisations cover activities needed to make them inclusive and gender equitable;
- providing guidance to PMT staff and project implementers to ensure that project activities are inclusive and gender equitable;
- providing guidance to reflect inclusion and gender concerns in the scoping studies to be carried out at project inception;
- developing capacity building programmes for project staff and project implementers in gender and inclusive methods to improve project performance in extending project benefits to women and poorer groups, the development of guidelines and toolkits as appropriate;
- working closely with the M&E/KM Officer to develop and implement the Project Learning System, so that it allows the monitoring of inclusion and gender aspects, and that achievements and lessons learnt are made available to multi-stakeholders platforms and project implementers to support regular analysis, improved performance and annual programming of related activities;
- organising the Learning Route on GALs and related follow-up activities;
- collaborate with the Monitoring and Evaluation/Knowledge Management Specialist so that the Project Learning System
- support the mainstreaming of gender and inclusion into CEPAGRI's analytical and operational systems, including trainings and the development of guidelines and toolkits as appropriate;
- ensuring that all terms of reference for service providers include the requirement that the latter set up gender-balanced teams that have prior experience with gender mainstreaming, and that contract deliverables reflect gender and inclusion target and indicators
- ensuring that implementing partners have relevant indicators and information relating to gender and targeting in their contracts/terms of reference/memoranda of understanding

- contributing to the gender and targeting aspects of the Annual Work Plan and Budget and progress reporting preparation.

6. FINANCIAL SERVICES EXPERT

Contract duration:	Initial duration of 3 years, renewable following positive annual performance assessment.
Duty station:	CEPAGRI /Gaza Delegation, with frequent travel to Maputo and the provinces.
Qualifications:	Higher degree in finance, management or related field. At least 5 year experience in banking/microfinance sector and in business oriented approach to agriculture and rural development. Excellent writing skills, strong networking and relationship building skills, excellent communication skills. Fluency in spoken and written Portuguese and English.

Duties

Under the direct supervision of the Project Coordinator, the Targeting and Gender Expert will be responsible for the overall development, implementation and monitoring of the PROSUL Targeting and Gender Mainstreaming Strategy and Implementation Plan. Specific responsibilities include but are not limited to:

- overall monitoring and implementation support of PROSUL financial services component;
- liaising with the Agribusiness Expert to ensure adequate synergies between the value-chain based components and the financial services component;
- prepare all agreements with implementing agents of the component, with support from specialised technical assistance as foreseen in project design report;
- monitoring the performance of the various service providers intervening in the component implementation, including monthly analysis of financial and activity reports submitted by the Catalytic Fund (PROSUL department) and regular spot checks;
- monitoring the performance of limited liability companies set up by the project;
- participating in business and financial management training of governing bodies and management teams of limited liability companies set up by the project;
- in collaboration with the M&E/KM Expert and service providers of the financial services component, developing knowledge management on innovative financial instruments;
 - assisting CEPAGRI in building capacities in the provision of financial services to value chain development, building on project achievements and innovative business models;
 - contributing to the preparation of Annual Work Plan and Budget and progress reporting preparation.

7. PROVINCIAL (DPA) FOCAL POINT FOR PROSUL

Qualifications

Degree in marketing, agribusiness, agricultural economics or equivalent, with at least 5 years of experience. Demonstrated skills and track record in undertaking analysis for a wide range of agricultural programmes. Knowledge on climate change issues in the smallholder sector would be advantageous. Good knowledge of the Mozambican agricultural and agribusiness environment; good communication skills fluency in spoken and written Portuguese

Duties

Under the overall direction of the Regional Delegate of CEPAGRI, and in coordination with the Project Coordinator and the Project Management Team, the DPA Focal Point will act as the main link between the Provincial Directorate of Agriculture and the PMT, service providers and other key project stakeholders. Specific responsibilities include but are not limited to:

- promoting close linkages between the PMT, Lead Service Providers and other key service providers on the one hand, and relevant departments in the DPAs and in the SDAEs of participating districts and other relevant public actors in the province on the other hand;
- participating in monitoring and evaluation as well as in knowledge management;
- promoting knowledge management on PROSUL innovative business models and approaches in the province, and between districts implementing PROSUL and 'non PROSUL districts' e;
- collaborating with LSPs on the preparation of the Annual Work Plan and Budget (AWPB);
- promote the agri-business initiatives in the province and facilitate the linkages with financial institutions;
- keep PMT and Lead Service Providers informed on agribusiness initiatives developing in the province and particularly in project target value chains.

8. MANAGER OF THE PROSUL DEPARTMENT AT CATALYTIC FUND

Required qualifications and experience

Higher degree in finance management, banking management and/or business management. At least 7 years of experience in a commercial bank, a microfinance institution/bank or in a financial institution or project. Good knowledge of finance environment (legal, tax, investment law) and of rural finance environment (CGAP best practices) would be an asset. Capacity for innovation and 'outside-the-box' thinking. Excellent writing skills, strong networking and relationship building skills, excellent communication skills. Fluent English, both spoken and written is preferable, as well as fluent Portuguese. Computer literate. Pragmatic, creative and energetic approach to problem solving and decision-making.

Duties

Under the supervision of PROSUL Project Management Team (PMT) Coordinator and seconded to the Catalytic Fund, the Manager of the PROSUL Department in the Catalytic Fund is responsible for the overall management of all activities aiming at improving access to rural finance for PROSUL target beneficiaries. Activities include: a/ equity participation in three microfinance institutions together with a long-term deposit to be used for on-lending activity to PROSUL target beneficiaries, and b/ equity participation in SMEs within PROSUL-supported value chains, which have a substantial impact on the poor households in PROSUL area. In addition, the PROSUL Department Manager will also participate in the capacity building of newly recruited staff of participating financial institutions and of SMEs management teams.

S/he will answer to the Catalytic Fund Director and will follow the rules, methodology and procedures of the Catalytic Fund. S/he will report to PROSUL PMT Coordinator and will follow PROSUL Annual Work Plan and Budget (AWPB), also contributing to its elaboration.

Within this overall role, the following tasks would be the specific responsibility of the PROSUL Department Manager:

- a) Draft the terms of reference of the local consulting firm for the due diligence exercise to be carried out prior to any investment in the share capital of a licensed microfinance bank/institution;
- b) Participate in the due diligence exercise;
- c) Participate together with the PROSUL PMT Coordinator and the Catalytic Fund Manager in the negotiation for the financial investments in microfinance institutions;
- d) Provide the PROSUL PMT Coordinator and the Catalytic Fund Manager with updated short-term and long-term assessment of financial investments, risks and opportunities to guide their decision;
- e) Review requests from participating microfinance institutions in which the Catalytic Fund holds equity under PROSUL for additional on-lending long-term resources;
- f) Review and analyse annual and quarterly financial statements issued by MFIs partners with PROSUL (especially loan portfolio with prudential ratio and indicators, target beneficiaries, interest rate charged, collateral requirements);
- g) Verify correct use of funds by participating microfinance institutions through random spot checks and field visits;
- h) Control the use of the equity participation resources by the participating microfinance institutions for the expansion of their rural network;

- i) Participate in training of participating microfinance institutions newly recruited staff for the specific PROSUL department as well as to participating microfinance institutions senior management;
- j) Assist international and local experts in designing/fine-tuning products and services extended by participating financial institutions and assist participating financial institutions in implementing these new products and services (warehouse receipt financing, leasing, equity participating in start-up SMEs);
- k) Undertake limited-scope audits in participating microfinance institutions in which the catalytic Fund holds equity under PROSUL (mainly focusing on the loan portfolio);
- l) Participate in the negotiation with other stakeholders for the creation of the Slaughterhouse LLC in which the Catalytic Fund will hold equity on behalf of Livestock Producers Organizations;
- m) Assist stakeholders to create the Slaughterhouse LLC and provide assistance to participating microfinance institutions in which the Catalytic Fund is holding equity and producers' organizations to create horticulture service hub LLCs as well as cassava processing hub LLCs;
- n) Assist stakeholders in elaborating their business plans, financial projections, investment plans and financing plans;
- o) Assist stakeholders with the elaboration of by-laws, internal rules and regulations and in the implementation of the Manual of Procedures;
- p) Collect and review budget and loan portfolio projections from each participating microfinance institutions to be included in the AWPB;
- q) Implement activities in line with AWPB;
- r) Review the AWPB against actual activity and financial performance;
- s) Review and analyse performance indicators for each investment in participating microfinance institutions
- t) As a representative of the Catalytic Fund and PROSUL, attend Board of Directors meetings of each participating microfinance institution as well as of the Slaughterhouse LLC.

Attachment 4: Draft TOR for main service providers

VALUE CHAIN LEAD SERVICE PROVIDERS

Value Chain Lead Service Providers (LSP) will be responsible for implementing activities in support to inclusive and gender-balanced climate resilient value chain development, as specified in the description of components. Common responsibilities of the three LSPs will include the following:

1. carrying out the scoping studies at project inception;
2. the preparation, implementation and monitoring of annual Value Chain Development Action Plans (VC DAPS) and related section in the AWPB, in collaboration with project stakeholders and Regional Value Chain Platforms;
3. the contracting and procurement of services and supplies involved in implementing the component (with prior approval by the Project Management Team - PMT);
4. the coordination of the activities of the various component partners and with participating Microfinance institutions (MFIs);
5. setting up and supporting Regional Value Chain Platforms and Innovation Platforms;
6. supervision, M&E and knowledge management in relation to the component activities, under PMT guidance;
7. the preparation of progress reports for their component;
8. close monitoring of prices, profit and loss accounts and margin distribution between the various value chain stakeholders, with a view to promote highest and sustainable returns to smallholders;.
9. the promotion of women and poorer farmers' access to all project activities and related opportunities in accordance with the project Targeting and Gender Mainstreaming Strategy and Implementation Plan and in coordination with the PMT Targeting and Gender Specialist.

Specific responsibilities of Horticulture Service Provider

Specific responsibilities of the Horticulture LSP will include:

10. Providing assistance to INIR in the procurement of a consulting firm to carry out construction design and supervision and of private contractors to carry out the works;
11. Strengthening WUAs capacities in collaboration with INIR and SDAEs;
12. Raising the capacities of the ministry of Agriculture staff departments dealing with irrigation at provincial and district level in planning and supervising irrigation works;
13. Leading the process for the selection of horticulture hubs sites and participating stakeholders (commercial farmers, financial institutions, inputs dealers, traders, equipment dealers, mechanics...), in coordination with the Catalytic Fund and MFIs;
14. Supporting the development of outgrowers' schemes/forward contracts;
15. Providing technical assistance to hub managers and technical advisors in developing hub functions in a cost-effective manner, in coordination with MFIs;
16. Assisting hubs and farmers 'organizations to engage into contractual arrangements with buyers.
17. Setting up and supporting Joint Teams to increase technical skills of farmers and other stakeholders;
18. Organising the implementation of innovative activities, including the distribution of start-up kits, Farmers' Field Schools and climate-resilient technological packages (including the

identification of activities to be carried out with IIAM and the development of implementation arrangements jointly with the PMT);

19. Organising and implementing capacity building programmes for farmers' organisations (first and second tier), in collaboration with hub managers and technical advisors;
20. Identifying market promotion activities and organise implementation;
21. Participating in the selection of beneficiaries for greenhouses, together with MFIs;
22. Developing a price management system that will ensure horticulture hubs and commercial farmers/outgrowers scheme access to daily prices of products in local, provincial and national markets.

Specific responsibilities of Cassava Service Provider

Specific responsibilities of the Cassava LSP will include:

23. Leading the process for the selection of horticulture hubs sites and participating stakeholders (commercial farmers, processors, financial institutions, inputs dealers, traders, equipment dealers, mechanics...), in coordination with the Catalytic Fund and MFIs;
24. Supporting the development of outgrowers' schemes/forward contracts;
25. Providing technical assistance to hub managers and technical advisors in developing hub functions in a cost-effective manner, in coordination with MFIs;
26. Assisting hubs and farmers' organizations to engage into contractual arrangements with buyers;
27. Supporting the setting up and operation small cassava processing units in coordination with MFIs;
28. Organising the implementation of innovative activities, including the multiplication system for new cassava varieties (with IIAM), distribution of start-up kits, Farmers' Field Schools and climate-resilient technological packages (including the identification of activities to be carried out with IIAM and the development of implementation arrangements jointly with the PMT);
29. Organising and implement capacity building programmes for farmers' organisations (first and second tier), in collaboration with hub managers and technical advisors;
30. Identifying market promotion activities and organise implementation;
31. Identifying areas for developing policy and legislative environment, in conjunction with Regional VCP, and propose/implement related activities.

Specific responsibilities of Livestock Service Provider

Specific responsibilities of the Cassava LSP will include:

32. Empowering small-scale livestock producers to form truly representative Livestock (Cattle and Shoats) Producers Organizations (LPOs) proficient in producing quality livestock through innovative models of breed improvement, feeding systems, veterinary services, value addition practices in a commercially sustainable practice that covers the costs of breed sourcing, animal health and drugs. In order to achieve the above the LLSP will develop an appropriate plan for "hands-on" training adopting a Field Farmer Schools (FFSs) approach, technical follow-up and farmers' exchange visits;
33. Providing capacity building support and empower farmers' organizations (first and second tier) and meat traders' organizations;
34. Facilitating the preparation and implementation of Community Based Natural Resource Management Plans (CNRMPs) by LPOs;

35. Facilitating the formation of Meat (Traders and Butchers) Traders Organizations (MTOs) to operate as market makers providing reliable market access services to remove the barriers and reduce transaction costs in the livestock market chain. For these specific organizations, the LLSP will provide support through capacity building, training, advisory services for enhancing MTOs' access to financing instruments (with Financial Services Service Provider);
36. Supporting the starting of the slaughterhouse operations, by ensuring 1. the operational efficiency of the slaughterhouse through training of management personnel, slaughter attendants and other personnel; 2. the development and adoption of livestock and carcass standards; and 3. the access to credit and grant funds;
37. Providing specific vocational training for informal meat operators/stakeholders (mainly youth and women entrepreneurs in meat trade) to minimize unhygienic practices and add value to meat products aiming at realizing better margins in the meat chain with less product wastage and assuring increased food safety to consumers.
38. Supporting the setting up and operation of cattle breeding units;
39. Supporting the development of a sustainable network of Animal Health Agents (AHAs), providing basic animal health and extension services (at cost) to LPOs members;
40. Carrying out a meat sector analysis (assess the scale, nature and location of demand for meat) with an International Livestock Research Institute (ILRI) expert;
41. Develop Farmers Field Schools (FFSs) approach ("Hands-on" training) within LPOs focusing on animal health issues, animal feeding (e.g. fodder bank management) as well as quality meat production;
42. Training of slaughter attendants/butchers:
43. 2 weeks training session. An international consultant will be hired for a 2 weeks training on hygienic meat processing, handling and cutting (USD 22,750);
44. Training on management and supervisory skills
45. Training for slaughter attendants/butchers
46. Material for training of attendants/butchers
47. 2 weeks abroad hands on training for attendants/butchers (possibly to Swaziland)
48. Vocational training for informal meat operators/stakeholders (mainly youth and women entrepreneurs in meat trade). An international consultant will be hired for a 2-week training on hygienic meat processing, handling and cutting.

Presentation of technical proposal

LSP candidates will present their technical proposals under the form of a value chain development framework, building on PROSUL design report. The framework should be organised in three phases:

- *an initial phase* of around nine months, during which main activities will consist in: (i) carrying out the value chain scoping study; (ii) setting up all logistics arrangements; (iii) setting up the Value Chain Platform as well Innovation Platforms in the first districts of implementation, and defining their functions and mode of operation; (iv) developing the first VC DAP, together with main value chain stakeholders, and the first AWPB; (v) setting up an M&E/KM sub-system, under the guidance of the PMT, to become an integral part of the Project Learning System; and (vi) setting up administrative, financial and management systems required to comply with the requirements of the Loan Agreement and IFAD regulations;
- *a main phase* of about four years, during which LSPs will implement the VC DAP jointly with value chain stakeholders. LSPs will revise the plan on an annual basis as a preliminary

step to the preparation of the Annual Work Plan and Budget (AWPB), based on actual performance and jointly with value chain stakeholders. Annual VC DAPs will be validated by Value Chain Platforms and by the Project Steering Committee. By the middle of the second phase (end of 2015), IFAD will carry out a Mid-Term Project Review (MTR), which will review achievements and approaches and propose relevant adaptations. A comprehensive Implementation Support Mission will be organised by IFAD beginning 2018, which will conduct a thorough review of achievements and make recommendations for the exit phase to ensure sustainability beyond project completion.

- *an exit phase* of about two years, during which implementation responsibilities intended to outlive the project (such as monitoring value chain performance and disseminating results, ensuring access to market information, ensuring coordination and interaction between value chain stakeholders, providing support services...) will be taken over by permanent stakeholders, including farmers' organisations, service hubs, Value Chain Stakeholders Platforms, private sector and financial institutions. Activities to be implemented by the service provider will therefore include: the provision of capacity building for the purpose (including training, coaching and methodological tools); and the preparation of value chain development strategies and plans for a new period starting right after project completion.

The exact duration and development of each phase will be adapted to the specificities of each component, in accordance with the progressive phasing in of target districts.

LAND TENURE ADVISOR

A Land Tenure Adviser with experience in land administration and GIS and in providing support to communities and associations in Mozambique for securing their land and natural resource rights, including assisting them in acquiring DUATs and in developing land use management plans is required in order to assist the CEPAGRI Programme Management Team (PMT) and the VC LSPs to provide specific technical support and to supervise a GIS service provider to install a project GIS and a Land Tenure Service Provider (LTSP) that will support the associations involved in PROSUL to secure their land rights. The LTA will work closely with the PMT, VC LSPs, the GIS SP, the LTSP, DNTF, the SPGCs, the iTC and other service providers and organisations supporting land tenure and land use planning activities in the areas targeted by PROSUL. The contract will cover a 6-year period, subject to an annual progress review. The LTA will be directly accountable to the PMT. The LTA will provide annual work plans and budgets and 6 monthly progress reports.

Specific responsibilities will include:

- Supporting the Project Management Team (PMT) in finalising the Terms of Reference for the Land Tenure Service Provider (LTSP) and provide advice in the tendering process
- Supervise the inputs of the LTSP
- Identify additional inputs that may be required
- Compile and regularly update geo-referenced spatial and textual data on DUATs and investment hotspots
- Carry out an initial assessment of the interventions that may be required in the different value chains, including geographic priority areas
- Ensure measures for strengthening land/NR rights of poor and vulnerable groups including women and youth are given special attention
- Provide support in finalizing the Terms of Reference for the service provider contracted to support the PMT in setting up a Geographic Information System
- Support the PMT in supervising the GIS service provider contract.

LAND TENURE SERVICE PROVIDER

A Land Tenure Service Provider with experience in providing support to communities and associations in Mozambique for securing their land and natural resource rights, including assisting them in acquiring DUATs and in developing land use management plans is required in order to assist the CEPAGRI Programme Management Team (PMT) and the VC LSPs to support the associations involved in PROSUL to secure their land rights.

The LTSP will work closely with the PMT, VC LSPs, a Land Tenure Adviser (LTA) contracted separately by CEPAGRI to provide additional implementation support, DNTF, the SPGCs, the iTC and other service providers and organisations supporting land tenure and land use planning activities in the areas targeted by PROSUL.

The contract will for a 4 year period, subject to an annual progress review.

Specific responsibilities

a) Inception review, prioritisation and planning.

Based on the scoping exercise of investment hot-spots and existing DUATs and recommended prioritisation by the LTA, the LTSP will undertake a further assessment of the specific land tenure needs of each association and based on this, will provide a strategy and work plan including a budget for the duration of the contract. Consideration will be given to combining support for different associations to achieve efficiencies in inputs.

Expected activity outputs:

- An inception report indicating the strategy and work plan for the duration of the contract.

b) Support farmer group analysis of land access and tenure security issues and needs of their members.

This will be done as part of the establishment and strengthening of farmers' associations and Value Chain development planning processes. Sub-activities will include: i) identifying the amount of land different members have access to; ii) facilitating discussions on how land access for those with less land can be improved; iii) civic education on land and relevant NR policies and legislation; and iv) community-based mapping of different land and natural resource use areas and related infrastructure (eg: grazing lands, forest reserves, crop lands, settlement areas, water sources and access paths).

Expected activity outputs:

- A report for each scheme detailing: i) the general situation regarding land use and land registration in the communities where the associations expect to operate; ii) the amount of land different association members have access to, including disaggregated data according to wealth status, gender and age; iii) measures for securing land tenure and for improving access to land for those members with less access; and iv) agreements made on land use by associations, including adequate compensatory measures for users who may lose access to land due to the scheme. The report will include in annex details on the consultation meetings held and community and farmer group members involved. The report will be used to monitor changes in land access over time and adherence to agreements regarding land use.
- Community maps of general land use for all, where possible identifying the area to be used by the farmer group. It is anticipated that the map will be at first not be drawn to scale but that copy of the sketch map will be transposed to an A4 sheet for report purposes and in the case of consolidated block land areas will be geo-referenced and included in the Project's GIS.

- A set of guidelines and at least 2 training sessions for the VC LSP to enable them to assist farmers' associations in dealing with land access and tenure security issues

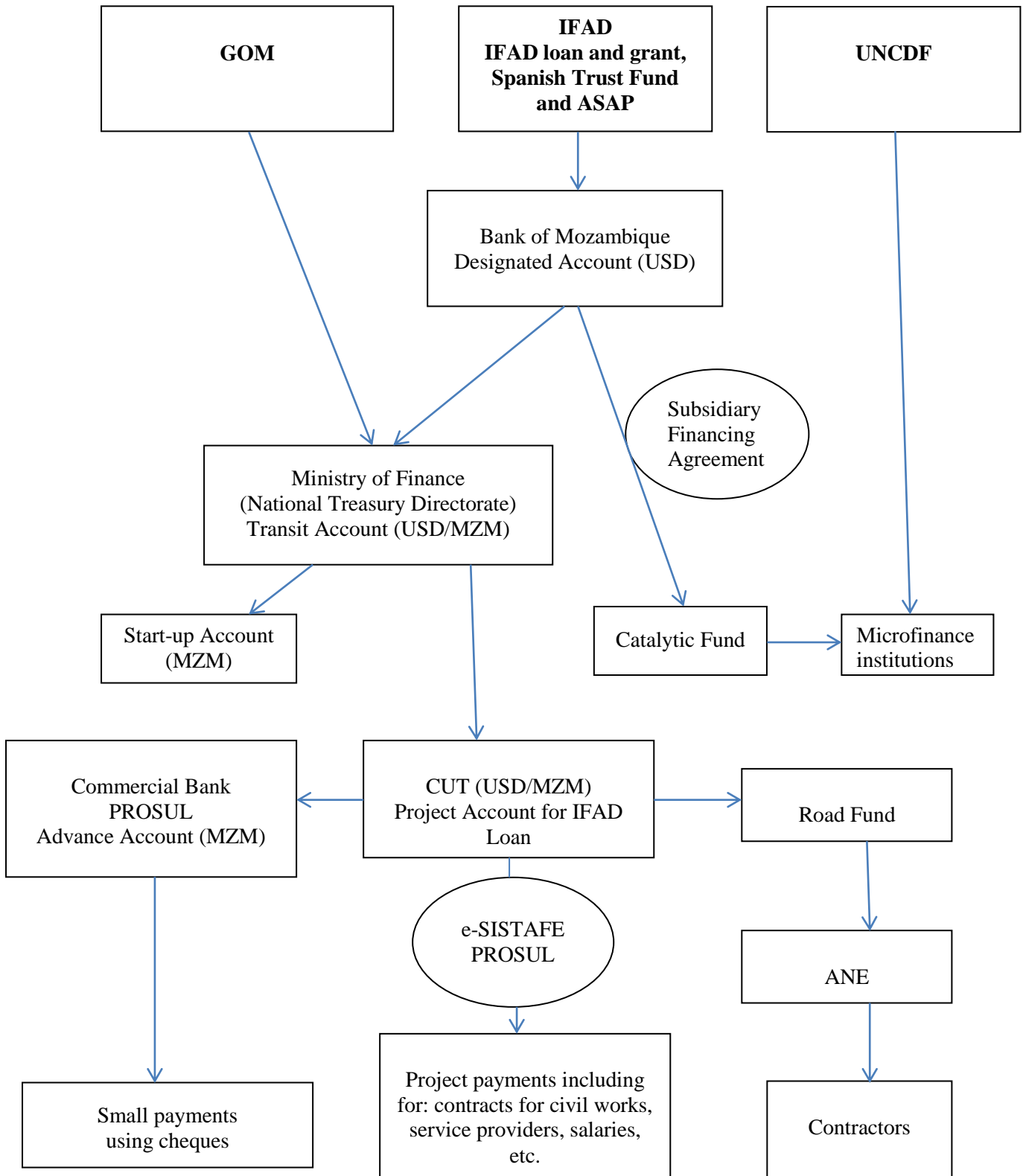
c) Strengthening associations' land rights.

Options could include support for: i) community land delimitation, ii) the processing of DUATs for associations and / or iii) demarcating land use areas and documenting group rules and by-laws for regulating land allocation and use. The identification of suitable measures will depend in part on the initial assessment of existing or planned community land delimitations and concessionary DUATs and the needs assessments done with farmer groups as well as an over-all assessment of value chain priority areas and budget availability.

Expected activity outputs:

- All horticulture associations (estimated at 20) granted DUATs and with documented internal rules or by-laws for regulating members' parcel access and use.
- At least 25% of cassava associations (estimated at 25) either covered by community land delimitations or granted DUATs and with documented internal rules or by-laws for regulating members' parcel access and use.
- All livestock associations (estimated at 10) with demarcated grazing and browsing areas and with documented internal rules or by-laws for regulating members' land access and use.

Attachment 5 : PROSUL Flow of Funds



Attachment 6: Procurement

Assessment of National Procurement Rules and Procedures

1. Reform and Legislation

The GoM and World Bank carried out in 2008 an update of the Country Procurement Assessment Report (CPAR) which highlighted that the Country has made considerable progress compared to the last report in 2002.

A new legislation, as an integral part of the SISTAFE law, the Decree 15/2010, came into existence. The new public procurement regulation (Regulamento) is predicated on the principles of competition, transparency, efficiency, economy, and equal opportunity. Standard bidding documents following the WB's model and a manual of procedures have been prepared and made available to procuring units at both centralized and decentralized levels.

The main differences with its predecessor are the following:

- (1) inclusion of definitions concerning the size of enterprises
- (2) update (doubling) of the threshold sums for limited tender, tender of small dimension and *ajuste directo* (direct adjudication without tendering process) ;
- (3) simplification of required documentation for bidders;
- (4) Introduction of obligatory nature (in the previous regulation it was optional) of the domestic preference clause for the purchase of goods and services, favouring national firms;
- (5) introduction of a domestic preference clause for the procurement of goods and buildings, favouring national firms;
- (6) review of some deadlines , and
- (7) the addition of hierarchical levels (Provincial governors, District Administrators) in the case of claims.

2. Procurement Institutions

The institutions responsible for the oversight and macro management of procurement are the Ministry of Finance in general, and its Functional Unit for Supervision of Acquisitions (***Unidade Funcional de Supervisão de Aquisições -UFSA***) in particular. At the operational level, the Operational Unit for the Management of the Acquisitions (***Unidade Gestora Executora de Aquisições –UGEAS***, the contracting entity, the jury are the most important institutions. Outside the public administration the Administrative Court (***Tribunal Administrativo***) intervenes in the ex-ante audits and approval of the contracts (*visto*) and in the ex-post verifying the compliance of the procurement process with the existing regulations.

UFSA

UFSA is the government body responsible for the capacity building of UGEAS and the oversight of the implementation of the Procurement Regulations. It is placed under the National Directorate of Assets (*Direcção Nacional de Património- DNPE*). The scope of UFSA's work includes coordinating all the activities related to public procurement and the management of a centralized data and information system as well as of the capacity development programmes in this area. At the provincial level UFSA has coordinators/focal points working in the Directorate for Planning and Finance (*Direcção Provincial de Plano e Finanças - DPPF*), which are responsible for assisting the districts and other entities at the local level. UFSA must also cooperate with the internal (*General Inspectorate of Finance - IGF*) and external control (Administrative Court) bodies regarding the auditing of public expenditures

UGEAs

UGEAs are the units charged with managing the procurement process in all state budgetary units, from the central (ministries, directorates, institutes, state-owned enterprises) to local level (provinces, districts and municipalities). These units are subordinated to the “**Competent Authority**” (*Autoridade Competente*), usually a ministry or its sub-national deconcentrated administrative unit. According to the Decree 142/2006 UGEAs has a long list of tasks among them preparing the procurement plan, assisting the Jury, keeping a record of providers, sending information on sectoral procurement and proposing alterations of the bidding documents, propose training activities, inform about anti-ethical practices to UFSA, receive and process complaints about the bid, send the contracting documents to the Administrative Court (*Tribunal Administrativo* - TA). The decree defines three models of UGEAs for the central, provincial and district level. At the central level and provincial level the proposed UGEA structure comprises its head, a secretariat to the Jury, technical advisory and other three staff members for the areas of public works, goods and services. At the district level the structure comprises only its head, a secretariat to support the Jury and two areas; one responsible for public

3. Assessment and IFAD Procurement Experience

1) The CPAR mentions the following weaknesses:

- Good practice indicates that bidders should not be subject to unjustified requirements that are not essential to their capability to fulfill the contract. Appropriate conditions of participation foster competition, value for money, and equal opportunity. In this area, key impediments are (i) some onerous requirements for foreign firms, for instance, having to provide evidence of not being engaged in bankruptcy procedures in Mozambique or having a local representative each time they bid; (ii) extensive documentary information as a condition of bid submission; (iii) the use of the suppliers’ nationality as an eligibility criterion for domestic preference for goods manufactured in Mozambique; (iv) reserved procurement, albeit an exception; and (v) not sufficient clarity on contractor registration as a condition of participation in bidding.
- Transparency is essential to a procurement process that fosters competition and increases confidence in the system while reducing opportunities for corruption. In this respect, some identified deficiencies follow:
 - The *Regulamento* does not clearly state that opening of bids takes place immediately after the bid submission. Such a clarification would enhance the confidence in the integrity of the bids.
 - There is no independent forum through which to appeal the decision of the procurement entity, which raises doubts on the impartiality of the complaints mechanism. In addition, the requirement to pay a fee for lodging procurement complaints inhibits the right to complain and defeats the principles of fairness and transparency. It is therefore strongly recommended that the Government withdraw this requirement.

3. The third area relates to procurement and contract management, which is critical to the timely delivery of Government services. In this area the opportunities identified include strengthening regulations and manuals by (i) adding the concept of **procurement planning**, a key procurement management tool; (b) identifying as unacceptable the practice of **slicing contracts to avoid open competition**; and (b) specifying instructions for **adequate record management to allow for proper procurement/contract administration and oversight**.

2) IFAD Procurement experience:

1. PAMA and now PROMER have taken a different approach to implement their investments in infrastructure, especially roads, by channelling all the funds through the Road Fund. All contracts in general successfully implemented through ANE and duly approved by all authorities are paid by the Road Fund, which receives advance funds from the Project based on an annual procurement plan and on quarterly disbursements. This approach has been satisfactory for all parties and has largely lightened the burden of financial management on PAMA.

2. The best approach for a road improvement component of an IFAD-supported project is the formulation of a simple design with investments limited to those that are essential to achieve the project goals and implemented by the duly proven experienced national institutions like ANE and the Road Fund with the private sector.

3. The third area of weaknesses mentioned by the CPAR has been addressed by IFAD and GoM by the agreement on a Code of Practices applicable to each IFAD-supported Project (see below).

Current National Procurement Rules

This chapter is based on the understanding that no changes occurred in the national procurement rules since 2010. The legal system for procurement in Mozambique can be summarised as follows:

1. There are 3 legal regimes: the general regime, the special regime and the exceptional regime.
2. The general regime prescribes that any acquisition of goods, services and works, whatever the value of the contracts, has to go through a public tender
3. The special regime is the adoption of the procurement rules and regulations of bilateral or multilateral cooperation or international institutions and has to be duly authorised by the Minister of Finance
4. The exceptional regime duly authorised by the competent Authorities (Ministry of Finance) is related to some procurement methods such as:
 - 1) Tender with pre-qualification (article 83-87)
 - 2) Limited or restricted competitive bidding (article 88-91)
 - 3) Tender with a two-stages process (article 92-96)
 - 4) Special Tender by successive auctions for goods and services immediately available (article 97-103)
- 5) Direct Purchase (article 104-109)

The above methods are subsidiary to the general regime for which the rules have to be applied. In addition of these three legal regimes, Decree 54/2005 allows tenders for “small sizes” when the technical complexity of the goods, services and works is low and if the value of the contracts is below 262 500 MTS for works or 131 250 MTS for goods and services. Numerous facilities may be awarded under this kind of tender like, for example, dispensation of documents for qualification, advertisement through the radio, simplified contract, dispensation of final guarantee, etc....

The various Mozambican regimes have to be applied with the following thresholds specified in MTS in the Decree 54/2005; the equivalent in USD is given using the rate of exchange of 1 USD = 30 MTS rounded for simplification.

Republic of Mozambique: Pro-Poor Value Chain Development in the Maputo and Limpopo Corridors
(PROSUL) Project Design Report - Annex 6: Implementation and Financial Arrangements
Attachment 6: Procurement

Regime	Modalities or Methods	Thresholds applicable		Legal reference
General Regime	Public Tender	Any Value N.B. ICB over 180 000\$ for works and 90 000\$ for goods and services		Art. 59
Exceptional Regime	Direct Purchase	Works up to	87 500 MT	Art. 104, N° 3
			3 000 \$	
		Goods & Services up to	43 750 MT	
			1 500 \$	
	Limited Tender	Works up to	1 750 000 MT	Art. 88, N° 2
			60 000 \$	
		Goods & Services up to	875 000 MT	
			30 000 \$	
	Specific Modalities	Tender with pre-qualification		Art. 83
		Tender in two stages		Art. 92
Special Tender by auctions		Art. 97		
Small Procurement Regime	Works up to	262 500 MT	Art. 3, alinea “r”	
		8 750 \$		
	Goods & Services up to	131 250 MT		
		4400 \$		

As a whole, the national procurement regulations are generally consistent with IFAD guidelines and may be used in the proposed project provided that some risk mitigation measures are introduced to eliminate some minor deviations or to strengthen, among others, the availability of procurement information, the efficiency and speed of acquisition of some civil works and the capacity-building for public procurement in the national system. These gap fillers are mentioned below under the procurement risk management.

Procurement Risk Assessment and Management

Procurement for the proposed project will be carried out in accordance with the national provisions of the Government of Mozambique's procurement regulations to the extent of such are consistent with the IFAD Procurement Guidelines (September 2010).

Taking into consideration the quality of the Mozambican procurement regulations and its general consistency with IFAD guidelines on procurement, the level of risk in the field of procurement may be assessed as moderate. However, the following mitigation measures should be adopted by PROSUL to scale down the risk from moderate to low:

Risk	Action	Due Date
1.Capacity of ANE/RF and EDM to manage procurement of civil works (moderate). ONLY VALID IF PROSUL HAS A ROAD COMPONENT	Define clearly in the MoU all provisions related to procurement (procurement plan, maximum timing, method of procurement, models of bidding document, prior review, models of contracts, etc..).	Project start-up (MoU signing)
2. Capacity of PROSUL CPM with UGEA (if any in CEPAGRI) to manage procurement adequately (moderate)	Procurement procedures well and clearly defined in the financial management Manual and additional training by TA in the evaluation process to project staff and to UGEA.	Project design (draft financial management manual) and project start-up. Capacity building continuous process, including through implementation support
3. Capacity of provincial and district units to manage procurement adequately (substantial).	Procurement procedures well and clearly defined in the FM manual. Support and training in the provinces.	Project design (draft FM) and project start-up. Capacity building continuous process, including through implementation support
4. Roles of Project beneficiaries unclear (substantial)	FM/Contract Manager to explain beneficiaries their respective roles. Procurement manual enough clear.	At the Project launching
5. Misprocurement based on incomplete, inaccurate or misleading information of a request of No Objection (moderate)	Provision 83 of IFAD procurement Guidelines is applicable to any kind of procurement.	Mandatory provision to include in the MOUs with all "sub-contactors", as from the starting up of the Project
6. Training programmes delayed and not well organised (moderate)	Training programmes should be included in the AWPB and in the Procurement Plan and cover all costs (venue, stationery, per diem, travel transport, etc.) Trainers or TA fees are to be separately included and subject to specific method of selection.	In the first AWPB and Procurement Plan
7. Technical and Financial evaluation of bids and proposals not adequately organised (substantial)	Strengthening of the evaluation committee from a minimum of 3 members to a minimum of 5 members with one person from UGEA (deviation to article 14 of Decree 54/2005), two technicians and two administrative, financial or procurement persons. Committee members appointed on a rotation way.	This special rule will be applicable only for NCB and ICB procedures and will be mentioned in the Code of Practice and in the LTB (letter to the borrower) at the project design and before starting-up.
8. Expenditures incurred not agreed	Procurement plan for 18 months and then updated annually. Only	At the project design formulation

with IFAD (moderate)	activities in the Procurement Plan are eligible to financing.	
9. Inefficient contract management and bad follow-up of the contracts (substantial).	Register of contracts permanently updated together with the Contract Monitoring Form (CMF)	Updating the Code of Practices before starting-up and financing agreement signature.

Specific Recommendations for PROSUL

1. Procurement Plan

The Procurement Plan, which is an integral part of the AWPB, will be prepared following a standard format as per IFAD template. The first procurement plan will be for an 18-month period and will then be up-dated annually.

2. IFAD guidelines applicable

For PROSUL and projects signed in 2012 and onwards, the national rules and regulations are applicable (Decree 54/2005) provided that these provisions are consistent with IFAD guidelines of September 2010.

Deviations to these national rules will be specified in the Code of Practices confirmed in the letter to the Borrower.

Among the deviations to the national rules, the following should be adopted:

- The Local shopping method with at least 3 quotes for goods and works valued more than USD 5 000 or its equivalent in MTS corresponding the national method called “*limitado concurso*” without prior approval by UFSA or the TA (sub-contractors)
- Direct Purchasing is allowed for goods, works and services valued less than USD 5 000 without any prior approval.
- Where the ICB procedure is the identified method of procurement within an approved procurement plan, World Bank procedures are set forth in their guidelines will apply.
- Slicing the amount of contract is strictly forbidden.
- NCB exceptions:
 - a. Eligibility:
 1. No restriction based on nationality of bidders and/or origin of goods shall apply. Foreign bidders shall be allowed to participate in NCB without restriction and shall not be subject to any unjustified requirement which will affect their ability to participate in the bidding process such as, but not limited to, the proof that they are not under bankruptcy proceedings in Mozambique; have a local representative; have an attorney resident and domiciled in Mozambique; form a joint venture with a local firm. In cases of joint ventures, they shall confirm joint and several liability.
 2. Prior registration, obtaining a license or agreement shall not be a requirement for any bidder to participate in the bidding process.
 3. Government-owned enterprises or institutions of the Republic of Mozambique shall be eligible to participate in the bidding process only if they can establish that they are legally and financially autonomous, operate under commercial law, and are not dependent agencies of the Borrower or Sub-Borrower.
 - b. Preferences:
 4. No domestic preference shall be given for domestic bidders or for domestically manufactured goods.
 - c. Bid Evaluation:
 5. Qualification criteria shall be clearly specified in the bidding documents, and all criteria so specified, and only such criteria so specified shall be used to determine whether a

bidder is qualified; the evaluation of the bidder's qualifications should be conducted separately from the technical and commercial evaluation of the bid. Qualification criteria shall be applied on a pass or fail basis.

6. Evaluation of bids shall be made in strict adherence to the criteria declared in the bidding documents;
7. A contract shall be awarded to the substantially responsive bid offering the best value for money as per IFAD guidelines article 39; and
8. Bidders shall not be eliminated on the basis of minor, non-substantial deviations.

3. IFAD Prior Review and No-objection

A. IFAD Prior Review Normal System: The prior review threshold for Mozambique is fixed as being greater than or equal to **USD 50 000** equivalent for goods and works and **USD 30 000** equivalent for services.

B. IFAD Prior Review System specific to PROSUL:

Description	Values or object	No-objection	
		National (1)	IFAD
Annual Procurement Plans	All operations	PSC/UFSA	Yes
Procurement of Works	< USD 50 000	UGEA (3)	No
	> USD 50 000	No	Yes
Procurement of Goods	< USD 50 000		No
	> USD 50 000		Yes
Procurement of Services	QCBS < USD 30 000	No	No
	QCBS > USD 30 000	No	Yes
	Other methods < USD 30 000 Except direct contracting	Yes (2)	No
	Other methods > USD 30 000	Yes (2)	Yes

- *Tribunal Administrativo* not included
- Once for all at the approval of the annual procurement plan and not by operation
- But control by UGEA of CEPAGRI (if any)

When the threshold has been or is expected to be exceeded, prior review is normally required at three key stages 1) before publication of the procurement process, 2) after the technical evaluation and 3) before contract signing.

For the prior review at stage (1) that needs to be requested before publication of the procurement action the documents that need to be sent to IFAD are:

- Procurement process approved in AWPB and in line with procurement plan
- Open or limited tender or prequalification documentation
- Advert of publication and list of newspaper, magazines, etc..
- Letter of invitation
- List of pre-selected bidders with justifications
- Instructions to bidders and rules of evaluation and conditions of payment
- Technical Specification or TORs or BoQ adequacy
- Contract form
- General and special conditions of contract
- Bid security and other bonds

For the prior review at stage (2) it is necessary to send the technical evaluation report. As required the CPM may request additional information including copies of the technically qualified proposals.

For the prior review at stage (3) required after the financial evaluation and before contract signing it is essential to send the Evaluation Report including the recommendation and the final draft contract. The report must include background, reference to no-objection, publication, list of bidding documents purchased or sent, bids or proposals received, minutes of opening session, technical and evaluation steps with recommendation.

Requests for no-objection and other procurement related correspondence (as established in the respective Loan Agreements) to be sent to:

- C. Country Programme Manager. Signed requests are needed, but hard copies should be avoided unless necessary: faxes or scanned signed letters should be used as much as possible. In order to accelerate the review process, e-mails can be used to obtain provisional no-objection, which will then have to be followed by signed requests.
- D. Country Programme Officer, Kenya Country Office (acting as IFAD regional loan administration office). Copies of no-objection requests and other relevant correspondence for info, without supporting documentation.

Each request of no-objection should be numbered in a continuous manner with name of project and country code with the date like for example: N° 08/MOZ/PROSUL/28022013 = 8th request of no-objection from PROSUL project from Mozambique dated 28 February 2013.

4. Contract Management

A register of contract using the template in Annex 1 will be kept by the Project Management, regularly up-dated and submitted to the IFAD CPM (soft copy by e-mail) every quarter by the end of the following month.

A CMF as per the template in Annex 2 will be kept for each contract of more than one month duration or involving more than 1 payment. The form will be attached to any relevant withdrawal application

Attachment 7 – Draft 18-month Procurement Plan

MOZAMBIQUE - PROSUL - PROCUREMENT PLAN 18 MONTHS (Jan-13 to Jun-14)

Section A - Works

Nr	Description	Comp.	Executing Agency	AWPB		Method of procurement	Prior NO IFAD Y/N ?	Plan vs Actual	Preparation of tender				Tendering Process				Evaluation Process			Contract details								
				Unit	Quantity				Total Price US\$	Bid Doc	NO IFAD	Publication or LOI	Response time	Closing Date	Opening Date	Technical Evaluation	Financial Evaluation	NO IFAD	Notification of award	Contract Signature	Contract duration	End of Contract						
	Indicative timing of each step of the process								15 days	5 days	5 days	12-21 days	1 day	1 day	10 days	5 days	5 days											
	Indicative timing per main process								Total 15 days		TOTAL 19 to 28 days				TOTAL 35 days													
	Total Indicative timing								GRAND TOTAL of 69 to 78 days maximum																			
1	Irrigation rehabilitation works (Regadio)	1	PMT	schemes	1	93 000	ICB	Y	PLAN	31-Jul-13	07-Aug-13	17-Aug-13	07-Sep-13	09-Sep-13	10-Sep-13	24-Sep-13	01-Oct-13	08-Oct-13	11-Oct-13	25-Oct-13	180	23-Apr-14						
									REVISED																			
									ACTUAL																			
2	Boreholes (livestock water points & cattle)	3	PMT	number	6	275 000	NCB	Y	PLAN	31-Oct-13	07-Nov-13	17-Nov-13	08-Dec-13	10-Dec-13	11-Dec-13	25-Dec-13	01-Jan-14	08-Jan-14	11-Jan-14	25-Jan-14	180	24-Jul-14						
									REVISED																			
									ACTUAL																			
3	Small dams (livestock water points)	3	PMT	number	3	250 000	NCB	Y	PLAN	31-Oct-13	07-Nov-13	17-Nov-13	08-Dec-13	10-Dec-13	11-Dec-13	25-Dec-13	01-Jan-14	08-Jan-14	11-Jan-14	25-Jan-14	180	24-Jul-14						
									REVISED																			
									ACTUAL																			

MOZAMBIQUE - PROSUL - PROCUREMENT PLAN 18 MONTHS (Jan-13 to Jun-14)

Section B - Goods

Nr	Description	Comp.	Executing Agency	Unit	AWPB		Method of procurement	Prior NO IFAD Y/N ?	Plan vs Actual	Preparation of tender		Tendering Process				Evaluation Process			Contract details					
					Quantity	Total Price US\$				Bid Doc	NO IFAD	Publication or LOI	Response time	Closing Date	Opening Date	Technical Evaluation	Financial Evaluation	NO IFAD	Notification of award	Contract Signature	Contract duration	End of Contract		
Indicative timing of each step of the process										15 days	5 days	5 days	12-21 days	1 day	1 day	10 days	5 days	5 days						
Indicative timing per main process										Total 15 days		TOTAL 19 to 28 days				TOTAL 35 days								
Total Indicative timing										GRAND TOTAL of 69 to 78 days maximum														
1	Equipment for meteorological stations	1+2	IIAM	number	2	60 000	NCB	Y	PLAN REVISED ACTUAL	30-Apr-13	07-May-13	17-May-13	07-Jun-13	09-Jun-13	10-Jun-13	24-Jun-13	01-Jul-13	08-Jul-13	11-Jul-13	25-Jul-13	180	21-Jan-14		
2	Seeds, seedlings, fertilizer (fodder bank inputs)	2	LSP	set	1	45 000	NCB	N	PLAN REVISED ACTUAL	31-Oct-13	n/a	05-Nov-13	26-Nov-13	28-Nov-13	29-Nov-13	13-Dec-13	20-Dec-13	n/a	25-Dec-13	08-Jan-14	90	08-Apr-14		
3	pumps and fencing (fodder bank inputs)	2	LSP	set	1	45 000	NCB	N	PLAN REVISED ACTUAL	31-Oct-13	n/a	05-Nov-13	26-Nov-13	28-Nov-13	29-Nov-13	13-Dec-13	20-Dec-13	n/a	25-Dec-13	08-Jan-14	90	08-Apr-14		
4	Vet. Drugs (start-up kits)	2	PMT	set	1	112 000	NCB	Y	PLAN REVISED ACTUAL	31-Oct-13	07-Nov-13	17-Nov-13	08-Dec-13	10-Dec-13	11-Dec-13	25-Dec-13	01-Jan-14	08-Jan-14	11-Jan-14	25-Jan-14	180	24-Jul-14		
5	Materials for Holding pens & crush pens	3	LSP	set	3	17 000	NCB	N	PLAN REVISED ACTUAL	31-Oct-13	n/a	05-Nov-13	26-Nov-13	28-Nov-13	29-Nov-13	13-Dec-13	20-Dec-13	n/a	25-Dec-13	08-Jan-14	90	08-Apr-14		
6	Livestock scales	3	LSP	number	3	25 000	NCB	N	PLAN REVISED ACTUAL	31-Oct-13	n/a	05-Nov-13	26-Nov-13	28-Nov-13	29-Nov-13	13-Dec-13	20-Dec-13	n/a	25-Dec-13	08-Jan-14	90	08-Apr-14		
7	Investment fund vehicle	4	CF	pers-mth	1	40 000	NCB	N	PLAN REVISED ACTUAL	31-Jan-13	n/a	05-Feb-13	26-Feb-13	28-Feb-13	01-Mar-13	15-Mar-13	22-Mar-13	n/a	27-Mar-13	10-Apr-13	90	09-Jul-13		
8	Investment fund Computer & office equipment	4	CF	Set	1	7 000	NCB	N	PLAN REVISED ACTUAL	31-Jan-13	n/a	05-Feb-13	26-Feb-13	28-Feb-13	01-Mar-13	15-Mar-13	22-Mar-13	n/a	27-Mar-13	10-Apr-13	90	09-Jul-13		
9	Computer & office equipment for participating MFIs	4	CF	Set	4	33 000	NCB	N	PLAN REVISED ACTUAL	31-Mar-13	n/a	05-Apr-13	26-Apr-13	28-Apr-13	29-Apr-13	13-May-13	20-May-13	n/a	25-May-13	08-Jun-13	90	06-Sep-13		
10	Motorbikes for participating MFIs	4	CF	Set	4	8 000	NCB	N	PLAN REVISED ACTUAL	31-Mar-13	n/a	05-Apr-13	26-Apr-13	28-Apr-13	29-Apr-13	13-May-13	20-May-13	n/a	25-May-13	08-Jun-13	90	06-Sep-13		
11	Office supplies	5	PMT	Month	18	14 400	NCB	N	PLAN REVISED ACTUAL	31-Jan-13	n/a	05-Feb-13	26-Feb-13	28-Feb-13	01-Mar-13	15-Mar-13	22-Mar-13	n/a	27-Mar-13	10-Apr-13	3 yrs+	PROSULend		
12	computers, printers, photocopier, equipment + furniture	5	PMT	set	1	22 000	NCB	N	PLAN REVISED ACTUAL	31-Jan-13	n/a	05-Feb-13	26-Feb-13	28-Feb-13	01-Mar-13	15-Mar-13	22-Mar-13	n/a	27-Mar-13	10-Apr-13	90	09-Jul-13		
13	PMT + CEPAGRI vehicles	5	PMT	Number	4	160 000	ICB	Y	PLAN REVISED ACTUAL	31-Jan-13	07-Feb-13	17-Feb-13	10-Mar-13	12-Mar-13	13-Mar-13	27-Mar-13	03-Apr-13	10-Apr-13	13-Apr-13	27-Apr-13	180	24-Oct-13		
14	M&E: Equipment, software & material	5	PMT	set	1	36 000	NCB	N	PLAN REVISED ACTUAL	31-Jan-13	n/a	05-Feb-13	26-Feb-13	28-Feb-13	01-Mar-13	15-Mar-13	22-Mar-13	n/a	27-Mar-13	10-Apr-13	90	09-Jul-13		

MOZAMBIQUE - PROSUL - PROCUREMENT PLAN 18 MONTHS (Jan-13 to Jun-14)

Section C - Services																																
Nr	Description	Comp.	Executing Agency	AWPB			Method of procurement	Prior NO IFAD Y/N ?	Plan vs Actual	Preparation of tender				Tendering Process				Evaluation Process				Contract details										
				Unit	Quantity	Total Price				Bid Doc	NO IFAD	Publication or LOI	Response time	Closing Date	Opening Date	Technical Evaluation	NO IFAD	Financial Evaluation	Final NO IFAD	Notification of award	Contract Signature	Contract duration	End of Contract									
Indicative timing of each step of the process									15 days	5 days	5 days	12-21 days	1 day	1 day	10 days	5 days	5 days	5 days														
Indicative timing per main process									Total 15 days				TOTAL 19 to 28 days				TOTAL 35 days															
Total Indicative timing									GRAND TOTAL of 69 to 78 days maximum																							
1	Horticulture LSP	1	PMT	contract	1	686 000	NCB	Y	PLAN REVISÉ ACTUAL	30-Nov-12	07-Dec-12	17-Dec-12	31-Jan-13	02-Feb-13	03-Feb-13	17-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	13-Mar-13	27-Mar-13	3 yrs+	PROSUL end									
2	Irrigation engineer and WUA expert (ITA)	1	PMT	pers-mth	3	75 000	ICB upon recommend.	Y	PLAN REVISÉ ACTUAL	30-Apr-13	07-May-13	17-May-13	07-Jun-13	09-Jun-13	10-Jun-13	24-Jun-13	01-Jul-13	08-Jul-13	15-Jul-13	18-Jul-13	01-Aug-13	180	28-Jan-14									
3	Irrigation rehabilitation design	1	PMT	studies	lots of	73 000	ICB	Y	PLAN REVISÉ ACTUAL	30-Jun-13	07-Jul-13	17-Jul-13	07-Aug-13	09-Aug-13	10-Aug-13	24-Aug-13	31-Aug-13	07-Sep-13	14-Sep-13	17-Sep-13	01-Oct-13	180	30-Mar-14									
4	Supervision of Irrigation rehabilitation works	1	PMT	studies	lots of	93 000	ICB	Y	PLAN REVISÉ ACTUAL	30-Jun-14																						
5	Road rehabilitation MOU with ANE	1,2+3	PMT	km	15	232 500	single source	Y	PLAN REVISÉ ACTUAL	28-Feb-13	n/a										07-Mar-13	10-Mar-13	24-Mar-13	3 yrs+	PROSUL end							
6	Cassava LSP	2	PMT	contract	1	480 000	NCB	Y	PLAN REVISÉ ACTUAL	30-Nov-12	07-Dec-12	17-Dec-12	31-Jan-13	02-Feb-13	03-Feb-13	17-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	13-Mar-13	27-Mar-13	3 yrs+	PROSUL end									
7	Improved cassava varieties contract with IIAM	2	PMT	number		45 000	single source	Y	PLAN REVISÉ ACTUAL	28-Feb-13	n/a										07-Mar-13	10-Mar-13	24-Mar-13	3 yrs+	PROSUL end							
8	Red Meat LSP	1	PMT	contract	1	686 000	NCB	Y	PLAN REVISÉ ACTUAL	30-Nov-12	07-Dec-12	17-Dec-12	31-Jan-13	02-Feb-13	03-Feb-13	17-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	13-Mar-13	27-Mar-13	3 yrs+	PROSUL end									
9	MOU with INNOQ (meat production & processing standards)	2	PMT	number	1	25 000	single source	N	PLAN REVISÉ ACTUAL	28-Feb-13	n/a										07-Mar-13	10-Mar-13	24-Mar-13	3 yrs+	PROSUL end							
10	Contract with pharmaceutical company (Livestock Vet Store dev.)	2	LSP	number	1	-	single source	Y	PLAN REVISÉ ACTUAL	28-Feb-13	n/a										07-Mar-13	10-Mar-13	24-Mar-13	3 yrs+	PROSUL end							
11	International training for slaughterhouse attendants/butchers	2	LSP	Lumpsum		53 000	ICB	Y	PLAN REVISÉ ACTUAL	31-Oct-13	07-Nov-13	17-Nov-13	08-Dec-13	10-Dec-13	11-Dec-13	25-Dec-13	01-Jan-14	08-Jan-14	15-Jan-14	18-Jan-14	01-Feb-14	90	02-May-14									
12	Due diligence and financial audit of the Catalytic Fund	4	PMT	study	1	25 000	consultants' qualific.	Y	PLAN REVISÉ ACTUAL	30-Nov-12	07-Dec-12	17-Dec-12	07-Jan-13	09-Jan-13	10-Jan-13	24-Jan-13	31-Jan-13	07-Feb-13	14-Feb-13	17-Feb-13	03-Mar-13	30	02-Apr-13									
13	Subsidiary Financing Agreement with the Catalytic Fund	4	PMT	contract	1	3 836 000	single source	Y	PLAN REVISÉ ACTUAL	30-Nov-12	n/a										07-Dec-12	10-Dec-12	24-Dec-12	3 yrs+	PROSUL end							
14	MOU with the Catalytic Fund	4	PMT	contract	1	25 000	single source	Y	PLAN REVISÉ ACTUAL	30-Nov-12	n/a										07-Dec-12	10-Dec-12	24-Dec-12	3 yrs+	PROSUL end							
15	Due diligence and financial audit of 3 MFIs (2 in 2013, 1 in 2014)	4	PMT	study	1	25 000	NCB	Y	PLAN REVISÉ ACTUAL	31-Dec-12	07-Jan-13	17-Jan-13	07-Feb-13	09-Feb-13	10-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	17-Mar-13	20-Mar-13	03-Apr-13	30	03-May-13									
16	Rural Finance and Equity Expert for CF (Int'l TA, retainer)	4	PMT	pers-mth	3	75 000	consultants' qualific.	Y	PLAN REVISÉ ACTUAL	31-Dec-12	07-Jan-13	17-Jan-13	07-Feb-13	09-Feb-13	10-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	17-Mar-13	20-Mar-13	03-Apr-13	180	30-Sep-13									
17	Annual financial audit of the Catalytic Fund	4	PMT	pers-mth	3	75 000	NCB	Y	PLAN REVISÉ ACTUAL	31-May-13	07-Jun-13	17-Jun-13	08-Jul-13	10-Jul-13	11-Jul-13	25-Jul-13	01-Aug-13	08-Aug-13	15-Aug-13	18-Aug-13	01-Sep-13	1095	31-Aug-16									
18	International TA (for participating MFIs)	4	UNCDF	pers-mth	4	87 500	consultants' qualific.	Y	PLAN REVISÉ ACTUAL	31-Dec-12	07-Jan-13	17-Jan-13	07-Feb-13	09-Feb-13	10-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	17-Mar-13	20-Mar-13	03-Apr-13	1095	02-Apr-16									

19	National TA (for participating MFIs)	4	UNCDF	pers-mth	5	18 000	consultants' qualific.	N	PLAN REVISÉD ACTUAL	31-Dec-12	n/a	05-Jan-13	26-Jan-13	28-Jan-13	29-Jan-13	12-Feb-13	n/a	19-Feb-13	n/a	24-Feb-13	10-Mar-13	90	08-Jun-13
20	MFI capacity building agreements (3)	4	CF	number	3	75 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Jan-13	07-Feb-13	17-Feb-13	10-Mar-13	12-Mar-13	13-Mar-13	27-Mar-13	03-Apr-13	10-Apr-13	17-Apr-13	20-Apr-13	04-May-13	3 yrs+	PROSUL end
21	International TA (for LLCs)	4	PMT	pers-mth	1	25 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Mar-13	07-Apr-13	17-Apr-13	08-May-13	10-May-13	11-May-13	25-May-13	01-Jun-13	08-Jun-13	15-Jun-13	18-Jun-13	02-Jul-13	60	31-Aug-13
22	National TA (for LLCs)	4	PMT	pers-mth	2	6 000	NCB	N	PLAN REVISÉD ACTUAL	31-Mar-13	n/a	05-Apr-13	26-Apr-13	28-Apr-13	29-Apr-13	13-May-13	n/a	20-May-13	n/a	25-May-13	08-Jun-13	90	06-Sep-13
23	Legal Adviser (National TA for LLCs)	4	PMT	pers-day	15	7 500	NCB	N	PLAN REVISÉD ACTUAL	31-Mar-13	n/a	05-Apr-13	26-Apr-13	28-Apr-13	29-Apr-13	13-May-13	n/a	20-May-13	n/a	25-May-13	08-Jun-13	90	06-Sep-13
24	International TA (for CEPAGRI's annual capacity development plan)	5	PMT	pers-mth	1	25 000	consultants' qualific.	Y	PLAN REVISÉD ACTUAL	31-Dec-12	07-Jan-13	17-Jan-13	07-Feb-13	09-Feb-13	10-Feb-13	24-Feb-13	03-Mar-13	10-Mar-13	17-Mar-13	20-Mar-13	03-Apr-13	30	03-May-13
25	National TA (for CEPAGRI's annual capacity development plan)	5	PMT	pers-mth	1	4 000	consultants' qualific.	N	PLAN REVISÉD ACTUAL	31-Dec-12	n/a	05-Jan-13	26-Jan-13	28-Jan-13	29-Jan-13	12-Feb-13	n/a	19-Feb-13	n/a	24-Feb-13	10-Mar-13	60	09-May-13
26	National TA (according to CEPAGRI's annual capacity development plan)	5	PMT	pers-mth	tbd	63 000	NCB	tbd	PLAN REVISÉD ACTUAL	31-May-12	n/a	05-Jun-12	26-Jun-12	28-Jun-12	29-Jun-12	13-Jul-12	n/a	20-Jul-12	n/a	25-Jul-12	08-Aug-12	60	07-Oct-12
27	International TA (for Targeting Gender Strategy and Implementation Plan)	5	PMT	pers-mth	1.5	40 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Mar-12	07-Apr-12	17-Apr-12	08-May-12	10-May-12	11-May-12	25-May-12	01-Jun-12	08-Jun-12	15-Jun-12	18-Jun-12	02-Jul-12	30	01-Aug-12
28	National TA (for Targeting Gender Strategy and Implementation Plan)	5	PMT	ls		8 000	NCB	N	PLAN REVISÉD ACTUAL	31-Mar-12	n/a	05-Apr-12	26-Apr-12	28-Apr-12	29-Apr-12	13-May-12	n/a	20-May-12	n/a	25-May-12	08-Jun-12	60	07-Aug-12
29	Project expeditor (ITA)	5	PMT	pers-mth	4	93 750	consultants' qualific.	Y	PLAN REVISÉD ACTUAL	30-Aug-12	n/a												
30	International TA (for preparation of MOU and SFA with Catalytic Fund)	5	PMT	pers-mth	1	25 000	consultants' qualific.	Y	PLAN REVISÉD ACTUAL	31-Jan-12	07-Feb-12	17-Feb-12	09-Mar-12	11-Mar-12	12-Mar-12	26-Mar-12	02-Apr-12	09-Apr-12	16-Apr-12	19-Apr-12	03-May-12	30	02-Jun-12
31	International TA (for outgrower schemes)	5	PMT	pers-mth	2	37 500	consultants' qualific.	Y	PLAN REVISÉD ACTUAL	31-Jan-12	07-Feb-12	17-Feb-12	09-Mar-12	11-Mar-12	12-Mar-12	26-Mar-12	02-Apr-12	09-Apr-12	16-Apr-12	19-Apr-12	03-May-12	30	02-Jun-12
32	National TA (for outgrower schemes)	5	PMT	pers-mth	1	3 000	NCB	N	PLAN REVISÉD ACTUAL	31-Jan-12	n/a	05-Feb-12	26-Feb-12	28-Feb-12	29-Feb-12	14-Mar-12	n/a	21-Mar-12	n/a	26-Mar-12	09-Apr-12	60	08-Jun-12
33	Legal assistance for outgrowers' schemes (National TA)	5	PMT	pers-day	15	7 500	NCB	N	PLAN REVISÉD ACTUAL	31-Jan-12	n/a	05-Feb-12	26-Feb-12	28-Feb-12	29-Feb-12	14-Mar-12	n/a	21-Mar-12	n/a	26-Mar-12	09-Apr-12	60	08-Jun-12
34	Land Tenure Advisor (Int'l TA, retainer)	5	PMT	pers-mth	5	94 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Mar-13	07-Apr-13	17-Apr-13	01-Jun-13	03-Jun-13	04-Jun-13	18-Jun-13	25-Jun-13	02-Jul-13	09-Jul-13	12-Jul-13	26-Jul-13	3 yrs+	PROSUL end
35	Land Tenure Service Provider	5	PMT	contract	1	480 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Mar-13	07-Apr-13	17-Apr-13	01-Jun-13	03-Jun-13	04-Jun-13	18-Jun-13	25-Jun-13	02-Jul-13	09-Jul-13	12-Jul-13	26-Jul-13	3 yrs+	PROSUL end
36	External audit of PROSUL accounts	5	PMT	contract	1	30 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Mar-13	07-Apr-13	17-Apr-13	01-Jun-13	03-Jun-13	04-Jun-13	18-Jun-13	25-Jun-13	02-Jul-13	09-Jul-13	12-Jul-13	26-Jul-13	3 yrs+	PROSUL end
37	Int'l TA to support M&E/KM system set up	5	PMT	pers-mth	5	75 000	NCB	Y	PLAN REVISÉD ACTUAL	31-Mar-13	07-Apr-13	17-Apr-13	01-Jun-13	03-Jun-13	04-Jun-13	18-Jun-13	25-Jun-13	02-Jul-13	09-Jul-13	12-Jul-13	26-Jul-13	180	22-Jan-14
38	Database and website establishment and training	5	PMT	ls		30 000	NCB	N	PLAN REVISÉD ACTUAL	31-Mar-12	n/a	05-Apr-12	26-Apr-12	28-Apr-12	29-Apr-12	13-May-12	n/a	20-May-12	n/a	25-May-12	08-Jun-12	60	07-Aug-12
39	Learning route on GALS	5	PMT	Number	1	40 000	single source	Y	PLAN REVISÉD ACTUAL	31-May-13	n/a												
40	GIS service provider	5	PMT	Day	47	23 500	NCB	N	PLAN REVISÉD ACTUAL	31-Mar-12	n/a	05-Apr-12	26-Apr-12	28-Apr-12	29-Apr-12	13-May-12	n/a	20-May-12	n/a	25-May-12	08-Jun-12	60	07-Aug-12

Attachment 8: PROSUL start-up activities

Draft Terms of reference for Project Expeditor

Advanced funds will also be used to finance a short-term consultancy (3 months) to assist CEPAGRI in recruiting the PMU staff and to put systems in place for a smooth implantation of the project.

The Project Expeditor will be responsible for undertaking the following tasks, in close cooperation with the Programme Management Team Coordination and CEPAGRI:

- I. Drafting the Project Implementation Manual (PIM);
- II. Setting up sound basis for financial management and procurement, including: (i) Assisting the PMT in the accounting, disbursement and financial arrangements of PROSUL, with a special focus on the steps required for the set-up of the project under e-SISTAFE, and ensure that the project keeps accounts in accordance with established practices and follows both IFAD and government requirements; and (ii) Assisting the PMT in the management of the project accounts and assist in the preparation of withdrawal application for direct payments and for the replenishment of accounts including based on Statement of Expenditures (SOE);
- III. Finalising the 18-month procurement plan
- IV. Assisting CEPAGRI in the launching the procurement processes for the main implementation service providers (i.e. the three LSPs and the Land Tenure Service Provider) and for office equipment and vehicles;
- V. Designing an Implementation Support and Supervision Plan;
- VI. Prepare draft advertisement for recruiting the PMT for review and approval by CEPAGRI and IFAD; prepare interview guidelines for use by the interview panel including evaluation and selection criteria for each post and the composition of the interview panel, for approval by CEPAGRI and subsequent no objection by IFAD; and prepare PMT recruitment to be submitted to the GoM and IFAD no objection;
- VII. Prepare with PMT all contracts and MOUs with envisaged project partners such as ANE, INIR and Catalytic Fund;
- VIII. Train PROSUL PMT, CEPAGRI and MINAG staff dealing with contract management on the various methods of selection of the Service Providers, the Technical and Financial Evaluations of the proposals received, the methods of contracts to be used and the monitoring of the execution of these contracts;
- IX. Provide Assistance to PMT and CEPAGRI in preparing and organizing the Project start-up workshop.

Qualifications. The consultant should have the following qualifications and experience: (a) substantial experience in recruitment of staff for reputable local and international companies and for the Government the Republic of Mozambique; (b) experience in training, management development and human resource management in developing countries; and (c) experience of donor funded projects and knowledge of projects and knowledge of project management.

Fees will be settled upon completion of the services, which will be confirmed to IFAD by the Director, CEPAGRI, certifying that tasks have been completed the outputs delivered.

Attachment 9 – Code of Practices for Project Management in Mozambique

IFAD MOZAMBIQUE COUNTRY PROGRAMME

CODE OF PRACTICES FOR PROJECT MANAGEMENT

July 2011

Introduction

This Code of Practices for Project Management (CPPM) is intended to be a living document that captures key actions, processes, procedures and schedules of activities for project management, as agreed to between GoM and IFAD, with the intention to harmonize and standardize them among different IFAD-financed programmes and projects. Exceptions for specific projects and institutions, if any, are listed in Annex 1.

The above processes and procedures are usually established in the financing agreements (FAs) and letter to the borrowers (LtBs), or subsequent communication by IFAD, of the respective projects and programmes. In the case that any provision of this CPPM conflicts with what is established in a FA, the latter will prevail and a formal FA amendment will be needed for its entry into force. Any provision of this CPPM, duly agreed between the GoM and IFAD, will instead automatically supersede what is established in the LtB or subsequent communication by IFAD.

Given the strictly operational nature of this document, the Project Coordinators' Sub-group of the Country Programme Team (CPT), with participation of a representative of IFAD, is the forum where the content of this CPPM is discussed and amended as and when needed. Other participants such as relevant project staff (Financial Managers, M&E officers, etc.), representatives from Government institutions (such as the Ministry of Finance, the Bank of Mozambique, the Ministry of Planning Development and key departments of the IFAD-financed projects' Lead Agencies) may be invited to attend meetings of the Project Coordinators' Sub-group where CPPM is discussed. Consultations with and clearances by relevant IFAD divisions will be the responsibility of IFAD staff in the country team.

The CPT will be kept duly informed and updated on any changes to the CPPM and will be consulted as and when needed. The CPPM will be reviewed annually as part of the COSOP annual review meetings. Normally Mission Aide Memoires will also be a key mechanism for initial identification and agreement on issues that may need to be dealt with by adding to or amending the CPPM.

Annual Work Plan and Budget (AWPB)

The AWPBs will be prepared using a standard template as agreed and adopted/amended by the CPT from time to time. The tables in Annex 2 will be included in the AWPB.

The AWPBs will include a detailed table in Excel specifying the activity (with unique item references, e.g. line numbers), the unit cost, the number of units, the total cost, the source of finance, the component and the expenditure category.

The Draft AWPBs are to be submitted in soft copy for review to the IFAD CPM by **30 November** of the preceding year. It is advised to submit AWPBs in electronic format, so that CPM comments can be included in text in track changes mode for ease of response by the Project Team.

If IFAD does not provide any comments to the AWPB within 30 days after receipt, the AWPB will be considered approved.

Reporting

Project reports will use the same structure as the standardised AWPB, including the table (data) formats. Thus, the tables in Annex 2 will also be used for annual and semi-annual reporting, except for tables 1 and 2 that will be substituted by the respective ones in Annex 3. The reports will be submitted to the IFAD CPM, possibly by e-mail in soft copies (could be electronic, scanned, etc.), by:

1. **15 August** for the semi-annual report
2. **28 February** of the following year for the annual report

Financial Management

The CPT recognises that timely, good quality financial reports depend on proper accounting processes and maintenance of transparent and accurate books of account. Best practices as advocated by IFAD require the project to use international accounting standards in the preparation of their annual financial statements, whether International Financial Reporting Standards (IFRS) or International Public Sector Accounting Standards (IPSAS) - cash basis or accruals basis.

Accounts are reconciled monthly. Financial Reports are elaborated quarterly, including:

1. The summarised actual expenditure by categories against the budget for the overall project and by source of funds (as per template table 1 in Annex 4). Brief explanations should be provided on the main differences.
 2. The summarised actual expenditure by components against the budget for the overall project and by source of funds (as per template table 2 in Annex 4). Brief explanations should be provided on the main differences.
 3. Report of the actual expenditure of the activities implemented against the budgetary provisions.
 4. Cash balances on bank and special/ designated accounts.
 5. Status of funds, reconciled to IFAD records including cumulative withdrawal applications.
- These financial reports will be submitted to the IFAD CPM, possibly by e-mail in soft copies (could be electronic, scanned, etc.), by:
6. **30 of the following month** for the quarterly reports
 7. **28 February** of the following year for the annual financial report (jointly with the annual progress report)

Audits

Annual audits will be performed in accordance with International Standards of Auditing by an external independent auditor and will include a separate audit opinion on:

- (i) the financial statements
- (ii) the certified statements of expenditure
- (iii) the operation of the Special/Designated Account(s)

The Audit Report should include confirmation that goods, works and services have been procured in accordance with underlying loan covenants and GoM financial regulations and verification of whether the expenditures have been incurred in accordance with the loan covenants, approved AWPBs, and with due care to economy, efficiency and value for money.

A separate management letter will address the adequacy of the accounting and internal control systems and make observations on other matters that may have a negative impact on project implementation. Comments should be accompanied with practical recommendations for positively and conclusively dealing with issues raised.

Normally the auditors should be appointed by the end of the financial year for which audit is required. Consideration should be given to contracting the auditor for no less than two successive years, subject to satisfactory performance, for reasons of economy and efficiency.

Draft financial statements should be submitted to the IFAD CPM by **31 March** of the following year for review and feedback, prior to submission to the auditors.

The Audit report will be submitted in original hard copy to the IFAD CPM by **30 June** of the following year. Management response to the audit report and in particular to the observations raised in the management letter is required within 30 days and must be copied to the IFAD CPM. IFAD will respond within one month of receipt of the audit report, inclusive of management response (see template Audit Review Form in Annex 5).

Loan Administration

Withdrawal Applications (WAs) for replenishment to the Special Account will be made for amounts no less than 20% of the Special Account allocation or USD 200,000 equivalent, whichever is the smaller. In order to ensure a smooth flow of funds, each project should aim for a minimum of 6 WAs per year.

Statements of Expenditure can be used for withdrawals for expenditures up to a maximum of USD 20,000 equivalent. Payments for instalments of contracts are not eligible for SoEs if the total amount of the contract is above the threshold, irrespective of whether the single instalment is below the threshold. In such case, the complete supporting documentation is needed for the WA related to the first instalment only, while for following instalments it will be substituted by a copy of the Contract Monitoring form as per template in Annex 6 (see also section on Contract Management below)

Withdrawal Applications will be sent to:

1. Regional Loan Administration Officer, IFAD ESA Regional Office. Originals with supporting documentation (hard copies necessary).
2. Country Programme Manager. Copies with supporting documentation. No need for original hard Copies, use of electronic/scanned copies highly recommended.
3. Loan Officer, Loans and Grants Administration Unit (CFS) in Rome. Copies without supporting documentation. No need for original hard Copies, use of electronic/scanned Copies highly recommended.
4. Besides for SoEs, WAs should be accompanied by: (i) copy of the No Objection (or reference to NO No.); (ii) contract number as per contract register; (iii) Contract Monitoring Form (if applicable).
5. Queries about WAs will be sent to the Regional Loan Administration Officer, IFAD ESA Regional Office, with copy to the IFAD CPM.

Processing of WAs by IFAD should take no longer than 4 weeks from receipt of correct WA to payment. An electronic delivery of debit advice will be issued by IFAD to the Programme Coordinator/Financial Manager on the same day of the payment of a WA.

Project Financial Managers can consult IFAD's Withdrawal Application Tracking System (WATS) in order to monitor the status of the WAs once submitted for processing. Follow up should be made directly with the IFAD unit indicated in the WATS in the case of delays, with the CPM in cc.

Procurement

Procurement for the IFAD-financed projects will be carried out in accordance with the national provisions of the Government of Mozambique's procurement regulations to the extent that these are consistent with the IFAD Procurement Guidelines (September 2010).

In Annex 6 there is a summary of the main features of the National regulations (Decree No. 15/2010), including the envisaged procurement methods and related thresholds. Deviations to these national rules, as approved by the Minister of Finance under the Special Regime, are specified here below:

NB: STILL TO BE APPROVED BY THE MINISTER OF FINANCE

1. *International Competitive Bidding (ICB) as per IFAD Procurement Guidelines is mandatory for procurement above USD 250,000 for goods and services and USD 1,000,000 for works.*
2. *The use of national shopping (i.e. comparing price quotations from several suppliers or contractors, at least three) for procurement of works, goods and services up to the threshold established under Art. 106 of the Decree (tender for small size procurement).*
3. *No restriction of participation to competitive processes to national participants only (as per Art. 26.2 of the Decree) is applicable in the case of procurement which allows restriction of participation,*

The prior review threshold for Mozambique is established as being greater than or equal to **USD 50,000 equivalent for goods and works and USD 30,000 equivalent for services.**

When the threshold has been or is expected to be exceeded, IFAD No Objection is normally required at three key stages:

1. before launching of the procurement process;
2. at key intermediate stages of the procurement process, depending on the method used; and
3. after selection of the winning bidder and before contract signing.

For the prior review at stage (1) the documents that need to be sent to IFAD are:

1. Procurement process approved in AWPB and in line with procurement plan
2. Open or limited tender or prequalification documentation
3. Advert of publication and list of newspaper, magazines, etc..
4. Letter of invitation
5. List of pre-selected bidders with justifications (if applicable, such as in the case of an Expression of Interest (see below)
6. Instructions to bidders and rules of evaluation and conditions of payment
7. Submission forms for Technical and financial proposals
8. Technical Specification or TORs or BoQ adequacy
9. Contract form
10. General and special conditions of contract
11. Bid security and other bonds

In case of use of the Expression of Interest (EOI) procedure, IFAD No Objection is also required: (i) before launching of the EOI (including advert of publication); and (ii) after selection of short-listed bidders (including evaluation report), prior to sending the Request for Proposals to the selected bidders.

In case of a two-stage process of selection involving separate technical and financial evaluation, IFAD No Objection is required after technical evaluation and before proceeding to opening of financial proposals. For the prior review at this intermediate stage it is necessary to send to IFAD the technical evaluation report. Although it is not necessary to send the technical proposals of qualified bidders as part of the supporting documentation, the IFAD CPM may request Copies of any of them.

For the prior review at stage (3), thus after the financial evaluation and before contract signing, it is necessary to send the final Evaluation Report, duly signed by all members of the Evaluation Committee. The report must include background, reference to NO, publication, list of bidding documents purchased or sent, bids or proposals received, minutes of opening session, technical and

financial evaluation steps with recommendation. The final draft contract should also be sent at this stage.

Requests for No Objection and other procurement related correspondence (as established in the respective Loan Agreements) are to be sent to:

1. Country Programme Manager. Hard Copies should be avoided unless necessary. Signed requests are not needed. Requests by e-mail from the Project Coordinator or the Project Financial Manager are acceptable. Similarly, provision of No Objection by the CPM will also be by e-mail. Alternatively, faxes or scanned signed letters could be used if and when needed.

No Objections will be dealt through e-mail, with no need for hard Copies. Below are the standard procedures agreed for requesting and providing No Objections.

Request of No Objection:

Sender: Project Coordinator or Financial Manager

Addressee: CPM

Copies to: Programme Assistant, relevant Country Office staff, irc-records@ifad.org, national authorities to which the project is reporting (if necessary).

Subject line: Project acronym - Request NO for (keep it short, include stage of the process, i.e. EOI, RFP, evaluation of bids and contract award, etc.)

Text of e-mail: - Precise object of no-objection, including stage of the process (EOI, RFP, evaluation of bids and contract award, etc.).
- Reference to No Objection No. and date for previous step as appropriate
- If the request is for contract award, include procurement method, proposed contractor and amount.
- Reference to specific lines in AWPB and procurement plan.
- List of support documents available

Attachments: Key supporting documents, scanned separately (pdf) with clear document names. If the request is for contract award, attach the tender documents, the signed evaluation reports (technical and financial) and the offer of the proposed bidder. Offers of other bidders should be in the list of supporting documents available, but should not be sent to IFAD (unless specifically requested).

Provision of No Objection:

Sender: CPM

Addressee: Project Coordinator or Financial Manager

Copies to: Same as for Request of No Objection, plus IFAD Regional Loan Administration Office in Nairobi (only for final No Objection, prior to contract signature).

Subject line: Project acronym - NO No. (assigned by IFAD¹¹⁷) for ...

Text of e-mail: Following text of request. If the request is for contract award, include procurement method, name contractor and amount.

¹¹⁷ The number will be composed by the project acronym and a sequential number assigned by IFAD. For subsequent steps and communications on the same No Objection, a letter in alphabetical order will be added at the end of the number. Thus, for example, for the first No Objection for RFSP, the number will be RFSP/1. Subsequent communications on the same tender will be RFSP/1a, RFSP/1c, etc.

A No Objection Tracking Sheet will be kept at IFAD and project level (same template, format to be agreed) and updated regularly to keep track of pending processes.

The Procurement Plan, which is an integral part of the AWPB, will be prepared following a standard format, as per template in Annex 7, where, among other things, the procurement method envisaged for every item will be specified. The first procurement plan will be for an 18 month period and will then be up-dated quarterly and submitted to the IFAD CPM (soft copy by e-mail) every quarter by mid of the following month, along with the quarterly financial reports. Before submission to IFAD for No Objection (as part of the AWPB), the Plan will have to be approved by the relevant Government competent authority.

Contract Management

A register of contract using the template in Annex 8 will be kept by the Project Management, regularly up-dated and submitted to the IFAD CPM (soft CPPMy by e-mail) every quarter, along with the quarterly financial reports.

A contract monitoring form using the template in Annex 9 will be kept for each contract of more than 1 month duration or involving more than 1 payment. The form will be attached to any relevant withdrawal application (i.e. instalments of that contract).

A copy of the signed contract will have to be sent as supporting document for the first WA relating to payment of such contract.

Asset Management and Disposal

An Asset Register will be established by the project management and up-dated on a monthly basis. It will be reviewed during project supervision. Physical inspection of assets will be carried out on an annual basis and summary included in the financial statements subject to audit.

Assets will be written off in accordance with Government rules and regulations at the end of their economic life.

Attachment 10 - Outline of PIM

Table of contents

Abbreviations & Acronyms

I. Introduction

1. Presentation of the Project
2. Objectives of the Project
3. Description of Project Components
4. Cost and financing
5. Organisation and management
6. Institutional and implementation arrangements
7. Organizational chart of the project and of CEPAGRI

II. Administrative Procedures

1. Human resources management
 - 1.1. Job descriptions
 - 1.2. Recruitment procedures
 - 1.3. Contract management
 - 1.4. Internal rules for personnel
2. Correspondence Organisation
3. Communication Organisation
4. Logistics
5. Asset management
6. Stock management

III. Financial and Disbursements Procedures

1. Financial Arrangements and Flow of funds
2. IFAD Disbursements procedures
3. PROSUL Disbursements procedures
4. Accounting system and procedures
5. Planning and budgeting

IV. Procurement Procedures

1. IFAD basic procurement principles
2. National rules and regulations
3. Main methods of procurement for goods and works
4. Main methods of selection of consultants & services providers
5. Specific procurement arrangements
 - 1.1. Declaration of bid security
 - 1.2. Bonds for insurances companies

V. Project Learning System

1. Planning of M&E
2. AWPB Preparation, including annual targets (RIMS+)
3. Follow-up of outputs
4. Evaluation of results
5. Evaluation of impact
6. Elaboration of progress reports
7. Knowledge management

Attachment 11- PROSUL District Phasing

The table below shows the year in which field activities will start in the Focus District, by value chain.

Value Chain and District	2013	2014	2015	2016	2017	2018	2019
COMP. 1. - HORTICULTURE							
Maputo Province							
Moambe		■					
Marracuene			■				
Namaacha/Boane							
Gaza Province							
Chokwe/Guija		■					
Manjakaze			■				
Chibuto							
Baixo Limpopo		■					
COMP. 2. - CASSAVA							
Gaza Province							
Manjakaze		■					
Inhambane Province							
Inharrime		■					
Massinga				■			
Morrumbene							
Jangamo							
Zavala				■			
COMP. 3. - RED MEAT							
Maputo Province							
Manhiça		■					
Magude							
Gaza Province							
Chicualacuala		■					
Massingir			■				
Mabalane							
Chokwe				■			
Guija							

REPUBLIC OF MOZAMBIQUE
PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO CORRIDORS (PROSUL)

ANNEX 7

PROJECT COST AND FINANCING

31 July 2012

REPUBLIC OF MOZAMBIQUE
PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO CORRIDORS (PROSUL)
PROJECT COST AND FINANCING

Table of Contents

	Page
<u>CURRENCY EQUIVALENTS</u>	ii
<u>Abbreviations and Acronyms</u>	ii
<u>A. Main Assumptions</u>	1
<u>B. Physical and Price Contingencies</u>	1
<u>C. Inflation and Exchange Rates</u>	1
<u>D. Project Costs</u>	2
<u>E. Project Financing</u>	4
TABLES	
1. <u>Table 1: Inflation Rates</u>	1
2. <u>Table 2: CPPP Rates</u>	2
3. <u>Table 3: Taxes and duties</u>	2
4. <u>Table 4: Expenditure Accounts</u>	2
5. <u>Table 5: Project Costs Summary by Year (base costs, USD million)</u>	3
6. <u>Table 6: Project Costs Summary by Component</u>	3
7. <u>Table 7: Project Costs by Expenditure Categories</u>	3
8. <u>Table 8: Project Financing Plan (USD million)</u>	4
APPENDICES	
9. <u>APPENDIX 1: SUMMARY COST TABLES (USD)</u>	1
10. <u>APPENDIX 2: DETAILED COST TABLES (USD)</u>	9

CURRENCY EQUIVALENTS

Currency Unit	=	Mozambican Metical (MZM)
USD 1.00	=	MZM 28

Abbreviations and Acronyms

EIRR	Economic Internal Rate of Return
FIs	Financial Institutions
FOREX	Foreign Exchange
FY	Financial year
GDP	Gross Domestic Product
GOMZ	Government of Mozambique
HH	Household
ITA	International Technical Assistance
SME	Small and Medium Enterprise
MZM	Metical
NTA	National Technical Assistance
USD	United States Dollar
VAT	Value Added Tax

REPUBLIC OF MOZAMBIQUE
PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS (PROSUL)

PROJECT COST AND FINANCING

a. Main Assumptions

1. Prosul is to be financed over a seven-year period (2013-2019). Costs have been estimated on the basis of prices prevailing at the time of appraisal in March 2012. The information collected during the field visits provided the key parameters for the Project costs. Data collected have been checked for consistency with average costs of goods and services in Mozambique.

b. Physical and Price Contingencies

2. A physical contingency of 5% has been applied to items for which the required amounts could not reasonably be estimated (i.e. civil works; training, technical assistance and studies; and contractual services), in order to account for the uncertainty regarding the exact implementation quantities. Price contingencies have been applied on all costs, with the exception of credit.

c. Inflation and Exchange Rates

3. **Inflation.** After having declined to reach 3.3% at the end of 2009 – the lowest rate in a decade, attributable to the economic slowdown and declining in world commodity and fuel prices – the inflation rate in Mozambique hit double digits in 2010, as a result of the scrapping of fuel subsidies in March-August 2010, the rise in international oil and food prices, the depreciation of the currency against the US dollar (USD) and the South African rand (ZAR), a poor agricultural year (food and non-alcoholic beverages being the main drivers) and loose monetary policies. Also isolated price hikes of other items (tuition fees from public universities, non-liquid fuels such as charcoals) have played a major role. Inflation remained high in 2011 (average inflation rate was 9.5% over the January-November 2011 period) and decreased to 3.4% in April 2012. However, the International Monetary Fund (IMF) forecasts the inflation rate to be 5.6% from 2013 on. The main risk in the growth forecast is that the recovery of international oil and food prices and poor weather will result in failure to control inflation.

4. For the purpose of the analysis, provisions for inflation have been made for all items with the exception of incremental credit. The base rate of local inflation has been set at in accordance with the IMF forecasts. Foreign inflation rates have been based on the Unit Value Index (in US dollars) of manufactures (MUV), which is commonly used as a deflator in the commodity-price literature. Both local and foreign inflation rates are compounded at mid-year. Inflation figures used in the calculation of the Project costs are shown in Table 1.

Table 2: Inflation Rates

Inflation Rates (%)	PY 1	PY 2	PY 3	PY 4	PY 5	PY 6	PY 7
	2013	2014	2015	2016	2017	2018	2019
Annual							
Local	6	6	6	6	6	6	6
Foreign	0.5	0.5	0.5	0.5	0.5	0.5	0.5
Compound							
Local	3.0	9.2	15.7	22.7	30.0	37.8	46.1
Foreign	0.2	0.8	1.3	1.8	2.3	2.8	3.3

5. **Exchange Rate.** From 2009 until first half of 2012 the Mozambique Metical exchange rate averaged 27.9 reaching an historical high of 36.7 in July of 2010 and a record low of 26.1 in January of 2009. For the purpose of the analysis, the exchange rate has been set at MZM 28 to USD 1. Project costs are presented in both MZM and USD. Conversions from current MZM into USD use the constant purchasing power (CPPP) exchange rates reported in Table 2.

Table 3: CPPP Rates

Exchange Rate	Up to negotiation	Up to Project start-up	PY 1	PY 2	PY 3	PY 4	PY 5	PY 6	PY 7
			2012	2013	2014	2015	2016	2017	2018
MZN to US\$	28	28	28.8	30.3	32.0	33.8	35.6	37.5	39.6

6. **Taxes and Duties.** Import duties (on vehicles, office furniture and equipment) and VAT are applied to costs of all transactions where appropriate. Contractors are responsible for their national tax liabilities. Salaries and allowances for directly recruited local staff are paid from the IFAD grant and staff is held responsible for the payment of their national tax liabilities. The Government of Mozambique (GOM) will waive the duties and taxes or will finance the cost of all taxes on goods procured under the PROSUL. Taxes and duties have been estimated using the latest information from the Mozambique Customs Authorities. All items to be imported for the Project attract import duties of different proportions, while domestically purchased items are also subject to national and local taxes of different types as summarized in Table 3.

Table 4: Taxes and duties

1. Vehicle Taxes	20 % Import tax station wagon 17% VAT 15% custom fees
2. Other Equipment and Materials	17% VAT 5-8% for customs fees
3. Local Consultants	17% VAT for companies
4. Civil Works	6.8% VAT

7. **Expenditure Accounts.** The expenditure accounts, together with the breakdown of taxes, physical contingencies and the average rates for foreign exchange are shown in Table 4.

Table 5: Expenditure Accounts

Description	Taxes	Physical Contingency	FEX
	%		
I. Investment Costs			
A. Civil works	6.8	5	30
B. Vehicles, equipment and materials	34.2	0	50
C. Training, TA and studies	0	5	10
D. Contractual Services	14.5	5	30
E. Financial Services	0	0	0
II. Recurrent Costs			
A. Salaries & Allowances	0	5	0
B. Operation and Maintenance	14.5	5	40

d. Project Costs

8. The total project costs including price and physical contingencies, duties and taxes are estimated at USD 44.95 million (or MZM 1.42 billion) over the seven-year project implementation period as shown in Table 5. Of this amount USD 7.07 million (16%) represents the foreign exchange content, USD 2.49 million (5.5%) are duties and taxes. Total base costs amount to USD 43.28 million, while physical and price contingencies are estimated to add another USD 1.67 million (3.85% of the

base costs) to this amount. Investment costs account for 93% and recurrent costs account for 7% of the base costs. Project summary and detailed costs are provided in Appendices 1 and 2.

Table 6: Project Costs Summary by Year (base costs, USD million)

	2013	2014	2015	2016	2017	2018	2019	Total
1. Horticulture value chain development	0.10	1.13	4.83	5.51	0.54	0.40	0.24	12.75
2. Cassava value chain development	0.20	0.59	0.48	1.07	0.83	0.46	0.28	3.92
3. Red meat value chain development	0.14	1.61	1.19	1.24	0.45	0.40	0.37	5.40
4. Financial services	0.73	5.76	4.88	1.60	1.13	0.35	0.05	14.50
5. Institutional support and project management	1.09	1.22	1.39	1.09	0.68	0.73	0.52	6.72
Total BASELINE COSTS	2.26	10.31	12.77	10.50	3.63	2.34	1.47	43.28
Physical Contingencies	0.06	0.20	0.33	0.37	0.09	0.08	0.05	1.19
Price Contingencies	0.01	0.04	0.11	0.17	0.06	0.06	0.05	0.48
Total PROJECT COSTS	2.33	10.55	13.20	11.04	3.77	2.48	1.58	44.95
Taxes	0.11	0.34	0.78	0.84	0.23	0.09	0.09	2.49
Foreign Exchange	0.29	1.03	2.21	2.49	0.51	0.30	0.24	7.07

9. Project investments are organized into five components: (i) Horticulture value chain development; (ii) Cassava value chain development; (iii) red meat value chain development; (iv) Financial services; and (iv) Institutional support and project Management. A summary breakdown of the Project costs by component with local and foreign exchange costs is shown in Table 6.

Table 7: Project Costs Summary by Component

	(MZN Million)			(US\$ Million)			% Foreign Exchange	% Total Base Costs
	Local	Foreign	Total	Local	Foreign	Total		
	1. Horticulture value chain development	254.3	102.7	357.0	9.08	3.67	12.75	29
2. Cassava value chain development	85.2	24.5	109.7	3.04	0.87	3.92	22	9
3. Red meat value chain development	111.9	39.2	151.1	4.00	1.40	5.40	26	12
4. Financial services	399.1	6.8	405.9	14.25	0.24	14.50	2	33
5. Institutional support and project management	173.1	15.0	188.0	6.18	0.53	6.72	8	16
Total BASELINE COSTS	1,023.6	188.2	1,211.8	36.56	6.72	43.28	16	100
Physical Contingencies	26.3	6.9	33.2	0.94	0.25	1.19	21	3
Price Contingencies	136.8	38.3	175.2	0.38	0.11	0.48	22	1
Total PROJECT COSTS	1,186.7	233.5	1,420.2	37.87	7.07	44.95	16	104

10. The largest expenditure categories among investment costs are represented by Financial Services (29.5% of total base costs), Civil Works (21.9% of total base costs), and Training, Technical assistance and studies (25.5% of total base costs). A summary breakdown of the project costs by disbursement category is shown in Table 7.

Table 8: Project Costs by Disbursement Categories (USD million)

	Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%			
1. Civil Works	9.86	21.9	2.96	6.23	0.67
2. Vehicles, Equipment and Materials	3.61	8.0	1.81	0.57	1.24
3. Training, TA and Studies	11.45	25.5	1.14	10.30	-
4. Contractual Services	3.89	8.7	1.17	2.16	0.56
5. Financial Services	13.25	29.5	-	13.25	-
6. Recurrent Costs	2.89	6.4	-	2.87	0.02
Total PROJECT COSTS	44.95	100.0	7.07	35.39	2.49

e. Project Financing

11. The project would be financed by: IFAD loan (36% of total project costs), IFAD grant (3% of total project costs), Spanish Trust Fund – STF (36% of total project costs), Adaptation for Smallholder Agriculture Programme – ASAP (11% of total project costs), UN Capital Development Fund – UNCDF (0.3% of total project costs) and the Government of Mozambique (GOM) which will contribute 6% of total project costs, entirely through foregone tax revenues. It is also expected that local private investors and beneficiaries will contribute to the project financing with own resources. The proposed financing plan is summarised in Table 8.

Table 9: Project Financing Plan (USD million)

	Spanish Trust		Fund Loan	ASAP Grant	UNCDF	Private Investors	Bene- ficiaries	Government of Mozambique	Total
	IFAD Loan Amount	FAD Grant Amount							
1. Civil Works	3.90	-	3.90	1.04	-	-	0.35	0.67	9.86
2. Vehicles, Equipment and Materials	1.03	-	1.03	0.32	-	-	-	1.24	3.61
3. Training, TA and Studies	3.76	1.52	3.76	2.26	0.14	-	-	0.00	11.45
4. Contractual Services	1.66	-	1.66	-	-	-	-	0.56	3.89
5. Financial Services	4.51	-	4.51	1.29	-	1.90	1.05	0.00	13.25
6. Recurrent Costs	1.44	-	1.44	-	-	-	-	0.02	2.89
Total PROJECT COSTS	16.30	1.52	16.30	4.91	0.14	1.90	1.40	2.49	44.95

APPENDICES

APPENDIX 1: SUMMARY COST TABLES (USD)

Table 1: Components Project Cost Summary

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Components Project Cost Summary

	(MZM Million)			(USD Million)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign Exchange	Base Costs
1. Horticulture	254.3	102.7	357.0	9.08	3.67	12.75	29	29
2. Cassava	85.2	24.5	109.7	3.04	0.87	3.92	22	9
3. Red meat	111.9	39.2	151.1	4.00	1.40	5.40	26	12
4. Financial services	399.1	6.8	405.9	14.25	0.24	14.50	2	33
5. Institutional support and project management	173.1	15.0	188.0	6.18	0.53	6.72	8	16
Total BASELINE COSTS	1 023.6	188.2	1 211.8	36.56	6.72	43.28	16	100
Physical Contingencies	26.3	6.9	33.2	0.94	0.25	1.19	21	3
Price Contingencies	136.8	38.3	175.2	0.38	0.11	0.48	22	1
Total PROJECT COSTS	1 186.7	233.5	1 420.2	37.87	7.07	44.95	16	104

Table 2: Expenditure Accounts Project Cost Summary

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)

Expenditure Accounts Project Cost Summary

	(MZM Million)			(USD Million)			%	% Total
	Local	Foreign	Total	Local	Foreign	Total	Foreign	Base
							Exchange	Costs
I. Investment Costs								
A. Civil Works	181.4	77.7	259.1	6.48	2.78	9.25	30	21
B. Vehicles, Equipment and Materials	49.9	49.9	99.8	1.78	1.78	3.56	50	8
C. Training, TA and Studies	270.8	30.1	300.9	9.67	1.07	10.75	10	25
D. Contractual Services	71.1	30.5	101.6	2.54	1.09	3.63	30	8
E. Financial Services	371.0	-	371.0	13.25	-	13.25	-	31
Total Investment Costs	944.3	188.2	1 132.5	33.72	6.72	40.45	17	93
II. Recurrent Costs								
A. Salaries & Allowances	76.5	-	76.5	2.73	-	2.73	-	6
B. Operating and Maintenance	2.9	-	2.9	0.10	-	0.10	-	-
Total Recurrent Costs	79.3	-	79.3	2.83	-	2.83	-	7
Total BASELINE COSTS	1 023.6	188.2	1 211.8	36.56	6.72	43.28	16	100
Physical Contingencies	26.3	6.9	33.2	0.94	0.25	1.19	21	3
Price Contingencies	136.8	38.3	175.2	0.38	0.11	0.48	22	1
Total PROJECT COSTS	1 186.7	233.5	1 420.2	37.87	7.07	44.95	16	104

Table 3: Expenditure Accounts by Components – Totals Including Contingencies

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Expenditure Accounts by Components - Totals Including Contingencies
(USD Million)

	Horticulture	Cassava	Red meat	Financial services	Institutional support and project management	Total
I. Investment Costs						
A. Civil Works	8.40	-	1.45	-	-	9.86
B. Vehicles, Equipment and Materials	1.49	0.76	0.69	0.30	0.37	3.61
C. Training, TA and Studies	2.41	2.41	1.88	1.00	3.74	11.45
D. Contractual Services	1.21	0.98	1.70	-	-	3.89
E. Financial Services	-	-	-	13.25	-	13.25
Total Investment Costs	13.52	4.15	5.72	14.56	4.11	42.06
II. Recurrent Costs						
A. Salaries & Allowances	-	-	-	-	2.78	2.78
B. Operating and Maintenance	-	-	-	-	0.11	0.11
Total Recurrent Costs	-	-	-	-	2.89	2.89
Total PROJECT COSTS	13.52	4.15	5.72	14.56	7.00	44.95
Taxes	1.26	0.40	0.58	0.10	0.14	2.49
Foreign Exchange	3.87	0.92	1.48	0.25	0.56	7.07

Table 4: Project Components by Year – Total Including Contingencies

Republic of Mozambique
Pro-Poor Value Chain Development in the Maputo and Limpopo Corridors (Prosul)
Project Components by Year -- Totals Including Contingencies

	Totals Including Contingencies (MZN Million)								Totals Including Contingencies (US\$ Million)							
	2013	2014	2015	2016	2017	2018	2019	Total	2013	2014	2015	2016	2017	2018	2019	Total
1. Horticulture value chain development	2.9	36.4	163.0	197.7	20.5	16.3	10.4	447.1	0.10	1.20	5.09	5.86	0.57	0.43	0.26	13.52
2. Cassava value chain development	6.1	18.9	16.0	38.3	31.1	18.7	12.2	141.3	0.21	0.62	0.50	1.14	0.87	0.50	0.31	4.15
3. Red meat value chain development	4.3	51.1	40.1	44.4	17.3	16.1	16.0	189.3	0.15	1.68	1.25	1.31	0.49	0.43	0.40	5.72
4. Financial services	21.1	162.6	138.0	46.0	31.8	10.1	1.7	411.2	0.74	5.77	4.89	1.61	1.13	0.35	0.05	14.56
5. Institutional support and project management	32.4	38.5	46.8	38.1	25.2	28.7	21.6	231.2	1.13	1.27	1.46	1.13	0.71	0.76	0.54	7.00
Total PROJECT COSTS	66.8	307.4	403.9	364.4	125.9	89.8	62.0	1,420.2	2.33	10.55	13.20	11.04	3.77	2.48	1.58	44.95

Table 5: Components by Financiers

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Components by Financiers
(USD Million)

	IFAD Loan		IFAD Grant		Spanish Trust Fund Loan		ASAP Grant		UNCDF		Private Investors		Bene-ficiaries		Government of Mozambique		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%			
1. Horticulture	5.68	42.0	-	-	5.68	42.0	0.56	4.1	-	-	-	-	0.35	2.6	1.26	9.3	13.52	30.1	3.87	8.39	1.26
2. Cassava	1.56	37.5	-	-	1.56	37.5	0.63	15.3	-	-	-	-	-	-	0.40	9.7	4.15	9.2	0.92	2.83	0.40
3. Red meat	1.68	29.4	-	-	1.68	29.4	1.77	31.0	-	-	-	-	-	-	0.58	10.1	5.72	12.7	1.48	3.66	0.58
4. Financial services	5.04	34.6	-	-	5.04	34.6	1.29	8.8	0.14	1.0	1.90	13.0	1.05	7.2	0.10	0.7	14.56	32.4	0.25	14.20	0.10
5. Institutional support and project management	2.34	33.4	1.52	21.7	2.34	33.4	0.66	9.4	-	-	-	-	-	-	0.14	2.0	7.00	15.6	0.56	6.30	0.14
Total PROJECT COSTS	16.30	36.3	1.52	3.4	16.30	36.3	4.91	10.9	0.14	0.3	1.90	4.2	1.40	3.1	2.49	5.5	44.95	100.0	7.07	35.39	2.49

Table 6: Expenditure Accounts by Financiers

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Expenditure Accounts by Financiers
(USD Million)

	IFAD Loan		IFAD Grant		Spanish Trust Fund Loan		ASAP Grant		UNCDF		Private Investors		Beneficiaries		Government of Mozambique		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%				
I. Investment Costs																						
A. Civil Works	3.90	39.6	-	-	3.90	39.6	1.04	10.5	-	-	-	-	0.35	3.5	0.67	6.8	9.86	21.9	2.96	6.23	0.67	
B. Vehicles, Equipment and Materials	1.03	28.5	-	-	1.03	28.5	0.32	8.8	-	-	-	-	-	-	1.24	34.2	3.61	8.0	1.81	0.57	1.24	
C. Training, TA and Studies	3.76	32.9	1.52	13.3	3.76	32.9	2.26	19.8	0.14	1.3	-	-	-	-	0.00	-	11.45	25.5	1.14	10.30	-	
D. Contractual Services	1.66	42.8	-	-	1.66	42.8	-	-	-	-	-	-	-	-	0.56	14.5	3.89	8.7	1.17	2.16	0.56	
E. Financial Services	4.51	34.0	-	-	4.51	34.0	1.29	9.7	-	-	1.90	14.3	1.05	7.9	0.00	-	13.25	29.5	-	13.25	-	
Total Investment Costs	14.86	35.3	1.52	3.6	14.86	35.3	4.91	11.7	0.14	0.3	1.90	4.5	1.40	3.3	2.47	5.9	42.06	93.6	7.07	32.51	2.47	
II. Recurrent Costs																						
A. Salaries & Allowances	1.39	50.0	-	-	1.39	50.0	-	-	-	-	-	-	-	-	-	-	2.78	6.2	-	2.78	-	
B. Operating and Maintenance	0.05	42.7	-	-	0.05	42.7	-	-	-	-	-	-	-	-	0.02	14.5	0.11	0.2	-	0.09	0.02	
Total Recurrent Costs	1.44	49.7	-	-	1.44	49.7	-	-	-	-	-	-	-	-	0.02	0.5	2.89	6.4	-	2.87	0.02	
Total PROJECT COSTS	16.30	36.3	1.52	3.4	16.30	36.3	4.91	10.9	0.14	0.3	1.90	4.2	1.40	3.1	2.49	5.5	44.95	100.0	7.07	35.39	2.49	

Table 7: Disbursement Accounts by Financiers

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Disbursement Accounts by Financiers
(USD Million)

	IFAD Loan		IFAD Grant		Spanish Trust Fund Loan		ASAP Grant		UNCDF		Private Investors		Beneficiaries		Government of Mozambique		Total		For. Exch.	Local (Excl. Taxes)	Duties & Taxes	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%				
1. Civil Works	3.90	39.6	-	-	3.90	39.6	1.04	10.5	-	-	-	-	0.35	3.5	0.67	6.8	9.86	21.9	2.96	6.23	0.67	
2. Vehicles, Equipment and Materials	1.03	28.5	-	-	1.03	28.5	0.32	8.8	-	-	-	-	-	-	1.24	34.2	3.61	8.0	1.81	0.57	1.24	
3. Training, TA and Studies	3.76	32.9	1.52	13.3	3.76	32.9	2.26	19.8	0.14	1.3	-	-	-	-	0.00	-	11.45	25.5	1.14	10.30	-	
4. Contractual Services	1.66	42.8	-	-	1.66	42.8	-	-	-	-	-	-	-	-	0.56	14.5	3.89	8.7	1.17	2.16	0.56	
5. Financial Services	4.51	34.0	-	-	4.51	34.0	1.29	9.7	-	-	1.90	14.3	1.05	7.9	0.00	-	13.25	29.5	-	13.25	-	
6. Recurrent Costs	1.44	49.7	-	-	1.44	49.7	-	-	-	-	-	-	-	-	0.02	0.5	2.89	6.4	-	2.87	0.02	
Total PROJECT COSTS	16.30	36.3	1.52	3.4	16.30	36.3	4.91	10.9	0.14	0.3	1.90	4.2	1.40	3.1	2.49	5.5	44.95	100.0	7.07	35.39	2.49	

Table 8: Local/Foreign/Taxes by Financiers

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Local/Foreign/Taxes by Financiers
(USD Million)

	IFAD Loan		IFAD Grant		Spanish Trust Fund Loan		ASAP Grant		UNCDF		Private Investors		Beneficiaries		Government of Mozambique		Total	
	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%	Amount	%
I. Foreign	3.00	42.4	0.15	2.1	3.00	42.4	0.80	11.4	0.01	0.2	-	-	0.11	1.6	-0.00	-	7.07	15.7
II. Local (Excl. Taxes)	13.30	37.6	1.37	3.9	13.30	37.6	4.10	11.6	0.13	0.4	1.90	5.4	1.29	3.6	0.00	-	35.39	78.7
III. Taxes	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.49	100.0	2.49	5.5
Total Project	16.30	36.3	1.52	3.4	16.30	36.3	4.91	10.9	0.14	0.3	1.90	4.2	1.40	3.1	2.49	5.5	44.95	100.0

Table 9: Disbursements by Semesters and Government Cash Flow

Republic of Mozambique
Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Disbursements by Semesters and Government Cash Flow
(USD Million)

	Financing Available								Total	Costs to be Financed by Government of Mozambique		
	IFAD Loan		Spanish Trust Fund Loan		ASAP Grant		Private Investors			Project Costs	Cash Flow	Cumulative Cash Flow
	Amount	Amount	Amount	Amount	Amount	Amount	Amount					
1	0.40	0.15	0.40	0.11	0.05	-	-	1.11	1.16	-0.05	-0.05	
2	0.40	0.15	0.40	0.11	0.05	-	-	1.11	1.16	-0.05	-0.11	
3	1.75	0.19	1.75	0.79	0.02	0.37	0.22	5.10	5.27	-0.17	-0.28	
4	1.75	0.19	1.75	0.79	0.02	0.37	0.22	5.10	5.27	-0.17	-0.45	
5	2.48	0.28	2.48	0.46	0.01	0.29	0.23	6.21	6.60	-0.39	-0.84	
6	2.48	0.28	2.48	0.46	0.01	0.29	0.23	6.21	6.60	-0.39	-1.23	
7	2.06	0.05	2.06	0.61	-	0.15	0.18	5.10	5.52	-0.42	-1.65	
8	2.06	0.05	2.06	0.61	-	0.15	0.18	5.10	5.52	-0.42	-2.07	
9	0.60	0.05	0.60	0.33	-	0.13	0.07	1.77	1.89	-0.11	-2.18	
10	0.60	0.05	0.60	0.33	-	0.13	0.07	1.77	1.89	-0.11	-2.30	
11	0.51	0.01	0.51	0.15	-	0.01	0.00	1.19	1.24	-0.05	-2.35	
12	0.51	0.01	0.51	0.15	-	0.01	0.00	1.19	1.24	-0.05	-2.39	
13	0.35	0.03	0.35	0.01	-	-	-	0.74	0.79	-0.05	-2.44	
14	0.35	0.03	0.35	0.01	-	-	-	0.74	0.79	-0.05	-2.49	
Total	16.30	1.52	16.30	4.91	0.14	1.90	1.40	42.46	44.95	-2.49	-2.49	

Table 10: Project Components by Year – Investment/Recurrent costs (USD million)

Republic of Mozambique																
Pro-Poor Value Chain Development in the Maputo and Limpopo Corridors (Prosul)																
Project Components by Year -- Investment/Recurrent Costs																
	Totals Including Contingencies (MZN Million)								Totals Including Contingencies (US\$ Million)							
	2013	2014	2015	2016	2017	2018	2019	Total	2013	2014	2015	2016	2017	2018	2019	Total
A. Horticulture value chain development																
Investment Costs	2.9	36.4	163.0	197.7	20.5	16.3	10.4	447.1	0.10	1.20	5.09	5.86	0.57	0.43	0.26	13.52
Subtotal Horticulture value chain development	2.9	36.4	163.0	197.7	20.5	16.3	10.4	447.1	0.10	1.20	5.09	5.86	0.57	0.43	0.26	13.52
B. Cassava value chain development																
Investment Costs	6.1	18.9	16.0	38.3	31.1	18.7	12.2	141.3	0.21	0.62	0.50	1.14	0.87	0.50	0.31	4.15
Subtotal Cassava value chain development	6.1	18.9	16.0	38.3	31.1	18.7	12.2	141.3	0.21	0.62	0.50	1.14	0.87	0.50	0.31	4.15
C. Red meat value chain development																
Investment Costs	4.3	51.1	40.1	44.4	17.3	16.1	16.0	189.3	0.15	1.68	1.25	1.31	0.49	0.43	0.40	5.72
Subtotal Red meat value chain development	4.3	51.1	40.1	44.4	17.3	16.1	16.0	189.3	0.15	1.68	1.25	1.31	0.49	0.43	0.40	5.72
D. Financial services																
Investment Costs	21.1	162.6	138.0	46.0	31.8	10.1	1.7	411.2	0.74	5.77	4.89	1.61	1.13	0.35	0.05	14.56
Subtotal Financial services	21.1	162.6	138.0	46.0	31.8	10.1	1.7	411.2	0.74	5.77	4.89	1.61	1.13	0.35	0.05	14.56
E. Institutional support and project management																
Investment Costs	21.7	25.5	33.7	23.6	10.5	12.3	5.6	133.0	0.75	0.84	1.05	0.70	0.30	0.33	0.14	4.11
Recurrent Costs	10.7	13.0	13.1	14.6	14.7	16.4	15.9	98.2	0.37	0.43	0.41	0.43	0.41	0.44	0.40	2.89
Subtotal Institutional support and project management	32.4	38.5	46.8	38.1	25.2	28.7	21.6	231.2	1.13	1.27	1.46	1.13	0.71	0.76	0.54	7.00
Total PROJECT COSTS	66.8	307.4	403.9	364.4	125.9	89.8	62.0	1,420.2	2.33	10.55	13.20	11.04	3.77	2.48	1.58	44.95
Total Investment Costs	56.1	294.5	390.8	349.9	111.2	73.5	46.0	1,322.0	1.96	10.12	12.79	10.61	3.36	2.04	1.17	42.06
Total Recurrent Costs	10.7	13.0	13.1	14.6	14.7	16.4	15.9	98.2	0.37	0.43	0.41	0.43	0.41	0.44	0.40	2.89

Table 11: Expenditure Accounts by Years -- Totals Including Contingencies

Republic of Mozambique
 Pro-Poor Value Chain Development Project in the Maputo and Limpopo Corridors (PROSUL)
Expenditure Accounts by Years -- Totals Including Contingencies
 (USD Million)

	Totals Including Contingencies							
	2013	2014	2015	2016	2017	2018	2019	Total
I. Investment Costs								
A. Civil Works	-	1.18	3.95	4.73	-	-	-	9.86
B. Vehicles, Equipment and Materials	0.31	0.53	1.22	1.21	0.34	-	-	3.61
C. Training, TA and Studies	1.35	2.49	2.39	2.48	1.16	1.07	0.50	11.45
D. Contractual Services	-	0.54	0.59	0.74	0.75	0.63	0.64	3.89
E. Financial Services	0.30	5.38	4.63	1.45	1.12	0.34	0.04	13.25
Total Investment Costs	1.96	10.12	12.79	10.61	3.36	2.04	1.17	42.06
II. Recurrent Costs								
A. Salaries & Allowances	0.36	0.41	0.39	0.42	0.40	0.42	0.39	2.78
B. Operating and Maintenance	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.11
Total Recurrent Costs	0.37	0.43	0.41	0.43	0.41	0.44	0.40	2.89
Total PROJECT COSTS	2.33	10.55	13.20	11.04	3.77	2.48	1.58	44.95

APPENDIX 2: DETAILED COST TABLES (USD)

Table 1 – Horticulture value chain development

	Unit	Detailed Costs																	Cat.	Financing except taxes, which are financed by Government	
		Quantities							Total	Unit Cost (US\$)	Base Cost (US\$)							Total			
		2013	2014	2015	2016	2017	2018	2019			2013	2014	2015	2016	2017	2018	2019				
I. Investment Costs																					
A. Sub-comp. 1: Rehabilitation & expansion of existing irrigated perimeters																					
1. Scheme improvement and rehabilitation																					
Irrigation improvement (studies)	ha	-	615	690	-	-	-	-	1 305	118	-	72 570	81 420	-	-	-	-	-	153 990	1	IFAD loan 50%, STF 50%
Irrigation improvement (construction) /a	ha	-	-	615	690	-	-	-	1 305	2,362	-	-	1 452 630	1 629 780	-	-	-	-	3 082 410	1	IFAD loan 45%, STF 45%, Benef. 5%
Irrigation improvement (supervision)	ha	-	-	615	690	-	-	-	1 305	142	-	-	87 330	97 980	-	-	-	-	185 310	1	IFAD loan 50%, STF 50%
Irrigation rehabilitation (studies)	ha	-	355	441	-	-	-	-	796	216	-	76 680	95 256	-	-	-	-	-	171 936	1	IFAD loan 50%, STF 50%
Irrigation rehabilitation-expansion (construction) /b	ha	-	-	355	441	-	-	-	796	4,327	-	-	1 536 085	1 908 207	-	-	-	-	3 444 292	1	IFAD loan 45%, STF 45%, Benef. 5%
Irrigation rehabilitation(supervision)	ha	-	-	355	441	-	-	-	796	260	-	-	92 300	114 660	-	-	-	-	206 960	1	IFAD loan 50%, STF 50%
Regadio Baixo Limpopo development (studies and supervision)	Lumpsum	-	-	-	-	-	-	-	-	-	-	10 000	-	-	-	-	-	-	10 000	1	IFAD loan 50%, STF 50%
Regadio Baixo Limpopo development (construction)	Lumpsum	-	-	-	-	-	-	-	-	-	-	90 000	-	-	-	-	-	-	90 000	1	IFAD loan 45%, STF 45%, Benef. 5%
Technical assistance (ITA)	Pers.mth	-	3	3	3	-	-	-	9	25,000	-	75 000	75 000	75 000	-	-	-	-	225 000	3	IFAD loan 50%, STF 50%
Subtotal Scheme improvement and rehabilitation																					
2. Capacity Building for Water Users' Associations (WUAs) /c																					
Participatory Design	Session	-	10	13	-	-	-	-	23	500	-	5 000	6 500	-	-	-	-	-	11 500	3	IFAD loan 50%, STF 50%
Participatory Supervision of Works	Session	-	4	6	13	-	-	-	23	500	-	2 000	3 000	6 500	-	-	-	-	11 500	3	IFAD loan 50%, STF 50%
Scheme Operation	Session	-	4	-	6	19	13	-	42	500	-	2 000	-	3 000	9 500	6 500	-	-	21 000	3	IFAD loan 50%, STF 50%
Scheme Maintenance	Session	-	4	-	6	19	13	-	42	1,000	-	4 000	-	6 000	19 000	13 000	-	-	42 000	3	IFAD loan 50%, STF 50%
O&M Pumps	Session	-	4	-	13	13	-	-	30	500	-	2 000	-	6 500	6 500	-	-	-	15 000	3	IFAD loan 50%, STF 50%
O&M Manual	Session	-	4	-	-	6	13	-	23	500	-	2 000	-	-	3 000	6 500	-	-	11 500	3	IFAD loan 50%, STF 50%
Subtotal Capacity Building for Water Users' Associations (WUAs)																					
3. Institutional support																					
a. Provincial Staff																					
Participatory Design	Session	-	2	-	-	-	-	-	2	5,000	-	10 000	-	-	-	-	-	-	10 000	3	IFAD loan 50%, STF 50%
TOR Preparation for construction	Session	-	-	2	-	-	-	-	2	5,000	-	-	10 000	-	-	-	-	-	10 000	3	IFAD loan 50%, STF 50%
Supervision of Works	Session	-	-	2	-	-	-	-	2	5,000	-	-	10 000	-	-	-	-	-	10 000	3	IFAD loan 50%, STF 50%
O&M	Session	-	-	-	2	2	-	-	4	5,000	-	-	-	10 000	10 000	-	-	-	20 000	3	IFAD loan 50%, STF 50%
Subtotal Provincial Staff																					
b. District staff																					
Participatory Design	Session	-	7	-	-	-	-	-	7	1,000	-	7 000	-	-	-	-	-	-	7 000	3	IFAD loan 50%, STF 50%
TOR Preparation for construction	Session	-	-	7	-	-	-	-	7	1,000	-	-	7 000	-	-	-	-	-	7 000	3	IFAD loan 50%, STF 50%
Supervision of Works	Session	-	-	7	-	-	-	-	7	1,000	-	-	7 000	-	-	-	-	-	7 000	3	IFAD loan 50%, STF 50%
O&M	Session	-	-	-	7	7	-	-	14	1,000	-	-	-	7 000	7 000	-	-	-	14 000	3	IFAD loan 50%, STF 50%
Subtotal District staff																					
Subtotal Institutional support																					
Subtotal Sub-comp. 1: Rehabilitation & expansion of existing irrigated perimeters																					

Table 2 – Cassava value chain development

	Unit	Detailed Costs															Total	Cat.	Financing except taxes, which are financed by Government					
		Quantities										Unit Cost								Base Cost (US\$)				
		2013	2014	2015	2016	2017	2018	2019	Total	(US\$)	2013	2014	2015	2016	2017	2018				2019	Total			
I. Investment Costs																								
A. Sub-component 1 - Strengthening linkages between value chain stakeholders																								
1. Scoping study	Lumpsum																	171 000	3	ASAP 55.6%, IFAD loan 22.2%, STF 22.2%				
2. Support to outgrowers' schemes	Lumpsum																	80 000	3	IFAD loan 50%, STF 50%				
3. Cassava hubs - Note: for the record - see component 4																			5	IFAD loan 50%, STF 50%				
4. Innovation																								
Access to improved varieties - contract with IIAM	Lumpsum																	75 000	3	ASAP 100%				
Access to improved varieties - hubs	Lumpsum																	108 000	3	ASAP 100%				
Start-up kits for farmers /a	Number	-	800	1 866	1 600	3 732	-	-	7 998	90	-	72 000	167 940	144 000	335 880	-	-	-	719 820	2	IFAD loan 50%, STF 50%			
Farmers' Field Schools Facilitators	Number	-	2	-	4	-	-	-	6	7,000	-	14 000	-	28 000	-	-	-	-	42 000	3	ASAP 100%			
Farmers' Field Schools	Number	-	2	2	6	4	4	-	18	3,500	-	7 000	7 000	21 000	14 000	14 000	-	-	63 000	3	ASAP 100%			
Climate-resilient packages	Lumpsum																	195 000	3	ASAP 100%				
Inhambane meteorological station	Lumpsum																	30 000	2	ASAP 100%				
Subtotal Innovation																		1 232 820						
5. Capacity development for farmers' organisations	Lumpsum																	350 000	3	IFAD loan 50%, STF 50%				
6. Access to market																								
Road rehabilitation /b	km	-	10	-	20	-	-	-	30	15,500	-	155 000	-	310 000	-	-	-	-	465 000	3	IFAD loan 50%, STF 50%			
Market promotion	Lumpsum																	185 000	3	IFAD loan 50%, STF 50%				
Subtotal Access to market																		650 000						
Subtotal Sub-comp.1 - Strengthening linkages between value chain stakeholders																		2 483 820						
B. Sub-component 2 - Value chain environment																								
1. Innovation platforms	Number	-	2	2	6	6	6	6	28	915	-	1 830	1 830	5 490	5 490	5 490	5 490	25 620	3	IFAD loan 50%, STF 50%				
2. Regional value chain stakeholder platform /c	Number	-	2	2	2	2	2	-	10	915	-	1 830	1 830	1 830	1 830	1 830	-	9 150	3	IFAD loan 50%, STF 50%				
3. Monitoring, knowledge management and communication																								
M&E/KM	Lumpsum																	288 000	3	IFAD loan 50%, STF 50%				
Communication activities	Lumpsum																	50 000	3	IFAD loan 50%, STF 50%				
Subtotal Monitoring, knowledge management and communication																		338 000						
4. Policy and legislative environment	Lumpsum																	150 000	3	IFAD loan 50%, STF 50%				
5. Implementation arrangements																								
Cassava LSP /d	Lumpsum																	910 800	4	IFAD loan 50%, STF 50%				
Subtotal Sub-component 2 - Value chain environment																		1 433 570						
Total																		3 917 390						

a Kit includes: NPK 100kg/ha, permethrin or cypermethrin 10 l/ha, Mancozeb 5 Kg/ha, for 1,333 benef./district (400 1st yr and 933 2nd yr). Lumpsum based on 0.3 ha farm area. Access criteria described in annex 4 section 2.

b Year-round access to hubs (5Km/hub)

c Each platform has 100% costs covered by project yr 1 - 2 -3, then 75% yr 4, 50% yr 5, 25% yr 6, 0 yr 7

d It includes permanent staff costs, technical assistance and overheads

Table 3 – Red meat value chain development

	Unit	Detailed Costs															Cat.	Financing except taxes, which are financed by Government		
		Quantities							Total	Unit Cost (US\$)	Base Cost (US\$)									
		2013	2014	2015	2016	2017	2018	2019			2013	2014	2015	2016	2017	2018			2019	
I. Investment Costs																				
A. Sub component 1: Value chain environment																				
1. Participatory scoping study																				
Scoping study /a	Lumpsum										142 500	-	-	-	-	-	-	142 500	3	ASAP 65%, IFAD loan 17.5%, STF 17.5%
2. Value chain stakeholders' platforms																				
Facilitation of innovation platform/b	Number	-	3	5	7	7	7	7	36	1,000	-	3 000	5 000	7 000	7 000	7 000	7 000	36 000	3	IFAD loan 50%, STF 50%
Regional value chain stakeholder platform/c	Number	-	2	2	2	2	2	-	10	1,000	-	2 000	2 000	2 000	2 000	2 000	-	10 000	3	IFAD loan 50%, STF 50%
Subtotal Value chain stakeholders' platforms											-	5 000	7 000	9 000	9 000	9 000	7 000	46 000		
3. Monitoring, knowledge management and communication																				
M&E/KM & Communication	Lumpsum										-	48 000	48 000	48 000	48 000	48 000	48 000	288 000	3	IFAD loan 50%, STF 50%
Participation to ILRI workshops (regional grant)	Number	-	1	1	-	-	-	-	2	12,000	-	12 000	12 000	-	-	-	-	24 000	3	IFAD loan 50%, STF 50%
Subtotal Monitoring, knowledge management and communication											-	60 000	60 000	48 000	48 000	48 000	48 000	312 000		
4. Policy development																				
Contract with INNOQ (production & processing standards)	Lumpsum										-	50 000	50 000	-	-	-	-	100 000	3	IFAD loan 50%, STF 50%
Short term TA	Pers.mth	-	2	-	2	-	-	-	4	25,000	-	50 000	-	50 000	-	-	-	100 000	3	IFAD loan 50%, STF 50%
Capacity building for VC stakeholders on standards	Lumpsum										-	-	30 000	30 000	-	-	-	60 000	3	IFAD loan 50%, STF 50%
Subtotal Policy development											-	100 000	80 000	80 000	-	-	-	260 000		
Subtotal Sub component 1: Value chain environment											142 500	165 000	147 000	137 000	57 000	57 000	55 000	760 500		
B. Sub component 2: Production improvement																				
1. Capacity development for LPOs																				
Capacity building activities	Lumpsum										-	44 100	69 900	96 900	64 200	44 000	27 400	346 500	3	IFAD loan 50%, STF 50%
Farmer exchange visits /d	Number	-	3	5	4	2	-	-	14	1,000	-	3 000	5 000	4 000	2 000	-	-	14 000	3	IFAD loan 50%, STF 50%
Subtotal Capacity development for LPOs											-	47 100	74 900	100 900	66 200	44 000	27 400	360 500		
2. Innovation																				
Farmers' Field Schools Facilitators	Number	-	3	2	2	-	-	-	7	7,000	-	21 000	14 000	14 000	-	-	-	49 000	3	ASAP 100%
Farmers' Field Schools	Number	-	3	5	7	4	2	-	21	2,000	-	6 000	10 000	14 000	8 000	4 000	-	42 000	3	ASAP 100%
NRM plans	Number	-	3	2	2	-	-	-	7	5,000	-	15 000	10 000	10 000	-	-	-	35 000	3	ASAP 100%
Access to climate resilient practices	Lumpsum										-	70 000	70 000	70 000	-	-	-	210 000	3	ASAP 100%
Fodder banks	Number	-	3	2	2	-	-	-	7	60,000	-	180 000	120 000	120 000	-	-	-	420 000	2	ASAP 100%
Breeding units - Note: for the record - see component 4											-	-	-	-	-	-	-	-	5	IFAD loan 50%, STF 50%
Start-up kits cattle /e	District	-	3	2	2	-	-	-	7	31,888	-	95 664	63 776	63 776	-	-	-	223 216	2	IFAD loan 50%, STF 50%
Start-up kits shoats /f	District	-	3	2	2	-	-	-	7	5,102	-	15 306	10 204	10 204	-	-	-	35 714	2	IFAD loan 50%, STF 50%
Subtotal Innovation											-	402 970	297 980	301 980	8 000	4 000	-	1 014 930		
3. Access to services																				
Livestock Vet Stores - Note: for the record - see component 4											-	-	-	-	-	-	-	-	5	IFAD loan 50%, STF 50%
Access to water /g	Number	-	3	2	2	-	-	-	7	150,000	-	450 000	300 000	300 000	-	-	-	1 050 000	1	ASAP 100%
Subtotal Access to services											-	450 000	300 000	300 000	-	-	-	1 050 000		
Subtotal Sub component 2: Production improvement											-	900 070	672 880	702 880	74 200	48 000	27 400	2 425 430		

C. Sub component 3: Market linkages

1. Cattle fairs

Holding pens /h	Number	-	3	2	2	-	-	-	7	5,000	-	15 000	10 000	10 000	-	-	-	35 000	1	IFAD loan 50%, STF 50%	
Crush pens /i	Number	-	3	2	2	-	-	-	7	6,000	-	18 000	12 000	12 000	-	-	-	42 000	1	IFAD loan 50%, STF 50%	
Livestock scales /j	Number	-	3	2	2	-	-	-	7	8,000	-	24 000	16 000	16 000	-	-	-	56 000	1	IFAD loan 50%, STF 50%	
Boreholes	Number	-	3	2	2	-	-	-	7	15,000	-	45 000	30 000	30 000	-	-	-	105 000	1	IFAD loan 50%, STF 50%	
Subtotal Cattle fairs												-	102 000	68 000	68 000	-	-	-	238 000		

2. Creation and empowerment of MTOs

Training workshops	Number	-	9	12	10	4	-	-	35	1,000	-	9 000	12 000	10 000	4 000	-	-	35 000	3	IFAD loan 50%, STF 50%	
Technical follow up	Number	-	-	6	10	8	4	-	28	500	-	-	3 000	5 000	4 000	2 000	-	14 000	3	IFAD loan 50%, STF 50%	
Farmer exchange visits	Number	-	3	5	4	2	-	-	14	1,500	-	4 500	7 500	6 000	3 000	-	-	21 000	3	IFAD loan 50%, STF 50%	
Development of bankable business plan	Number	-	6	4	4	-	-	-	14	5,000	-	30 000	20 000	20 000	-	-	-	70 000	3	IFAD loan 50%, STF 50%	
Equipment - Note: for the record - see component 4												-	-	-	-	-	-	-	5	IFAD loan 50%, STF 50%	
Subtotal Creation and empowerment of MTOs												-	43 500	42 500	41 000	11 000	2 000	-	140 000		

3. Slaughterhouse

Feasibility study	Number	-	2	-	-	-	-	-	2	25,000	-	50 000	-	-	-	-	-	50 000	3	IFAD loan 50%, STF 50%	
Training on management and supervisory skills	Lumpsum										-	10 000	-	-	-	-	-	10 000	3	IFAD loan 50%, STF 50%	
Technical assistance for training slaughter attendants/butchers	Pers.mth	-	0.5	-	-	-	-	-	0.5	25,500	-	12 750	-	-	-	-	-	12 750	3	IFAD loan 50%, STF 50%	
Material for training of attendants/butchers	Lumpsum										-	10 000	-	-	-	-	-	10 000	3	IFAD loan 50%, STF 50%	
International training for slaughterhouse attendants/butchers	Lumpsum										-	50 000	-	-	-	-	-	50 000	3	IFAD loan 50%, STF 50%	
Constr. & equipment of slaughterhouse - Note: for the record, see comp.4											-	-	-	-	-	-	-	-	5	IFAD loan 50%, STF 50%	
Access road	km	-	5	-	-	-	-	-	5	15,500	-	77 500	-	-	-	-	-	77 500	1	IFAD loan 50%, STF 50%	
Market development	Lumpsum										-	-	20 000	-	20 000	-	-	40 000	3	IFAD loan 50%, STF 50%	
Subtotal slaughterhouse												-	210 250	20 000	-	20 000	-	-	250 250		

4. Implementation arrangements

Livestock LSP/k	Lumpsum											-	184 800	237 600	290 400	290 400	290 400	290 400	290 400	1 584 000	4	IFAD loan 50%, STF 50%
Subtotal Sub component 3: Market linkages												-	540 550	368 100	399 400	321 400	292 400	290 400	2 212 250			
Total													142 500	1 605 620	1 187 980	1 239 280	452 600	397 400	372 800	5 398 180		

a Study to be carried out by VCSP

b It covers cost of 1 innovation platf./district.Cost estim. on the basis of 3 (1 day) meetings/year.Unit cost: travel \$20 each+\$15 rental meeting room.Each platform:100% costs covered by project yr1-2-3,then 75% yr4,50% yr5,25% yr6,0 yr7

c Covers costs of organizing a meeting in provincial capital for 30 value chain stakeholders' repr.(includ.travel,DSA,rent room,miscellaneous).100% costs covered by project yr1-2-3,then75% yr4,50% yr5,25% yr6,0 yr7

d Lumpsum per district (exchange between target districts)

e Based on an average of 357 cattle raisers per district, 5 cattle per raiser, kit of MZM500. Access criteria described in annex 4 section 3

f Based on average of 190 shoat raisers per district, 8 goats per raiser and kit of MZM100. Access criteria described in annex 4 section 3

g 3 boreholes and 1 small dam/reservoir per district, including solar panel, fencing of solar panel and pump and a water trough (bebedouro)

h 1 pen (250 beef + 100 shoats) per LPA: 200 square meters, 2 m height, made of galvanized metal tubes (50 cm diameter), cement and stones.

i 1 pen per LPA: 12 meters length, 70 centimeters width and 1,5 meters height, made of cement, stones and galvanized metal tubes (50 cm diameter). The cement and stones are for the floor (concrete).

j 2 scales per district (1 for live animal, 1 for carcasses)

k It includes permanent staff costs, technical assistance and overheads

Table 4 – Financial services

	Unit	Detailed Costs																	Cat.	Financing except taxes, which are financed by Government
		Quantities							Unit Cost (US\$)	Base Cost (US\$)							Total			
		2013	2014	2015	2016	2017	2018	2019		Total	2013	2014	2015	2016	2017	2018		2019		
I. Investment Costs																				
A. Sub-component 1: Financial Services																				
1. Investment Fund																				
a. Due diligence and financial audit mission	Number	1	-	-	-	-	-	-	1	25,000	25 000	-	-	-	-	-	-	25 000	5	IFAD loan 50%, STF 50%
b. Equity participation in MFIs	Lumpsum										250 000	100 000	100 000	-	-	-	-	450 000	5	IFAD loan 50%, STF 50%
c. Long-term deposits in MFIs																				
Horticulture value chain	Lumpsum										-	1 736 832	1 677 089	131 625	315 900	-	-	3 861 446	5	see footnote /e
Contributions from third parties_horticulture	Lumpsum										-	348 783	350 129	10 122	24 293	-	-	733 327	5	Benef. 39%, PR_INV 61%
Cassava value chain	Lumpsum										-	368 617	766 640	140 327	121 031	251 710	-	1 648 325	5	see footnote /f
Contributions from third parties_cassava	Lumpsum										-	102 561	210 482	10 720	10 720	21 441	-	355 924	5	Benef. 22%, PR_INV 78%
Red meat value chain	Lumpsum										-	1 030 321	559 711	385 703	108 980	45 408	-	2 130 123	5	see footnote /g
Contributions from third parties_red meat	Lumpsum										-	723 005	321 059	445 345	369 898	-	-	1 859 307	5	Benef. 37%, PR_INV 63%
Equity participation in SMEs (slaughterhouse & other)	Lumpsum										-	350 547	-	-	-	-	-	350 547	5	ASAP 3%, IFAD loan 48.5%, STF 48.5%
Grant financing	Lumpsum										-	598 236	618 102	324 835	164 616	18 857	37 714	1 762 360	5	see footnote /h
Subtotal Long-term deposits in MFIs												-	5 258 902	4 503 212	1 448 677	1 115 438	337 416	37 714	12 701 359	
Subtotal Investment Fund												275 000	5 358 902	4 603 212	1 448 677	1 115 438	337 416	37 714	13 176 359	
2. Participating Microfinance Institutions																				
a. Due diligence and financial audit missions	Number	1	1	1	-	-	-	-	3	25,000	25 000	25 000	25 000	-	-	-	-	75 000	5	IFAD loan 50%, STF 50%
Subtotal Sub-component 1: Financial Services												300 000	5 383 902	4 628 212	1 448 677	1 115 438	337 416	37 714	13 251 359	
B. Sub-component 2: Capacity building																				
1. Investment Fund																				
a. International technical assistance	Pers.mth	3	-	-	-	-	-	-	3	25,000	75 000	-	-	-	-	-	-	75 000	3	IFAD loan 50%, STF 50%
b. Equipment																				
Vehicle	Number	1	-	-	-	-	-	-	1	40,000	40 000	-	-	-	-	-	-	40 000	2	IFAD loan 50%, STF 50%
Computer equipment	Set	1	-	-	-	-	-	-	1	4,600	4 600	-	-	-	-	-	-	4 600	2	IFAD loan 50%, STF 50%
Office equipment	Set	1	-	-	-	-	-	-	1	2,000	2 000	-	-	-	-	-	-	2 000	2	IFAD loan 50%, STF 50%
Subtotal Equipment											46 600	-	-	-	-	-	-	46 600		
c. Training (ILO/Boulder)	Session	1	-	-	-	-	-	-	1	10,000	10 000	-	-	-	-	-	-	10 000	3	IFAD loan 50%, STF 50%
d. Study tour /a	Number	-	1	-	-	-	-	-	1	15,000	-	15 000	-	-	-	-	-	15 000	3	IFAD loan 50%, STF 50%
e. Operating cost sharing	Lumpsum										116 400	126 240	78 900	33 200	-	-	-	354 740	3	IFAD loan 50%, STF 50%
f. Financial audit	Audit	1	1	1	1	1	1	1	7	15,000	15 000	15 000	15 000	15 000	15 000	15 000	15 000	105 000	3	IFAD loan 50%, STF 50%
Subtotal Investment Fund											263 000	156 240	93 900	48 200	15 000	15 000	15 000	606 340		

2. Participating Microfinance Institutions

a. Technical assistance

International	Pers.mth	3	1	-	-	-	-	-	4	25,000	75 000	25 000	-	-	-	-	100 000	3	UNCDF 100%	
National	Pers.mth	3	3	3	-	-	-	-	9	4,000	12 000	12 000	12 000	-	-	-	36 000	3	UNCDF 100%	
Subtotal Technical assistance											87 000	37 000	12 000	-	-	-	136 000			
b. Equipment /b																				
Computer equipment	Set	4	2	-	-	-	-	-	6	4,600	18 400	9 200	-	-	-	-	27 600	2	IFAD loan 50%, STF 50%	
Office equipment	Set	4	2	-	-	-	-	-	6	2,000	8 000	4 000	-	-	-	-	12 000	2	IFAD loan 50%, STF 50%	
Motorcycles	Number	4	2	-	-	-	-	-	6	2,000	8 000	4 000	-	-	-	-	12 000	2	IFAD loan 50%, STF 50%	
Subtotal Equipment											34 400	17 200	-	-	-	-	51 600			
c. Study tour /c	Number	-	1	1	1	-	-	-	3	15,000	-	15 000	15 000	-	-	-	45 000	2	IFAD loan 50%, STF 50%	
d. Operating cost sharing	Lumpsum	-	-	-	-	-	-	-	-	-	42 429	71 068	42 004	-	-	-	155 501	2	IFAD loan 50%, STF 50%	
Subtotal Participating Microfinance Institutions											163 829	140 268	69 004	15 000	-	-	-	388 101		

3. Hubs

a. Technical assistance

International	Pers.mth	-	2	1	1	-	-	-	4	25,000	-	50 000	25 000	25 000	-	-	-	100 000	3	IFAD loan 50%, STF 50%
National	Pers.mth	-	3	3	3	-	-	-	9	4,000	-	12 000	12 000	12 000	-	-	-	36 000	3	IFAD loan 50%, STF 50%
Subtotal Technical assistance											-	62 000	37 000	37 000	-	-	-	136 000		
b. Legal assistance	Pers.day	-	30	30	30	-	-	-	90	500	-	15 000	15 000	15 000	-	-	-	45 000	3	IFAD loan 50%, STF 50%
c. Study tour /d	Number	-	-	1	1	-	-	-	2	35,000	-	-	35 000	35 000	-	-	-	70 000	3	IFAD loan 50%, STF 50%
Subtotal Hubs											-	77 000	87 000	87 000	-	-	-	251 000		
Subtotal Sub-component 2: Capacity building											426 829	373 508	249 904	150 200	15 000	15 000	15 000	1 245 441		
otal											726 829	5 757 410	4 878 116	1 598 877	1 130 438	352 416	52 714	14 496 800		

i for 3 people to Zambia, Kenya or South Africa

o for 3 selected MFIs

: for 3 people for each MFI to South Africa

f for 3 people per hub (cassava and horticulture) to Madagascar. 12 hubs in total (6 horticulture and 6 cassava)

o ASAP 0%, 10%, 0%, 100% for 4, IFAD loan 50%, 45%, 50%, 0% for 4, STF 50%, 45%, 50%, 0% for 4

o ASAP 0%, 20%, 0%, 25% for 2, 12%, 0%, IFAD loan 50%, 40%, 50%, 77.5% for 2, 44%, 50%, STF 50%, 40%, 50%, 77.5% for 2, 44%, 50%

o ASAP 8% for 2, 5%, 8%, 0% for 3, IFAD loan 46% for 2, 47.5%, 46%, 50% for 3, STF 46% for 2, 47.5%, 46%, 50% for 3

o ASAP 15% for 2, 3%, 29%, 92%, 32% for 2, IFAD loan 42.4% for 2, 48.5%, 35.5%, 4%, 34% for 2, STF 42.4% for 2, 48.5%, 35.5%, 4%, 34% for 2

Table 5 – Institutional support and project management

	Unit	Detailed Costs																Cat.	Financing except taxes, which are financed by Government	
		Quantities								Unit Cost (US\$)	Base Cost (US\$)									
		2013	2014	2015	2016	2017	2018	2019	Total		2013	2014	2015	2016	2017	2018	2019			Total
I. Investment Costs																				
A. Institutional support																				
1. CEPAGRI institutional building																				
Annual capacity development plan - ITA /a	Month	1	-	-	-	-	-	-	1	25,000	25 000	-	-	-	-	-	-	25 000	3	IFAD grant 100%
Annual capacity development plan - NTA	Month	0.5	1	1	-	-	-	-	2.5	4,000	2 000	4 000	4 000	-	-	-	-	10 000	3	IFAD grant 100%
CEPAGRI capacity building in value chain development	Lumpsum										60 000	60 000	60 000	60 000	60 000	-	-	300 000	3	IFAD grant 100%
Subtotal CEPAGRI institutional building											87 000	64 000	64 000	60 000	60 000	-	-	335 000		
2. Institution building in climate change adaptation	Lumpsum										-	103 000	103 000	103 000	103 000	103 000	-	515 000	3	ASAP 100%
3. Targeting and gender mainstreaming																				
International TA	Is										40 000	-	-	-	-	-	-	40 000	3	IFAD grant 100%
National TA	Lumpsum										8 000	-	-	-	-	-	-	8 000	3	IFAD grant 100%
Targeting Gender training	Lumpsum										-	25 000	20 000	-	-	-	-	45 000	3	IFAD grant 100%
Subtotal Targeting and gender mainstreaming											48 000	25 000	20 000	-	-	-	-	93 000		
4. Project management TA																				
Project expeditor (ITA)	Pers.mth	3	1.5	-	-	-	-	-	4.5	25,000	75 000	37 500	-	-	-	-	-	112 500	3	IFAD grant 100%
TA for preparation of MOU and SFA with Catalytic Fund	Pers.mth	1	-	-	-	-	-	-	1	25,000	25 000	-	-	-	-	-	-	25 000	3	IFAD grant 100%
Technical assistance for outgrowers' schemes (ITA)	Pers.mth	-	3	1	-	-	-	-	4	25,000	-	75 000	25 000	-	-	-	-	100 000	3	IFAD grant 100%
Technical assistance for outgrowers' schemes (NTA)	Pers.mth	-	1.5	2	2	-	-	-	5.5	4,000	-	6 000	8 000	8 000	-	-	-	22 000	3	IFAD grant 100%
Legal assistance for outgrowers' schemes	Pers.day	-	30	30	30	30	30	-	150	500	-	15 000	15 000	15 000	15 000	15 000	-	75 000	3	IFAD grant 100%
Subtotal Project management TA											100 000	133 500	48 000	23 000	15 000	15 000	-	334 500		
5. Agribusiness education																				
Agribusiness education	Is										-	20 000	20 000	20 000	20 000	20 000	20 000	120 000	3	IFAD loan 50%, STF 50%
6. Land Tenure																				
Land Tenure Advisor	Lumpsum										53 813	17 738	17 738	17 738	17 738	17 738	-	142 503	3	IFAD loan 50%, STF 50%
Land Tenure Security Service Provider	Lumpsum										71 040	262 700	287 860	96 200	-	-	-	717 800	3	IFAD loan 50%, STF 50%
Subtotal Land Tenure											124 853	280 438	305 598	113 938	17 738	17 738	-	860 303		
Subtotal Institutional support											359 853	625 938	560 598	319 938	215 738	155 738	20 000	2 257 803		
B. Project management																				
1. PMU Office																				
a. Goods and Equipment																				
Desktop computer	Number	5	-	-	5	-	-	-	10	1,800	9 000	-	-	9 000	-	-	-	18 000	2	IFAD loan 50%, STF 50%
Laptop computer	Number	4	-	-	4	-	-	-	8	2,000	8 000	-	-	8 000	-	-	-	16 000	2	IFAD loan 50%, STF 50%
Printer	Number	5	-	-	5	-	-	-	10	600	3 000	-	-	3 000	-	-	-	6 000	2	IFAD loan 50%, STF 50%
Copy machine and scanner	Number	1	-	-	1	-	-	-	2	2,000	2 000	-	-	2 000	-	-	-	4 000	2	IFAD loan 50%, STF 50%
PMT Vehicles	Number	3	-	-	3	-	-	-	6	40,000	120 000	-	-	120 000	-	-	-	240 000	2	IFAD loan 50%, STF 50%
CEPAGRI vehicle	Number	1	-	-	1	-	-	-	2	40,000	40 000	-	-	40 000	-	-	-	80 000	2	IFAD loan 50%, STF 50%
Office furniture	set	9	-	-	9	-	-	-	18	100	900	-	-	900	-	-	-	1 800	2	IFAD loan 50%, STF 50%
Subtotal Goods and Equipment											182 900	-	-	182 900	-	-	-	365 800		
b. Project planning and oversight																				
Project Steering Committee meetings /b	Number	2	2	2	2	2	2	2	14	2,000	4 000	4 000	4 000	4 000	4 000	4 000	4 000	28 000	3	IFAD loan 50%, STF 50%
External auditing	Number	1	1	1	1	1	1	1	7	20,000	20 000	20 000	20 000	20 000	20 000	20 000	20 000	140 000	3	IFAD loan 50%, STF 50%
Subtotal Project planning and oversight											24 000	24 000	24 000	24 000	24 000	24 000	24 000	168 000		

c. Monitoring and Evaluation/knowledge management

ITA to support M&E/KM system set up	Pers.mth	2	2	-	-	-	-	4	25,000	50 000	50 000	-	-	-	-	-	100 000	3	IFAD grant 100%	
Database and website establishment and training	Lumpsum									30 000	-	-	-	-	-	-	30 000	3	IFAD loan 50%, STF 50%	
Communication	Lumpsum									-	-	12 000	12 000	12 000	12 000	-	48 000	3	IFAD grant 100%	
Impact assessment	Lumpsum									-	-	-	-	-	-	36 000	36 000	3	IFAD loan 50%, STF 50%	
Impact assessment ASAP	Lumpsum									-	-	-	-	43 000	-	-	43 000	3	ASAP 100%	
Mid-term review and PCR	Lumpsum									-	-	150 000	-	-	-	50 000	200 000	3	IFAD grant 100%	
ASAP evaluation	Lumpsum									-	-	-	-	-	56 000	-	56 000	3	ASAP 100%	
IFAD regional impl. workshop (PIU participation)	Number	3	3	2	2	2	2	-	14	2,500	7 500	7 500	5 000	5 000	5 000	5 000	-	35 000	3	see footnote /d
Publications	Lumpsum									-	-	10 000	-	10 000	-	-	-	20 000	3	IFAD loan 50%, STF 50%
Innovation award	Lumpsum									-	-	1 500	1 500	1 500	1 500	1 500	-	7 500	3	IFAD loan 50%, STF 50%
Project inception and final workshops	Workshop	1	-	-	-	-	-	-	1	15,000	15 000	-	-	-	-	-	-	15 000	3	IFAD loan 50%, STF 50%
Learning routes on value chains	Number	-	-	2	1	-	-	-	3	110,000	-	-	220 000	110 000	-	-	-	330 000	3	see footnote /d
Learning route on GALS	Number	-	1	-	-	-	-	-	1	80,000	-	80 000	-	-	-	-	-	80 000	3	IFAD grant 100%
GIS service provider	Pers.day	42	10	10	10	10	10	-	92	500	21 000	5 000	5 000	5 000	5 000	5 000	-	46 000	3	IFAD loan 50%, STF 50%
Equipment, software & material /c	Lumpsum										35 000	2 000	2 000	2 000	2 000	2 000	-	45 000	3	IFAD loan 50%, STF 50%
Subtotal M&E/knowledge management											158 500	144 500	405 500	135 500	35 500	124 500	87 500	1 091 500		
Subtotal PMU Office											365 400	168 500	429 500	342 400	59 500	148 500	111 500	1 625 300		
Total Investment Costs											725 253	794 438	990 098	662 338	275 238	304 238	131 500	3 883 103		

I. Recurrent Costs

A. PMU Office

1. Personnel

a. Staff Salaries

Project Coordinator	Pers.mth	12	12	12	12	12	12	12	84	5,000	60 000	60 000	60 000	60 000	60 000	60 000	60 000	420 000	6	IFAD loan 50%, STF 50%
Financial and administrative manager	Pers.mth	12	12	12	12	12	12	12	84	3,500	42 000	42 000	42 000	42 000	42 000	42 000	42 000	294 000	6	IFAD loan 50%, STF 50%
Monitoring and Evaluation/KM officer	Pers.mth	12	12	12	12	12	12	12	84	3,500	42 000	42 000	42 000	42 000	42 000	42 000	42 000	294 000	6	IFAD loan 50%, STF 50%
Targeting and Gender Expert	Pers.mth	12	12	12	12	12	12	12	84	3,500	42 000	42 000	42 000	42 000	42 000	42 000	42 000	294 000	6	IFAD loan 50%, STF 50%
Financial Services Expert	Pers.mth	12	12	12	12	12	12	12	84	3,500	42 000	42 000	42 000	42 000	42 000	42 000	42 000	294 000	6	IFAD loan 50%, STF 50%
Agribusiness Expert	Pers.mth	12	12	12	12	12	12	12	84	3,500	42 000	42 000	42 000	42 000	42 000	42 000	42 000	294 000	6	IFAD loan 50%, STF 50%
Financial Assistant	Pers.mth	12	12	12	12	12	12	12	84	1,500	18 000	18 000	18 000	18 000	18 000	18 000	18 000	126 000	6	IFAD loan 50%, STF 50%
Assistant/Secretary	Pers.mth	6	12	12	12	12	12	12	78	1,000	6 000	12 000	12 000	12 000	12 000	12 000	12 000	78 000	6	IFAD loan 50%, STF 50%
Driver	Pers.mth	6	12	12	12	12	12	12	78	500	3 000	6 000	6 000	6 000	6 000	6 000	6 000	39 000	6	IFAD loan 50%, STF 50%
Subtotal Staff Salaries											297 000	306 000	306 000	306 000	306 000	306 000	306 000	2 133 000		

b. Allowances and Travel

Staff allowances and per diems	Lumpsum										8 000	15 000	15 000	15 000	15 000	15 000	15 000	98 000	6	IFAD loan 50%, STF 50%
Staff domestic travel	Trip	10	15	15	15	15	15	15	100	650	6 500	9 750	9 750	9 750	9 750	9 750	9 750	65 000	6	IFAD loan 50%, STF 50%
Staff international travel	Trip	-	2	-	2	-	2	-	6	10,000	-	20 000	-	20 000	-	20 000	-	60 000	6	IFAD loan 50%, STF 50%
Subtotal Allowances and Travel											14 500	44 750	24 750	44 750	24 750	44 750	24 750	223 000		
Subtotal Personnel											311 500	350 750	330 750	350 750	330 750	350 750	330 750	2 356 000		

2. Operation and maintenance

Office supplies	Month	12	12	12	12	12	12	12	84	800	9 600	9 600	9 600	9 600	9 600	9 600	9 600	67 200	6	IFAD loan 50%, STF 50%
Vehicle operations and maintenance	item-yr	2	2	2	2	2	2	2	14	2,500	5 000	5 000	5 000	5 000	5 000	5 000	5 000	35 000	6	IFAD loan 50%, STF 50%
Subtotal Operation and maintenance											14 600	14 600	14 600	14 600	14 600	14 600	14 600	102 200		
Subtotal PMU Office											326 100	365 350	345 350	365 350	345 350	365 350	345 350	2 458 200		

B. Government staff

1. Focal Point DPA Maputo	Pers.mth	6	12	12	12	12	12	6	72	800	4 800	9 600	9 600	9 600	9 600	9 600	4 800	57 600	6	IFAD loan 50%, STF 50%
2. Focal Point DPA Gaza	Pers.mth	6	12	12	12	12	12	6	72	800	4 800	9 600	9 600	9 600	9 600	9 600	4 800	57 600	6	IFAD loan 50%, STF 50%
3. Focal Point DPA Inhambane	Pers.mth	6	12	12	12	12	12	6	72	800	4 800	9 600	9 600	9 600	9 600	9 600	4 800	57 600	6	IFAD loan 50%, STF 50%
4. CEPAGRI Provincial Delegate	Pers.mth	12	12	12	12	12	12	12	84	900	10 800	10 800	10 800	10 800	10 800	10 800	10 800	75 600	6	IFAD loan 50%, STF 50%
5. Heads of Divisions at CEPAGRI Provincial Delegation	Pers.mth	36	36	36	36	36	36	36	252	500	18 000	18 000	18 000	18 000	18 000	18 000	18 000	126 000	6	IFAD loan 50%, STF 50%
Subtotal Government staff											43 200	57 600	57 600	57 600	57 600	57 600	43 200	374 400		
Total Recurrent Costs											369 300	422 950	402 950	422 950	402 950	422 950	388 550	2 832 600		
Total											1 094 553	1 217 388	1 393 048	1 085 288	678 188	727 188	520 050	6 715 703		

1 First year is for capacity assessment and preparation of plan, updates follow ing years.

2 The group is composed by 30 people, 10 of which come from outside Maputo

3 Detailed list in Annex 11.

4 IFAD grant 100% for 3, 0% for 4, STF 0% for 3, 50% for 4, IFAD loan 0% for 3, 50% for 4

REPUBLIC OF MOZAMBIQUE
PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS (PROSUL)

ANNEX 8: ECONOMIC AND FINANCIAL ANALYSIS

:
REPUBLIC OF MOZAMBIQUE
PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS (PROSUL)

ANNEX 8: ECONOMIC AND FINANCIAL ANALYSIS

Table of Contents

	Page
<u>CURRENCY EQUIVALENTS</u>	ii
<u>Abbreviations and Acronyms</u>	ii
<u>I. FINANCIAL ANALYSIS</u>	1
<u>A. Objectives</u>	1
<u>B. Enterprise and Household Model Analysis</u>	1
<u>C. Project Benefits and Beneficiaries</u>	7
<u>II. ECONOMIC ANALYSIS</u>	9
<u>A. Objectives</u>	9
<u>B. Methodology and Assumptions</u>	9
<u>C. Economic Internal Rate of Return and Net Present Value</u>	10
<u>D. Concluding remarks</u>	10
<u>TABLES</u>	
11. <u>Table 1: List of Value Chain Business Models</u>	1
12. <u>Table 2: Annual financial returns for SME and HH models</u>	7
13. <u>Table 3: Total Project Beneficiaries (primary target group)</u>	8
14. <u>Table 4: Total Project Beneficiaries (secondary target group)</u>	8
15. <u>Table 5: Economic Rate of Return (EIRR) and sensitivity analysis</u>	10
<u>APPENDICES</u>	
16. <u>APPENDIX 1: FINANCIAL ANALYSIS</u>	1
17. <u>APPENDIX 2: ECONOMIC ANALYSIS OF PROJECTED INVESTMENT BENEFITS</u>	1

:

CURRENCY EQUIVALENTS

Currency Unit	=	Mozambican Metical (MZM)
USD 1.00	=	MZM 28

Abbreviations and Acronyms

EIRR	Economic Internal Rate of Return
FIs	Financial Institutions
FOREX	Foreign Exchange
FY	Financial year
GDP	Gross Domestic Product
GOMZ	Government of Mozambique
HH	Household
ITA	International Technical Assistance
SME	Small and Medium Enterprise
MZM	Mozambican Metical
NTA	National Technical Assistance
OF	Other Financiers
USD	United States Dollar
VAT	Value Added Tax

**REPUBLIC OF MOZAMBIQUE
 PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
 CORRIDORS (PROSUL)**

ANNEX 8: ECONOMIC AND FINANCIAL ANALYSIS

FINANCIAL ANALYSIS

f. Objectives

12. The objectives of this financial analysis are: (i) to assess the financial viability of the value chain and business development interventions promoted under PROSUL; (ii) to examine the impact of project interventions on the net profits of the households and small and medium enterprises (SMEs) targeted, the cash flow and the financial return on investments; and (iii) to establish the framework for the economic analysis of the project which will complement the financial analysis (see section II).

g. Enterprise and Household Model Analysis

13. **Overview.** Models have been developed with reference to the project activities aimed at increasing the net profits of SMEs and HHs operating in the horticulture, livestock and cassava value chains. Given the wide range of enterprises operating along the value chains, it is not possible to describe all the existing and potential horticulture, cassava and red meat value chain business models. The models described in what follows should therefore be seen only as indicative, being a limited set of possible investment options which could be eventually combined in more complex investment scenarios.

14. A list of the MSE and household models used in the analysis is provided in Table 1.

Table 10: List of Value Chain Business Models

Value chain	Model name
Horticulture	Farm (0.6 ha) - H1/H2
	Greenhouse (0.02 ha) - H3
	Horticulture hub - H4
Cassava	Farm (0.6 ha) - C1
	Farm (from 0.6 to 1 ha) - C2
	Small processing unit - C3
	Flour and chips processing hub - C4
Red meat	Cattle production - L1/L2
	Shoat production - L3/L4
	Slaughterhouse - L5
	Breeding centre - L6
	Meat trader organization - L7
	Livestock vet store - L8

15. **Methodology.** The analysis of the enterprise and household models is developed by building financial budgets and deriving selected financial performance indicators which will be used to examine the impact of project interventions on targeted SMEs and households. Budgets are built taking into consideration several variables (including revenues, investment and operating costs, depreciation, taxes, interests and the cash flow available for covering debt) in both 'with' and 'without' project scenarios. It is assumed that the 'without' scenario coincides with the current situation (i.e. baseline is assumed to be static). However, for models related to activities which do not exist on the ground yet, only the 'with' project scenario is taken into account. The selected performance indicator for SMEs and households is the net profit at maturity of investment, which is

computed by subtracting from the operating profit¹¹⁸ the costs for interests on working capital (16%) i.e. the opportunity cost of capital. Interest on long-term investment loan (15%) and corporate income taxes (35%) are applied for SMEs.

16. **Data.** Financial prices of inputs and outputs as well as all technical parameters used to build the financial models were derived from information obtained during field visits (April 2012) and discussions with entrepreneurs and other relevant stakeholders in the targeted value chains. Data collected have been checked for consistency with average costs of goods and services in Mozambique.

17. **Horticulture value chain business models.** This section describes the financial models related to the horticulture value chain.

Model Horticulture 1: farm (0.6 ha, 'without project'). This model describes the activity of a household producing horticultural products (tomatoes, potatoes, carrots, cabbage, sweet pepper and hot pepper) on irrigated area, using furrow irrigation system. The smallholders currently make a low/inappropriate use of inputs (farmers have little access to inputs, because of a lack of input dealers in the rural areas, lack of market linkages and low access to working capital financing), do not implement good farming practices (e.g. do not adopt crop rotations, with negative effects in terms of diseases and overall product quality), and lack machinery (only a few farmers have access to mechanization). Also, they sell to small-scale (local or Maputo-based) traders without any marketing strategy (e.g. they sell during peaks of supply). As a result, smallholders have a low crop productivity, low output prices and, consequently, low profits. In the model only external labor is accounted (family labor costs are covered by the net profits).

Model Horticulture 2: farm (0.6 ha, 'with project'). This model describes the activity of the household producing horticultural products on irrigated area (see model horticulture 1) in the 'with project' scenario. It is supposed that as a result of project activities, farmers will have access to technical advisory and marketing services, and financing. Consequently, farmers will have better access to chemical inputs (fertilizers and pesticides), make use of improved seeds of high yielding varieties which are more adapted to soil and weather conditions, implement improved agronomic practices and can sell their output through the horticulture hubs (or through the outgrowers' schemes) receiving a higher output price with respect to the 'without project' scenario (see model horticulture 1). The project will also provide farmers with a starter pack of basic inputs on the first year (free-of-charge)¹¹⁹. As overall result, smallholders will experience higher crop productivity and will sell production at higher output prices, obtaining higher profits. In addition, producers will benefit from shares of the profit generated by the hub (see model below) as detailed in the technical paper on rural financial services. In the model only external labor is accounted (family labor costs are covered by the net profits).

Model Horticulture 3: greenhouse (0.02 ha, 'with project'). This model describes the activity of a HH producing horticultural products on a small irrigated area in a greenhouse, irrigated using advanced irrigation systems (drip irrigation). It is assumed that the farmers will be able to harvest their product over 3 seasons instead of 1 and to sell their product at a much higher price (most of output production sold at off season price), therefore obtaining high profits. In addition, producers will benefit from shares of the profit generated by the hub (see model below) as detailed in the technical paper on rural financial services. In the model only external labor is accounted (family labor costs are covered by the net profits). Also, the cost

¹¹⁸ Operating profit is obtained by subtracting the operating costs from the revenues.

¹¹⁹ Starter pack includes: hybrid quality seeds/seedlings (50% hybrids and 50% own seeds), urea, foliar fertilizer (3 sprayings), insecticide (imidaclopride, 2 sprayings), fungicide (mancozeb, 4 sprayings), acaricide (abamectin, 1 spraying). Access criteria described in Annex 4, Section 1.

of building the infrastructure refers to a standard greenhouse built with light materials. However, a cost reduction can be obtained by substituting it with simple shading nets.

Model Horticulture 4: hub ('with project'). This model considers a hub operating in the horticulture value chain. It is supposed that the hub will enable producers to store their production while waiting for higher market prices before selling their stored production. On average, the difference between harvest prices and prices taken 3 months later on markets can range from 30 to 200%. Currently, only intermediaries and traders that have storage facilities are cashing the difference. The horticulture hub will enable producers to benefit from this difference as well. The hub will also lease part of its office premises to: an input dealer selling seeds, chemicals and other inputs; a financial services provider; and a mechanic for maintenance and repair of agriculture equipment. The hub will consist of a 700 m² building including cold and dry storage (200 m²), offices and meeting rooms (office for hub management, meeting room for technical advisory activities, office leased to the bank providing the financial services), shop areas (shop area and storage room for agricultural inputs leased to the inputs dealer, small area leased for the maintenance and repair of agricultural equipment). The project will finance the initial investment (building infrastructures, purchasing machinery, refrigerated truck and motorcycle, office furniture and packaging unit) and will provide capacity building for technical skills (through the horticulture value chain service provider) and for bookkeeping, credit, cash-flow and financial management (through the lending bank/institution). The long-term objective of the horticulture service hub investment is to have producers' groups benefiting from the largest share of the profit generated by the hub. Profit distribution and limited liability company shares purchase mechanism are detailed in the technical paper on rural financial services.

18. **Cassava value chain business models.** This section describes the financial models related to the Cassava value chain.

Model Cassava 1: farm (0.6 ha), producing only fresh root sweet cassava and leaves for self-consumption. It is assumed that the market for this product is almost non-existent therefore the farmer is not able to sell any product. Farmers get low yields due to no use of inputs and continuous use of stems from previous production (there is no renovation of the planting material). It is assumed that only familiar labor (budgeted at opportunity cost) is used.

Model Cassava 2: farm (from 0.6 to 1 ha), producing cassava roots to be processed (integrated production and processing phases). In this model ('with project') it is assumed that project facilitates the access to land (in fact it is assumed that the farm size will increase), use of inputs (fertilizers and other chemicals), and adoption of higher yielding new varieties (which are resistant to pest diseases and more suitable and adapted to the soil and climate characteristics of the southern provinces) resulting in increased crop productivity¹²⁰. The project will provide farmers with a starter pack of basic inputs on the first year (free-of-charge)¹²¹. Project also facilitates access to advisory services, therefore farmers have better knowledge of production practices (e.g. compost is prepared by the farmer using all kind of organic materials such as weeds and used for field fertilization) and post-harvest handling and marketing, with benefits in terms of improved quality (and higher product price). In addition, producers will benefit from shares of the profit generated by the hub (see model below) as detailed in the technical paper on rural financial services. In the model only external labor is accounted (family labor costs are covered by the net profits).

¹²⁰ In the model a conservative approach is adopted, since yields can go up to 20 t/ha. However, computations are based on a maximum obtainable yield of 14 t/ha.

¹²¹ Starter pack includes: NPK 100 kg/ha, permetrina or cipermetrine 10 l/ha, Mancozeb 5 kg/ha. Access criteria described in Annex4,Section1.

Model Cassava 3: small processing unit, purchasing fresh product from smallholders (see model cassava 1) and transforming it into chips. The small cassava processing unit will have a processing capacity of around 2,500 t/year of raw material. The project will finance the following investments: building; study, design, construction and supervision; purchase of machines; drying station; and borehole construction. Technical assistance and training will also be provided by the cassava value chain service provider (for technical skills) and by the lending bank/institution for bookkeeping, credit, cash-flow and financial management. This model is representative of an investment aimed at increasing the profitability of processing and to make this activity attractive for new actors. It is expected that the overall number of people employed in this activity will increase, since these will be mostly new investments. It is assumed that in many cases this enterprise will purchase raw material from smallholders directly at the farm gate: therefore, it is supposed that a supply chain manager will also be part of the management staff and that transport of fresh roots will be charged to the processor.

Model Cassava 4: flour and chips processing hub, purchasing fresh product from smallholders (see model cassava 1) and transforming it. Processing will comprise of flour and chips making. Total production capacity of the processing unit will be 2,500 t/year of raw material. The project will finance the initial investment (building infrastructures, purchasing machinery and office equipment, motorcycle and generator). Technical assistance and training will also be provided by international and national consultants as well as by a local legal advisor for: management skills; credit and financial management; accounting; legal, social and tax regulations for limited liability companies; role and responsibilities of shareholders. The long-term objective of the flour and chips cassava processing hub investment is to have producers' groups benefiting from the largest share of the profit generated by the hub. Profit distribution and limited liability company shares purchase mechanism are detailed in the technical paper on rural financial services.

19. **Red meat value chain business models.** This section describes the financial models related to the red meat value chain.

Model Red meat 1-2: Cattle production ('without' and 'with' project). These models describe the activity of cattle production in both 'without' and 'with' project cases. The models refer to a small HH with a stock of 12-13 cows and 1 bull. In the 'without' project case, the herder has no access to water, feed and animal health supply, facing consequently problems of high mortality rates and low animal health status which is reflected in a low selling price and low profits. On the contrary, as a result of project activities, the herder will be able to improve the whole production process, increasing the number of animals which will be sold on the market at a higher price because in better health conditions, and at increased weight. In the 'with' project case the herder will in fact have access to water and feed supplies, together with veterinary services and animal health care stock (medicines and vaccines, which will be provided free-of-charge to the herder on the first year through a starter pack). The household will also benefit of technical advisory services provided by the project. The model accounts for occasional external labor only (animal handling for vet treatments, marketing, and castration), while it is assumed that family labor costs are covered by the net profits. The computation of costs and revenues for these models is based on the technical parameters specified in table 2. It should be specified that the improved 'with' project values will be reached only at maturity of the investment and after a transitional period where intermediate values are assumed, as shown in the detailed budgets reported in appendix 1.

Table 11: Key Parameters for Cattle Production Models

Parameter	Current practice (‘without’ project)	Improved practice (‘with’ project)
Calving period (months)	24	18
Calves mortality	25%	10%
Cow replacement (%)	10%	20%
Live-weight at sale - weaner (Kg)	220	300
Live-weight at sale - heifer (Kg)	280	400
Live-weight at sale - cow (Kg)	350	550
Sale price live animals (MZN/Kg LW)	50	60

In addition, herders will benefit from shares of the profit generated by the slaughterhouse (see model below) as detailed in the technical paper on rural financial services.

Model Red meat 3-4: Shoaat production (‘without’ and ‘with’ project). These models describe the activity of sheep and goat production in both ‘without’ and ‘with’ project cases. The models refer to a small household with a stock of 15 sheep/goats (shoats). In the ‘without’ project case, the herder has no access to water, feed and animal health supply, facing consequently problems of high mortality rates and low animal health status which is reflected in a low selling price and low profits. On the contrary, as a result of project activities, the herder will be able to improve the whole production process, increasing the number of animals which will be sold on the market at a higher price because in better health conditions, and at increased weight. In the ‘with’ project case the herder will in fact have access to water and feed supplies, together with veterinary services and animal health care stock (medicines and vaccines, which will be provided free-of-charge to the herder on the first year through a starter pack). The household will also benefit of technical advisory services provided by the project. The model accounts for occasional external labour only (animal handling for vet treatments, marketing, and castration), while it is assumed that family labour costs are covered by the net profits. The computation of costs and revenues for these models is based on the technical parameters specified in table 3. It should be specified that the improved ‘with’ project values will be reached only at maturity of the investment and after a transitional period where intermediate values are assumed, as shown in the detailed budgets reported in appendix 1.

Table 12: Key Parameters for Cattle Production Models

Parameter	Current practice (‘without’ project)	Improved practice (‘with’ project)
Kidding period (months)	9	6
Kids mortality (up to 9 months)	40%	10%
Female replacement (%)	15%	20%
Live-weight at sale (Kg)	20	35
Sale price live animals (MZN/Kg LW)	55	75

In addition, herders will benefit from shares of the profit generated by the slaughterhouse (see model below) as detailed in the technical paper on rural financial services.

Model Red meat 5: Slaughterhouse. The model refers to a slaughter facilities purchasing (and slaughtering) animals coming mainly from Livestock Producers Associations supported by the project, but also from other associations. The project will finance costs related to investments based on a maximum slaughtering capacity of 25,000 cattle and 20,000 goats and sheep: access road (asphalted tarmac, study, design and work supervision), buildings (slaughter building, processing and retail shop, administration building, skin warehouse, holding pen), equipment (slaughtering and processing, cold storage facility, generator, biogas system, borehole, admin. furniture and equipment, refrigerated truck, vehicle). Revenues will

come from: slaughtering, cutting, residence, and storage fees; sales of meat from retail shop; and sales of tripes. Technical assistance and training will also be provided by the project through international and national consultants as well as a local legal advisor for: management skills; credit and financial management; accounting; legal, social and tax regulations for limited liability companies; role and responsibilities of shareholders. The long-term objective of the slaughterhouse investment is to have Meat Traders Associations (MTAs) and Livestock Producers Associations (LPAs) benefiting from the largest share of the profit generated by the slaughterhouse. Profit distribution and limited liability company shares purchase mechanism are detailed in the technical paper on rural financial services.

Model Red meat 6: Breeding centre. The model refers to a breeding centre aimed at improving the breed of the cattle in the project area. Breeding centres will be supplied by the project with heifers and bulls of high breed. For every female calf born, they will substitute an old cattle from members of LPAs. No cash is involved in this exchange of cattle. The breeding centre will sell: old cattle exchanged as well as male calf born from high breed heifers. The livestock producer will increase the quality of his herd and will benefit from higher price when the animal is slaughtered and sold. It is assumed that this activity will be managed and operated by commercial farmers who already have more than 400 heads of cattle. Commercial farmers will in fact have sufficient financial resources to purchase necessary veterinary treatments and animal feed for their herd and for the additional animals provided for the breeding centre. It is also assumed that commercial farmers will have sufficient cash-flow generated by their activity to co-finance the breeding centre investment as well as sufficient income from the sale of animals to the slaughterhouse to pay back the loan for the breeding centre investments which will consist of: 150 heifers, 12 bulls, 1 tractor, 1 hay-making equipment, 3 scales, 1 vehicle. More details can be found in the technical paper on rural financial services.

Model Red meat 7: Meat trader organization. The model refers to a meat trader organization who buys animals from Livestock Producers Associations (LPAs) and take them to the slaughterhouse in Maputo. It is assumed that out of 10 animals bought from LPAs, a maximum of 3 are slaughtered in the province and sold to local butchers/public. The rest are taken by train or by lorries to the slaughterhouse. The project will finance the following investments: a truck to transport the animals from the livestock markets to the slaughterhouse; a scale to weight the animals and some other equipment. Revenues will come from carcasses/cut meat sold to butchers/clients and carcasses sold to slaughterhouses, while operating costs will cover the following expenses: purchase animals, transport cost, and slaughterhouse fees and taxes. More details can be found in the technical paper on rural financial services.

Model Red meat 8: Vet franchisees network. The model refers to a network of veterinarians which will be constituted in order to facilitate the distribution of veterinarian products of good quality. This will be done in close collaboration with a medicine drugs importer based in Maputo who will want to expand its outreach through the creation of a franchisees network. The importer will provide the medicine drugs to each franchisee at credit. Franchisees will sell these drugs and medicines to livestock producers. They will then pay the importer the amount paid by the livestock producers minus the mark-up. This mark-up will be used to cover operating costs as well as to pay back the loan extended by a microfinance bank/institution for the financing of the implementation cost and his working capital loan. The working capital loan will be only based on operating expenses as medicines will only be paid to the importer once they have been sold to livestock producers. Each vet franchisee will have one assistant (community health worker – CHW) responsible for the promotion of medicines to livestock farmers so as to comply with animal health standard (although model results show that it would be possible to hire a second CHW). Investments will consist of creating local vet selling points: rehabilitation of a two-room office, refrigerated cabinet, shelves and office furniture, computer equipment, motorcycle, generator and solar panels.

Revenues will come from margin on vet products (see above) and on small equipments. More details can be found in the technical paper on rural financial services.

20. **Results.** Expected financial benefits for targeted SMEs and households are illustrated in Table 2. Results suggest significant potential for creating positive net profits for targeted SMEs and households in selected value chains through the interventions to be supported by the project, confirming that the proposed PROSUL interventions are financially attractive for participants. Favourable cash flows also show that the households and SMEs will have the capacity to repay the debt (see detailed budgets in appendix 1).

Table 13: Annual financial returns for SME and household models

Value chain	Model name	Net Profit at Maturity (after tax and interest), US\$	
		Without	With
Horticulture	Farm (0.6 ha) - H1/H2	1,334	12,519
	Greenhouse (0.02 ha) - H3	-	6,498
	Horticulture hub - H4	-	398,678
Cassava	Farm (0.6 ha) - C1	-75	-
	Farm (from 0.6 to 1 ha) - C2	-	261
	Small processing unit - C3	-	10,386
	Flour and chips processing hub - C4	-	131,971
Red meat	Cattle production - L1/L2	1,029	4,319
	Shoat production - L3/L4	239	1,951
	Slaughterhouse - L5	-	1,111,864
	Breeding centre - L6	-	164,286
	Meat trader organization - L7	-	331,993
	Vet franchise network - L8	-	6,731

h. Project Benefits and Beneficiaries

21. **Project Benefits.** PROSUL will generate financial and social benefits across the targeted value chains by promoting investments aimed at upgrading, developing and expanding the productive and processing activities.

22. Financial benefits will be in the form of increased financial returns (net profits) of the SMEs and households involved in the sectors targeted by the Project. Increased financial returns will be determined by the improvements in agricultural production practices financed by the project, improved (quality and quantity) output production and increased market access leading to increased prices as well as reduced production costs.

23. Social benefits will include a reduction in poverty rates in the areas targeted by the Project. This will be the effect of the increased financial returns for SMEs and households consequent to Project intervention and of improved employment opportunities in all targeted sectors. The development of the value chains and upgrading of productive activities will increase the demand for skilled labour creating long-term job opportunities for women, men and young people in rural areas. Higher numbers of better paid jobs will increase local demand for goods and services which other local SMEs will be able to supply, creating a multiplier effect. Creation of employment opportunities in rural areas will also enable those formerly underemployed in agriculture to move out of the agricultural sector, increasing average labour productivity as well as increasing local demand for agricultural products.

24. Access to financial services will be increased and promotion of SMEs will further stimulate the rural economy, ultimately expanding the economic and social benefits to other linked value chains (e.g. inputs production and distribution, selling of marketing and other services to enterprises and households).

25. The impact of project interventions on the financial returns of SMEs and households in targeted sectors is estimated on the basis of the enterprise and household model analysis (see below). The number of beneficiaries is computed on the basis of the model analysis and is shown in the following section.

26. **Project Beneficiaries: primary target group.** Primary target beneficiary group of the project is represented by households involved in primary production in the three value chains (farm, greenhouse, cattle and shoat production). Total number of such beneficiaries is estimated on the basis of the number of investment sites expected and assumes an average household size of 5 people. However, it is assumed that only a percentage of the households reached by project activities will be successful (80% in the horticulture value chain, 60% in the cassava and red meat value chains). On this precautionary basis it is expected that the total number of beneficiaries within the primary target group will be about 60,000 people (table 5).

Table 14: Project Beneficiaries (primary target group)

Value chain	Model name	Households reached	Successful households			
			Successful households	Male-headed	Female-headed	Total incl HH members
			n.	n.		
Horticulture	Farm and greenhouse (H2 & H3)	4,800	3,840	1,344	2,496	19,200
Cassava	Farm (C2)	8,000	4,800	2,064	2,736	24,000
Red meat	Cattle and shoat production (L2 & L4)	5,600	3,360	1,445	1,915	16,800
Total		18,400	12,000	4,853	7,147	60,000

27. **Project Beneficiaries: secondary target group.** Secondary target beneficiaries are represented by managers, technical advisors and other personnel employed in the hubs, processing units, slaughterhouses, veterinary franchisee networks, meat traders organizations, as well as additional outreach slaughterhouses and commercial farmers. It is expected that the total number of beneficiaries within the secondary target group will be about 1,950 beneficiary persons, which would correspond to 9,750 people including household members (table 6).

Table 15: Project Beneficiaries (secondary target group)

Value chain	Model name	Beneficiary persons	Total incl HH members
		n.	
Red meat	Meat Traders Organizations	175	875
	Slaughterhouse	38	190
	Additional outreach slaughterhouse	1,150	5,750
	Vet franchisee network	21	105
Cassava	Small processing units	216	1,080
	Flour and chips processing hub	150	750
Horticulture	Horticulture hubs	150	750
	Commercial farmers	50	250
Total		1,950	9,750

28. **Project Beneficiaries: total direct beneficiaries.** Total number of PROSUL direct beneficiaries would therefore amount to about 70,000 people (including household members).

29. **Indirect Project Beneficiaries.** There will also be large numbers of indirect beneficiaries, primarily a large population of farmers (including those cultivating crops not directly targeted by the project) which will also benefit of the services provided by the hubs. Also, there will be a high number of people involved in processing and exporting who will benefit from higher quality of raw material and improved access to export markets. Project activities will in fact increase the possibility for entrepreneurs to have access to finance and business development support leading to business expansion, lower production costs and increased revenue and profits. All those living in the rural areas where supported MSEs and households will be located will benefit from strengthened local economies resulting from inflows of income and strengthened local demand. Also there will be increased job opportunities for unemployed and underemployed women and men living in rural areas. Where infrastructure such as feeder roads are constructed these will also benefit local communities. The upgrading and expansion of economic activities within the targeted value-chains will also promote development of other complementary economic activities. Thus, project activities will indirectly stimulate the whole rural economy benefiting rural population (including the rural poor) through increased demand for goods and services, additional employment opportunities and reduced rural-urban migration.

30. **Calendar of incorporation of business models.** Project activities will be implemented over the targeted areas and value chains according to appropriate phasing as also detailed in the project costs (see Annex 7). The computation of the beneficiaries computed above is in line with this phasing and with the resulting calendar of activity implementation, which is reflected in the matrix of incorporation of business models presented in table 7.

Table 16: Matrix of incorporation of business models

Value chain	Models	2013	2014	2015	2016	2017	2018	2019
		n.						
Horticulture	Farm and greenhouse - H2/H3	0	2,635	3,840	3,840	3,840	3,840	3,840
	Hub - H4	-	3	5	7	7	7	7
Cassava	Farm - C2	-	800	2,666	4,266	4,800	4,800	4,800
	Small processing unit - C3	-	2	4	10	14	18	18
	Flour and chips processing hub - C4	0	2	2	6	6	6	6
Red meat	Cattle and shoat production - L2/L4	-	1,671	2,785	3,360	3,360	3,360	3,360
	Slaughterhouse - L5	-	1	1	1	1	1	1
	Breeding centre - L6	-	3	5	7	7	7	7
	Meat trader organization - L7	-	3	5	7	7	7	7
	Vet franchisee network - L8	-	3	5	7	7	7	7

ECONOMIC ANALYSIS

i. Objectives

31. The objectives of this economic analysis are: (i) to examine the viability of the Project as a whole, in which aggregated economic benefits are compared with total outlays; (ii) to assess the project's impact and the overall economic internal rate of return (EIRR); and (iii) to perform sensitivity analysis in order to measure the robustness of the economic analysis and to measure variations in the overall EIRR due to unforeseen factors.

j. Methodology and Assumptions

32. The economic analysis is based on the estimation of benefits gained from: (a) horticulture value chain development; (b) cassava value chain development; (c) red meat value chain development. Details of the Economic Analysis are presented in Appendix 2. The estimate of the likely economic

returns from the project interventions in the targeted value chains are based on the following assumptions:

Project life and adoption rate. The analysis is based on a 20-year period during which PROSUL will generate benefits, including the 7-year project implementation period. During this period, three bad harvests were simulated with benefits lowered by 50%. The intervention and adoption rate follow the implementation targets foreseen in the cost estimates. However, the adoption rate for all value chains is estimated at 80% of the target areas.

Economic Project Costs. Financial costs were converted to economic costs, excluding taxes and duties as well as price contingencies and using the COSTAB software. There are no further investment costs after PY7. However, the following annual costs were included from Year 8 to 20: (i) recurrent costs in PY7; and (ii) 10% of total civil works, as it is assumed that these costs will have to be incurred if the future benefits of the PROSUL are to be sustained.

Benefits. Main quantifiable economic benefits arising from the project derive from increased financial returns (net profits or net incomes) of the SMEs and HHs involved in the value chains targeted by the project as described in the financial analysis.

k. Economic Internal Rate of Return and Net Present Value

33. The overall Economic Internal Rate of Return (EIRR) of the project is estimated at 24.6% (base case) which is above the opportunity cost of capital in Mozambique (15%), indicating the economic convenience of the Project. The Net Present Value (NPV) is USD 39.0 million over the 20-year period of analysis.

34. These figures are considered as reasonable given the fact that benefits are estimated in a very conservative way. It is also worth noting that no adjustments are made in the models for labor costs. With unemployment in Mozambique estimated at around 21% (and much higher among women), real labor costs may be lower than the financial levels used, especially for women. Any adjustments to account for this factor would also increase the calculated rate of return. The summary of the economic analysis is presented in Appendix 2 to this annex.

35. **Sensitivity Analysis.** The EIRR was subject to sensitivity analysis in order to measure variations due to unforeseen factors and account for risk. The project is in fact sensitive to increases in costs and reduction in benefits. Consequently, criteria adopted in the sensitivity analysis are: 10%, 20% and 50% cost over-run, 10% and 20% increase in benefits, and 10% to 30% benefits decrease. Results are presented in Table 8. Overall, the analysis indicates that the project economic viability is robust to adverse changes in project costs, and the project still remains viable with increases in capital and recurrent costs of up to 20%. The project is also robust to changes in incremental benefits. A delay project benefits by two years reduces the EIRR to 18.4%. By comparing the results of the sensitivity analysis with the prevalent opportunity cost of capital (15%), it can be derived that project investments will essentially remain profitable under all simulated conditions.

Table 17: Economic Rate of Return (EIRR) and sensitivity analysis

	Base case scenario	Cost increments			Benefits increments		Benefits decrease			Benefits delay	
		+10%	+20%	+50%	10%	+20%	-10%	-20%	-30%	1 year	2 year
EIRR	24.6%	23.1%	17.9%	17.9%	26.0%	27.3%	22.9%	21.0%	18.7%	21.3%	18.4%
NPV (USD millions)	39.0	35.4	31.9	21.2	46.5	53.9	31.5	24.1	16.6	29.3	20.7

l. Concluding remarks

31. On the basis of the assumptions described above, the project is justified on economic grounds. It should be kept in mind that not all potential economic benefits (for example, environmental

benefits, other direct and indirect benefits of rural roads) have been included in the analysis. Furthermore, the likely multiplier effects described above have not been quantified. Therefore, it is safe to assume that the estimated economic benefits are on the low side of the potential economic returns that can be expected when PROSUL is implemented.

APPENDICES

APPENDIX 3: FINANCIAL ANALYSIS
1. Horticulture value chain business models

H1: Farm 0,6 ha, without Project

Enterprise:	Farm 0.6ha, without project			
H1			Units	Details
Parameters:	Plot size (ha)		0.60	
		Area and yields	area (ha)	yield (t/ha)
	Tomatoes		0.20	26.4
	Potatoes		0.15	18
	Carrots		0.1	19.2
	Cabbage		0.1	21.6
	Sweet pepper		0.05	19
		Seed costs (MZN)	8,978	0.2
	tomatoes (MZN/ha)		30,000	Lower prices for the ordinary varieties
	potatoes (MZN/ha)		36,000	25000 seedlings/ha - 300*4 MZN/1000 seedling
	carrots (MZN/ha)		28,000	2t/ha - 18MZN/Kg
	cabbage (MZN/ha)		22,560	8kg/ha - MZN 350/100gr
	sweet/hot pepper (MZN/ha)		30,000	30000 seedlings/ha - 188*4 MZN/1000 seedling
		Ag operations costs (MZN)	3,510	30000 seedlings/ha - 1 MZN/each
	Plowing (MZN/ha)		2,700	rental, 900 MZN/hr, 3 hr/ha
	Harrowing (MZN/ha)		1,800	rental, 900 MZN/hr, 2 hr/ha
	Ridging (MZN/ha)		1,350	rental, 900 MZN/hr, 1.5 hr/ha
		Labour costs (MZN)	33,149	0.2
	Labour cost - unskilled (MZN/person day)		100	Low labour intensity
	Land clearing (MZN/ha)		300	3 person days/ha
	Planting (MZN/ha)		1,500	15 person days/ha
	Weeding (MZN/ha)		14,000	140 person days/ha
	Harvesting tomatoes (MZN/ha)		11,478	10 MZN for 23kg tomatoes. 20 boxes/day
	Harvesting pepper (MZN/ha)		8,261	10 MZN for 23kg pepper. 30 boxes/day
	Harvesting potatoes (MZN/ha)		40,000	
	Harvesting cabbage and carrots (MZN/ha)		200,000	1 person day/100 m2
	Other labour costs: fertilizer and pesticides application, irrigation		1,000	30 person days/ha
		Chemicals (MZN)	8,400	0.1
	Pre-planting fertilization (MZN/ha)		20,000	Limited use of chemicals
	Cover fertilization (MZN/ha)		80,000	500kg/ha MZN 40/Kg
	Insecticides (MZN/ha)		20,000	1 bag 50kg at 1 600 MZN
	Fungicides (MZN/ha)		20,000	
		Market prices , farm gate (MZN)		
	Tomatoes		57,391	50 Mt for 23kg
	Potatoes		225,000	50% 160 Mt/10kgs and 50% 90Mt/10kgs
	Carrots		422,400	22 Mt/kg
	Cabbage		216,000	10 Mt/Kg
	Sweet pepper		209,000	11 Mt/Kg
	Management cost per year (MZN/ha)		0	Managed by smallholder
	Irrigation operations and maintenance (MZN/ha)		2,000	
	Annual transport costs (MZN/ha)		0	Product sold at farm gate (farm gate price is used
	Working capital requirement		0.24	Subtotal operating costs * 0.24
	Miscellaneous expenditure		20%	% of operating costs
Revenue (MZN):			2013	
	Sales		119,518	
		Revenue	119,518	
Operating Costs: (MZN)			2013	
	Seeds		8,978	
	Agriculture operations		3,510	
	Labour		33,149	
	Chemicals		8,400	
	Miscellaneous		23,904	
	Irrigation operations and maintenance		1,200	
		Subtotal Operating Costs	79,140	
Cash Flow: (MZN)			2013	
	Revenue		119,518	
	Operating Costs		79,140	
	Operating Profit before Tax, Interest, Depreciation		40,378	
	Interest on working capital (16%)		3,039	
	Operating profit before tax		37,339	
	Individual farmer income tax (0%)		0	
	Net operating profit		37,339	
(USD)		Net operating profit (USD)	1,334	

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 8: Economic and Financial Analysis – Appendix 1: Financial Analysis

H2: Farm 0,6 ha, without Project

Enterprise: Farm 0.6ha, with project		Units		Details				
H2		0.60						
Parameters:	Plot size (ha)	area (ha)	yield (t/ha)	production (t)	season			
	Tomatoes	0.20	97.50	19.5	March- Aug			
	Potatoes	0.20	30.00	6.0	Aug - March			
	Carrots	0.1	97.50	9.8	March - Aug			
	Cabbage	0.05	42.00	2.1	March - Aug			
	Sweet pepper	0.05	75.00	3.8	March - Aug			
	Seed costs (MZN)	18,628			25000 seedlings/ha - 300*4 MZN/1000 seedling			
	tomatoes (MZN/ha)	30,000			2t/ha - 18MZN/Kg			
	potatoes (MZN/ha)	36,000			8kg/ha - MZN 350/100gr			
	carrots (MZN/ha)	28,000			30000 seedlings/ha - 188*4 MZN/1000 seedling			
	cabbage (MZN/ha)	22,560			30000 seedlings/ha - 1 MZN/each			
	sweet/hot pepper (MZN/ha)	30,000						
	Ag operations costs (MZN)	3,510			rental, 900 MZN/hr, 3 hr/ha			
	Plowing (MZN/ha)	2,700			rental, 900 MZN/hr, 2 hr/ha			
	Harrowing (MZN/ha)	1,800			rental, 900 MZN/hr, 1.5 hr/ha			
	Ridging (MZN/ha)	1,350						
	Labour costs (MZN)	168,900						
	Labour cost - unskilled (MZN/person day)	100			3 person days/ha			
	Land clearing (MZN/ha)	300			15 person days/ha			
	Planting (MZN/ha)	1,500			140 person days/ha			
	Weeding (MZN/ha)	14,000			10 MZN for 23kg tomatoes. 20 boxes/day			
	Harvesting tomatoes (MZN/ha)	42,391			10 MZN for 23kg pepper. 30 boxes/day			
	Harvesting pepper (MZN/ha)	32,609						
	Harvesting potatoes (MZN/ha)	40,000			1 person day/100 m2			
	Harvesting cabbage and carrots (MZN/ha)	150,000			10 person days/ha			
	Other labour costs: fertilizer and pesticides application (MZN/ha)	1,000						
	Chemicals (MZN)	84,000			500kg/ha MZN 40/Kg			
	Pre-planting fertilization (MZN/ha)	20,000			1 bag 50kg at 1 600 MZN			
	Cover fertilization (MZN/ha)	80,000						
	Insecticides (MZN/ha)	20,000						
	Fungicides (MZN/ha)	20,000						
	Market prices , farm gate (MZN/ha)				Off season prices			
	Tomatoes	1,059,783			250 Mt for 23kg			
	Potatoes	600,000			50% 250 Mt/10kgs and 50% 150Mt/10kgs			
	Carrots	2,925,000			30 Mt/kg			
	Cabbage	1,680,000			40 Mt/Kg			
	Sweet pepper	1,500,000			20 Mt /Kg			
	Management cost per year (MZN/ha)	0			Managed by smallholder			
	Transport cost	0			Product sold at farm gate (farm gate price is used)			
	Irrigation operations and maintenance (MZN/ha)	2,000						
	Working capital requirement	0.24			Subtotal operating costs * 0.24			
	Miscellaneous expenditure	20%			% of operating costs			
Revenue (MZN):		2013	2014	2015	2016	2017	2018	2019
	Build up of output/sales	40%	80%	100%	100%	100%	100%	100%
	Sales	313,383	626,765	783,457	783,457	783,457	783,457	783,457
	Revenue	313,383	626,765	783,457	783,457	783,457	783,457	783,457
Operating Costs (MZN):								
	Seeds	18,628	18,628	18,628	18,628	18,628	18,628	18,628
	Agriculture operations	3,510	3,510	3,510	3,510	3,510	3,510	3,510
	Labour	168,900	168,900	168,900	168,900	168,900	168,900	168,900
	Chemicals	84,000	84,000	84,000	84,000	84,000	84,000	84,000
	Miscellaneous	62,677	125,353	156,691	156,691	156,691	156,691	156,691
	Irrigation operations and maintenance	1,200	1,200	1,200	1,200	1,200	1,200	1,200
	Subtotal Operating Costs	338,915	401,591	432,929	432,929	432,929	432,929	432,929
Profit (MZN):								
	Revenue	313,383	626,765	783,457	783,457	783,457	783,457	783,457
	Starter pack	8,400	0	0	0	0	0	0
	Operating Costs	338,915	401,591	432,929	432,929	432,929	432,929	432,929
	Operating Profit before Tax, Interest, Depreciation	-17,132	225,174	350,527	350,527	350,527	350,527	350,527
	Interest on working capital (16%)	13,014	15,421	16,624	0	0	0	0
	Operating profit before tax	-30,146	209,753	333,903	350,527	350,527	350,527	350,527
	Individual farmer income tax (0%)	0	0	0	0	0	0	0
	Net operating profit	-30,146	209,753	333,903	350,527	350,527	350,527	350,527
(USD)	Net operating profit (USD)	-1,077	7,491	11,925	12,519	12,519	12,519	12,519

H3: Greenhouse, 0,02 ha with Project

Enterprise:		Greenhouse 0.02 ha, with project						
H3		Units	Details					
Parameters:	Plot size (ha)	0.02						
	Sales (Mzn)	190,000						
	Seeds (MZN)	1,252						
	Other agricultural inputs (chemicals/pesticides) (MZN)	2,856						
	External labour	1,436						
	Working capital requirement	0.24	Subtotal operating costs * 0.24					
	Miscellaneous expenditure	20%	% of operating costs					
Investment (MZN):		Unit	Units n.	Cost/Unit (MZN)	Total (MZN)			
	Greenhouse	ha	0.02	56,000	112,000			
	Irrigation system (drip)	ha	0.02	684	1,368			
	Total				113,368			
Revenue (MZN):		2013	2014	2015	2016	2017	2018	2019
	Build up of output	50%	75%	100%	100%	100%	100%	100%
	Sales	95,000	142,500	190,000	190,000	190,000	190,000	190,000
	Revenue	95,000	142,500	190,000	190,000	190,000	190,000	190,000
Operating Costs (MZN):		2013	2014	2015	2016	2017	2018	2019
	Inputs	626	939	1,252	1,252	1,252	1,252	1,252
	Other agricultural inputs (chemicals/pesticides)	1,428	2,200	2,856	2,856	2,856	2,856	2,856
	External labour	1,500	2,000	2,600	2,600	2,600	2,600	2,600
	Miscellaneous	711	1,028	1,342	1,342	1,342	1,342	1,342
	Subtotal Operating Costs	4,265	6,167	8,049	8,049	8,049	8,049	8,049
Profit (MZN):		2013	2014	2015	2016	2017	2018	2019
	Revenue	95,000	142,500	190,000	190,000	190,000	190,000	190,000
	Operating Costs	4,265	6,167	8,049	8,049	8,049	8,049	8,049
	Operating Profit before Tax, Interest, Depreciation	90,735	136,333	181,951	181,951	181,951	181,951	181,951
	Interest on working capital (15%)	81	115	0	0	0	0	0
	Interest on long-term investment loan (15%)	11,053	5,527	0	0	0	0	0
	Operating profit before tax	79,601	130,692	181,951	181,951	181,951	181,951	181,951
	Income tax (0%)	0	0	0	0	0	0	0
	Net operating profit	79,601	130,692	181,951	181,951	181,951	181,951	181,951
	(USD)	Net operating profit (USD)	2,843	4,668	6,498	6,498	6,498	6,498

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 8: Economic and Financial Analysis – Appendix 1: Financial Analysis

H4: Horticulture Hub with Project

Enterprise:		Horticulture hub, with project							
H4		Units	Details						
Parameters:	Labour requirements (n. people/yr)								
	- Manager	1							
	- Technical advisor	1							
	- Admin. Staff (accountant)	1							
	- Storage handler	2							
	- Driver	1							
	- Guards	3							
	Labour costs (MZN/yr)								
	- Manager	504,000		42,000 MZN/month					
	- Technical advisor	420,000		35,000 MZN/month					
	- Admin. Staff (accountant)	268,800		22,400 MZN/month					
	- Storage handler	100,800		4,200 MZN/month					
	- Driver	100,000		8,340 MZN/month					
- Guards	100,800		2,800 MZN/month						
Total salaries incl. social charges	1,942,720								
Sales (MZN/year)	64,000,000								
Purchase of stored production	38,000,000								
Working capital requirement	0.2		Subtotal operating costs * 0.24						
Miscellaneous expenditure	5%		% of operating costs						
Investment (MZN):	Study, design and supervision	lp	10%	980,000	980,000	5	196,000		
	Building infrastructure (offices & shop areas)	m ²	200	4,000	800,000	25	32,000		
	Building infrastructure (dry and cold storage, incl. equipment)	m ²	500	18,000	9,000,000	25	360,000		
	Tractor (75HP)	unit	1	710,800	710,800	5	142,160		
	Motocultivator (Mod. YZC)	unit	4	275,000	1,100,000	5	220,000		
	Emergency generator (NSB 18 D diesel, 16.5HP)	unit	1	165,165	165,165	7	23,595		
	Refrigerated truck	unit	1	800,000	800,000	3	266,667		
	Motorcycle	unit	1	215,000	215,000	3	71,667		
	Office furniture and other equipment	set	1	800,000	800,000	5	160,000		
	Packaging unit (medium size)	unit	1	40,000	40,000	7	5,714		
	Total				1,055,000			1,281,803	
	Revenue (MZN):		2013	2014	2015	2016	2017	2018	2019
		Build up of output	40%	60%	80%	100%	100%	100%	100%
Sales		25,600,000	38,400,000	51,200,000	64,000,000	64,000,000	64,000,000	64,000,000	
Lease office space		50,000	50,000	50,000	50,000	50,000	50,000	50,000	
Revenue		25,650,000	38,450,000	51,250,000	64,050,000	64,050,000	64,050,000	64,050,000	
Operating Costs (MZN):		- Purchase of stored production	15,200,000	22,800,000	30,400,000	38,000,000	38,000,000	38,000,000	38,000,000
		- Salary	1,942,720	1,942,720	1,942,720	1,942,720	1,942,720	1,942,720	1,942,720
		- Electricity	400,000	400,000	400,000	400,000	400,000	400,000	400,000
	- Transport costs	1,280,000	1,920,000	2,560,000	3,200,000	3,200,000	3,200,000	3,200,000	
	- Insurance costs	700,000	700,000	700,000	700,000	700,000	700,000	700,000	
	- Miscellaneous costs	976,136	1,388,136	1,800,136	2,212,136	2,212,136	2,212,136	2,212,136	
Subtotal Operating Costs	20,498,856	29,150,856	37,802,856	46,454,856	46,454,856	46,454,856	46,454,856		
Profit (MZN):	Revenue	25,650,000	38,450,000	51,250,000	64,050,000	64,050,000	64,050,000	64,050,000	
	Operating Costs	20,498,856	29,150,856	37,802,856	46,454,856	46,454,856	46,454,856	46,454,856	
	Operating Profit before Tax, Interest, Depreciation	5,151,144	9,299,144	13,447,144	17,595,144	17,595,144	17,595,144	17,595,144	
	Interest on working capital (16%)	384,354	546,579	0	0	0	0	0	
	Interest on long-term investment loan (15%)	700,258	525,193	350,129	175,064	0	0	0	
	Depreciation	1,281,803	1,281,803	1,281,803	943,469	943,469	421,309	421,309	
	Operating profit before tax	2,784,730	6,945,569	11,815,212	16,476,610	16,651,675	17,173,835	17,173,835	
	Corporate income tax (35%)	974,655	2,430,949	4,135,324	5,766,814	5,828,086	6,010,842	6,010,842	
	Net operating profit	1,810,074	4,514,620	7,679,888	10,709,797	10,823,589	11,162,993	11,162,993	
	(USD)	64,646	161,236	274,282	382,493	386,557	398,678	398,678	

2. Cassava value chain business models

C1: Farm 0.6 ha without Project

Enterprise:	Farm (0.6 ha) without project		
C1		Units	Details
Parameters:	Annual yield (kg/ha)	5,000	
	Plot size (ha)	0.6	
	Total production (Kg)	3,000	
	Land preparation, labour (person days/ha)	7	
	Planting, labour (person days/ha)	7	
	Total land prep and planting costs (MZN)	840	
	Weeding (person days/ha)	14	2 weedings
	Tot weeding costs (MZN)	840	
	Harvesting (person days/ha)	7	
	Tot harvesting costs (MZN)	420	
	Labour cost - uskilled (MZN/person day)	100	Opportunity cost
	Management cost per year (MZN/ha)	0	Managed by smallholder
	Annual transport costs (MZN/ha)	0	Product sold at farm gate (farm gate price is used)
	Working capital requirement (MZN)	0	Subtotal operating costs * 0.24
Miscellaneous expenditure (%)	0%		
Revenue (MZN):		2013	
	Build up of output/sales	100%	
	Sales	0	
	Revenue	0	
Operating Costs (MZN):	Land prep&planting, weeding	1680	
	Harvesting	420	
	Management	0	
	Transport	0	
	Miscellaneous	0	
	Subtotal Operating Costs	2,100	
Profit (MZN):	Revenue	0	
	Operating Costs	2,100	
	Operating Profit before Tax, Interest, Depreciation	-2,100	
	Interest on working capital (16%)	0	
	Interest on long-term investment loan (15%)	0	
	Depreciation	0	
	Operating profit before tax	-2,100	
	Individual farmer income tax (0%)	0	
	Net operating profit	-2,100	
(USD)	Net operating profit (USD)	-75	

C2: Farm: 0.5 ha to 1 ha with Project

Enterprise:	Farm (from 0.6 to 1 ha), with project							
C2		Units	Details					
Parameters:	Land preparation, labour (person days/ha)	7						
	Planting, labour (person days/ha)	5						
	Weeding (person days/ha)	14	2 weedings					
	Harvesting (person days/ha)	8						
	Compost purchase (MZN)	0	Compost is prepared by the farmer using all kind of organic materials (e.g. weeds)					
	NPK (bag of 50Kg/ha)	2						
	NPK (MZN/bag of 50Kg)	1,500						
	Chemicals application (person day/ha)	5						
	Insecticides (MZN/ha)	3,500	Permetrina or cipermetrine, 10 l/ha @ 350 MZN/l					
	Fungicides (MZN/ha)	1,750	5 Kg/ha Mancozeb @ 350 MZN/Kg					
	Pesticide application (person day/ha)	0						
	Labour cost - unskilled (MZN/person day)	100						
	Sale price of fresh cassava (MZN/kg)	1.5	farm gate price					
	Management cost per year (MZN/ha)	0	Managed by smallholder					
	Annual transport costs (MZN/ha)	0	Product sold at farm gate (farm gate price is used)					
	Working capital requirement (MZN)	1749.6	Subtotal operating costs * 0.24					
	Miscellaneous expenditure (%)	0%						
Revenue (MZN):		2013	2014	2015	2016	2017	2018	2019
	Yield (Kg/ha)	7500	12500	14000	14000	14000	14000	14000
	Plot size (ha)	0.6	0.8	1	1	1	1	1
	Total production (Kg)	4,500	10,000	14,000	14,000	14,000	14,000	14,000
	Self-consumption (kg)	1,500	1,500	1,500	1,500	1,500	1,500	1,500
	Sales fresh cassava (Kg)	3,000	8,500	12,500	12,500	12,500	12,500	12,500
	Revenue	4,500	12,750	18,750	18,750	18,750	18,750	18,750
Operating Costs (MZN):								
	Land preparation and planting	720	960	1200	1200	1200	1200	1200
	Weeding	840	1120	700	700	700	700	700
	Harvesting	480	640	800	800	800	800	800
	Fertilizers and pesticides	5250	7000	8750	8750	8750	8750	8750
	Subtotal Operating Costs	7,290	9,720	11,450	11,450	11,450	11,450	11,450
Profit (MZN):								
	Revenue	4,500	12,750	18,750	18,750	18,750	18,750	18,750
	Starter pack	2,520	0	0	0	0	0	0
	Operating Costs	7,290	9,720	11,450	11,450	11,450	11,450	11,450
	Operating Profit before Tax, Interest, Depreciation	-270	3,030	7,300	7,300	7,300	7,300	7,300
	Interest on working capital (16%)	280	373	440	0	0	0	0
	Interest on long-term investment loan (15%)	0	0	0	0	0	0	0
	Depreciation	0	0	0	0	0	0	0
	Operating profit before tax	-550	2,657	6,860	7,300	7,300	7,300	7,300
	Individual farmer income tax (0%)	0	0	0	0	0	0	0
	Net operating profit	-550	2,657	6,860	7,300	7,300	7,300	7,300
(USD)	Net operating profit (USD)	-20	95	245	261	261	261	261

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report

Annex 8: Economic and Financial Analysis – Appendix 1: Financial Analysis

C3: Cassava Small-processing Unit, with project

Enterprise:	Cassava small -processing unit, with project							
C3	Units	Details						
Parameters:	Labour							
	- Washing (n. people/yr)	2						
	- Peeling (n. people/yr)	8						
	- Chipping (n. people/yr)	1						
	- Manager (n. people/yr)	1						
	- Washing (MZN/yr)	72,000						
	- Peeling (MZN/yr)	288,000						
	- Chipping (MZN/yr)	36,000						
	- Manager (MZN/yr)	120,000						
	Labour cost - unskilled (MZN/person day)	100						
	Raw material processed (t/yr)	2,500						
	Chips produced (t/yr)	625	1 Kg chips from 4 Kg fresh roots					
	Market price for chips (MZN/Kg)	8						
	Purchase price for fresh roots (MZN/Kg)	1.5						
	Working capital requirement	0.2	Subtotal operating costs * 0.24					
	Miscellaneous expenditure	5%	% of fuel + labour costs					
Investment (MZN):	Unit	Units n.	Cost/Unit (MZN)	Total (MZN)	% of depr.	Depreciation (MZN)		
	- Building	sq.m.	200	2,000	400,000	25	16,000	
	- Study, design, construction and supervision	% build costs	10		40,000	3	13,333	
	- Machines	unit	4	26,600	106,400	7	15,200	
	- Drying station	unit	1	14,000	14,000	5	2,800	
	- Borehole	m	50	5,600	280,000	10	28,000	
	- Miscellaneous	% inv costs	5		42,020	5	8,404	
	Total				882,420		83,737	
Revenue (MZN):		2013	2014	2015	2016	2017	2018	2019
	Sales chips	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
	Revenue	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
Operating Costs (MZN):								
	Raw material purchase	3,750,000	3,750,000	3,750,000	3,750,000	3,750,000	3,750,000	3,750,000
	Fuel	192,000	192,000	192,000	192,000	192,000	192,000	192,000
	Labour	516,000	516,000	516,000	516,000	516,000	516,000	516,000
	Miscellaneous	35,400	35,400	35,400	35,400	35,400	35,400	35,400
	Subtotal Operating Costs	4,493,400	4,493,400	4,493,400	4,493,400	4,493,400	4,493,400	4,493,400
Profit (MZN):								
	Revenue	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000	5,000,000
	Operating Costs	4,493,400	4,493,400	4,493,400	4,493,400	4,493,400	4,493,400	4,493,400
	Operating Profit before Tax, Interest, Depreciation	506,600	506,600	506,600	506,600	506,600	506,600	506,600
	Interest on long-term investment loan (15%)	157,474	137,213	116,952	96,690	76,429	0	0
	Depreciation	83,737	83,737	83,737	70,404	70,404	59,200	59,200
	Operating profit before tax	265,388	285,650	305,911	339,506	359,767	447,400	447,400
	Corporate income tax (35%)	92,886	99,977	107,069	118,827	125,919	156,590	156,590
	Net operating profit	172,503	185,672	198,842	220,679	233,849	290,810	290,810
(USD)	Net operating profit (USD)	6,161	6,631	7,102	7,881	8,352	10,386	10,386

C4: Cassava Flour and Chips Processing Hub, with Project

Enterprise:	Cassava flour and chips processing hub, with project						
C4	Units	Details					
Parameters:	Labour requirements (n. people/yr)						
	- Washing	2					
	- Peeling	8					
	- Chipping	1					
	- Milling	2					
	- Handlers	4					
	- Nursery	2					
	- Composting	3					
	- Driver	1					
	- Manager	1					
	- Technical advisor	1					
	Labour costs (MZN/yr)						
	- Washing	96,000					
	- Peeling	384,000					
	- Chipping	48,000					
	- Milling	96,000					
	- Handlers	192,000					
	- Nursery	96,000					
	- Composting	144,000					
	- Driver	48,000					
	- Manager	360,000	30000 MZN/month				
	- Technical advisor	240,000	20000 MZN/month				
	Labour cost - unskilled (MZN/month)	4,000					
	Raw material processed (t/yr)	2,500					
	Chips produced (t/yr)	625	1 Kg chips from 4 Kg fresh roots				
	Chips purchased from 3 satellites (t/yr)	1,875					
	Production of flour (t/yr)	1,200					
	Chips sold (t/yr)	1,000					
	Price of flour sold (MZN/Kg)	16					
	Price of chips sold (MZN/Kg)	8.5					
	Purchase price for fresh roots (MZN/Kg)	1.5					
	Purchase price for chips (MZN/Kg)	8					
	Working capital requirement	0.2	Subtotal operating costs * 0.24				
	Miscellaneous expenditure	15%	% of fuel + labour + transport costs				
Investment (MZN):		Unit	Units n.	Cost/Unit (MZN)	Total (MZN)	% of depr.	Depreciation (MZN)
	- Building	sq.m.	200	4,000	800,000	25	32,000
	- Study, construction, supervision	% build costs	10		80,000	3	26,667
	- Machinery	unit	1	1,400,000	1,400,000	7	200,000
	- Transport	unit	1	840,000	840,000	5	168,000
	- Greenhouse	Unit	1	280,000	280,000	5	56,000
	- Motorcycle	Unit	1	215,000	215,000	5	43,000
	- Generator	Unit	1	200,000	200,000	5	40,000
	- Office equipment	set	1	280,000	280,000	3	93,333
	- Miscellaneous	% inv costs	5		204,750	5	40,950
	Investment for chips production	see C3			882,420		83,737
	Total				5,182,170		783,687
Revenue (MZN):		2013	2014	2015	2016	2017	2018
	Sales	27,700,000	27,700,000	27,700,000	27,700,000	27,700,000	27,700,000
	Revenue	27,700,000	27,700,000	27,700,000	27,700,000	27,700,000	27,700,000
Operating Costs (MZN):							
	Purchase raw material	18,750,000	18,750,000	18,750,000	18,750,000	18,750,000	18,750,000
	Salaries	1,704,000	1,704,000	1,704,000	1,704,000	1,704,000	1,704,000
	Fuel	312,000	312,000	312,000	312,000	312,000	312,000
	Transportation costs (collection of chips)	120,000	120,000	120,000	120,000	120,000	120,000
	Transportation costs (delivery to clients)	450,000	450,000	450,000	450,000	450,000	450,000
	Miscellaneous	387,900	387,900	387,900	387,900	387,900	387,900
	Subtotal Operating Costs	21,723,900	21,723,900	21,723,900	21,723,900	21,723,900	21,723,900
Profit (MZN):							
	Revenue	27,700,000	27,700,000	27,700,000	27,700,000	27,700,000	27,700,000
	Operating Costs	21,723,900	21,723,900	21,723,900	21,723,900	21,723,900	21,723,900
	Operating Profit before Tax, Interest, Depreciation	5,976,100	5,976,100	5,976,100	5,976,100	5,976,100	5,976,100
	Interest on long-term investment loan (15%)	558,719	462,996	367,272	0	0	0
	Depreciation	783,687	783,687	783,687	650,354	650,354	291,200
	Operating profit before tax	4,633,694	4,729,417	4,825,141	5,325,746	5,325,746	5,684,900
	Corporate income tax (35%)	1,621,793	1,655,296	1,688,799	1,864,011	1,864,011	1,989,715
	Net operating profit	3,011,901	3,074,121	3,136,341	3,461,735	3,461,735	3,695,185
(USD)	Net operating profit (USD)	107,568	109,790	112,012	123,633	123,633	131,971

3. Red meat value chain business models

Enterprise:		Cattle production, current practices (without project)	
L1		Units	Details
Parameters:	Initial stock cows (n. heads)	12	
	Initial stock bulls (n. heads)	1	
	Calving period (months)	24	
	Calves mortality (%)	25%	
	Adults mortality %	6%	
	Cow replacement (%)	10%	
	Live-weight at sale - weaner (Kg)	220	
	Live-weight at sale - heifer (Kg)	280	
	Live-weight at sale - cow (Kg)	350	
	Sale price live animals (MZN/Kg LW) - (farm gate price)	50	
	Labour cost (MZN/person day)	100	
	Labour (person days/animal per yr)	6	
	Veterinary cost (MZN/animal per yr)	50	
	Water costs (MZN/year)	0	
	Feed costs (MZN/year/head)	1000	
Working capital requirement (% of operating costs)	24%		
Miscellaneous expenditure (% of gross revenue)	5%		
Stock (heads):			
	calves	5	
	heifers	2	
	cows	12	
	bulls	1	
Off-take (heads):			
	weaners	3	
	heifers	0	
	cows	2	
Revenue (MZN):			
	Sales (live animals)	61,980	
	Revenue	61,980	
Operating Costs (MZN):			
	Water	0	
	Feed	16,210	
	Animal health care	971	
	Labour	11,652	
	Miscellaneous	3,099	
	Operating Costs	31,932	
Profit (MZN):			
	Revenue	61,980	
	Operating Costs	31,932	
	Operating Profit before Tax, Interest, Depreciation	30,048	
	Interest on working capital (16%)	1,226	
	Interest on long-term investment loan (15%)	0	
	Depreciation	0	
	Operating profit before tax	28,822	
	Herder income tax (0%)	0	
	Net operating profit	28,822	
(USD)	Net operating profit (USD)	1,029	

Enterprise: Cattle production, improved practices (with project)								
L2		Units	Details					
Parameters:	Initial stock cows (n. heads)	12						
	Initial stock bulls (n. heads)	1						
	Cow replacement (%)	20%						
	Live-weight at sale - weaner (Kg)	300						
	Live-weight at sale - heifer (Kg)	400						
	Live-weight at sale - cow (Kg)	550						
	Sale price live animals (MZN/Kg LW) - (farm gate price)	60						
	Labour cost (MZN/person day)	100						
	Labour (person days/animal per yr)	10						
	Veterinary cost (MZN/head per yr)	500						
	Water costs (MZN/head per yr)	500						
	Feed costs (MZN/year/head)	2,500						
	Working capital requirement (% of operating costs)	24%						
	Miscellaneous expenditure (% of gross revenue)	5%						
		2013	2014	2015	2016	2017	2018	2019
Calving period (months)	24	24	22	22	20	20	18	
Calves mortality (%)	25%	25%	20%	20%	15%	15%	10%	
Adults mortality %	6%	6%	5%	5%	4%	4%	3%	
		2013	2014	2015	2016	2017	2018	2019
Stock (heads):								
	calves	0	5	6	7	9	11	14
	heifers	0	2	3	3	5	5	7
	cows	12	14	16	18	21	24	28
	bulls	1	1	1	1	2	2	2
Off-take (heads):								
	weaners	0	2	3	3	5	5	7
	heifers	0	0	0	0	1	1	2
	cows	0	2	3	3	4	4	5
Revenue (MZN):								
	Sales (live animals)	0	116,100	149,983	170,980	224,360	258,014	344,514
	Revenue	0	116,100	149,983	170,980	224,360	258,014	344,514
Operating Costs (MZN):								
	Water	6500	10785	12924	14818	18032	20848	25799
	Feed	32,500	45,488	53,430	61,332	73,008	84,518	102,078
	Animal health care	6,500	8,535	9,940	11,416	13,458	15,589	18,621
	Labour	13,000	21,570	25,849	29,637	36,063	41,696	51,597
	Miscellaneous	0	5,805	7,499	8,549	11,218	12,901	17,226
	Operating Costs	58,500	92,183	109,642	125,752	151,780	175,552	215,321
Profit (MZN):								
	Revenue	0	116,100	149,983	170,980	224,360	258,014	344,514
	Starter pack	6,500	0	0	0	0	0	0
	Operating Costs	58,500	92,183	109,642	125,752	151,780	175,552	215,321
	Operating Profit before Tax, Interest, Depreciation	-52,000	23,918	40,340	45,228	72,581	82,463	129,193
	Interest on working capital (16%)	2,246	3,540	4,210	4,829	5,828	6,741	8,268
	Interest on long-term investment loan (15%)	0	0	0	0	0	0	0
	Depreciation	0	0	0	0	0	0	0
	Operating profit before tax	-54,246	20,378	36,130	40,399	66,753	75,721	120,924
	Herder income tax (0%)	0	0	0	0	0	0	0
	Net operating profit	-54,246	20,378	36,130	40,399	66,753	75,721	120,924
(USD)	Net operating profit (USD)	-1,937	728	1,290	1,443	2,384	2,704	4,319

Enterprise:	Shoat production, current practices (without project)		
L3		Units	Details
Parameters:	Initial stock females (n. heads)	15	
	Initial stock male (n. heads)	1	
	Kidding period (months)	9	
	Kids mortality %	40%	
	Adults mortality %	8%	
	Female replacement (%)	15%	
	Live-weight at sale (Kg)	20	
	Sale price live animals (MZN/Kg LW) - (farm gate price)	55	
	Labour cost (MZN/person day)	100	
	Labour (person days/animal per yr)	2	
	Veterinary cost (MZN/animal per yr)	0	
	Water costs (MZN/year)	0	
	Feed costs (MZN/year/head)	0	
	Working capital requirement (% of operating costs)	24%	
	Miscellaneous expenditure (% of gross revenue)	5%	
Stock (heads):			
	kids	12	
	adults (female)	15	
	adults (males)	1	
Off-take (heads):			
	kids	10	
	adults (female)	2	
Revenue (MZN):			
	Sales (live animals)	12	
	Revenue	13,200	
Operating Costs (MZN):			
	Water	0	
	Feed	0	
	Animal health care	0	
	Labour	5,600	
	Miscellaneous	660	
	Operating Costs	6,260	
Profit (MZN):			
	Revenue	13,200	
	Operating Costs	6,260	
	Operating Profit before Tax, Interest, Depreciation	6,940	
	Interest on working capital (16%)	240	
	Interest on long-term investment loan (15%)	0	
	Depreciation	0	
	Operating profit before tax	6,700	
	Herder income tax (0%)	0	
	Net operating profit	6,700	
(USD)	Net operating profit (USD)	239	

Enterprise: Shoat production, improved practices (with project)								
L4		Units	Details					
Parameters:	Initial stock females (n. heads)	15						
	Initial stock male (n. heads)	1						
	Female replacement (%)	20%						
	Live-weight at sale (Kg)	35						
	Sale price live animals (MZN/Kg LW) - (farm gate price)	75						
	Labour cost (MZN/person day)	100						
	Labour (person days/animal per yr)	4						
	Veterinary cost (MZN/animal per yr)	100						
	Water costs (MZN/year)	250						
	Feed costs (MZN/year/head)	500						
	Working capital requirement (% of operating costs)	24%						
Miscellaneous expenditure (% of gross revenue)	5%							
		2013	2014	2015	2016	2017	2018	2019
Kidding period (months)		9	8	8	7	7	6	6
Kids mortality (%)		40%	40%	30%	30%	20%	20%	10%
Adults mortality (%)		8%	8%	7%	7%	4%	4%	4%
Stock (heads):		2013	2014	2015	2016	2017	2018	2019
kids		0	14	18	23	29	40	52
adults (female)		15	17	19	21	25	29	33
adults (males)		1	1	1	1	2	2	2
Off-take (heads):								
kids		0	11	14	19	25	35	46
adults (female)		0	3	3	4	4	5	6
Revenue (MZN):								
Sales (live animals)		0	35,438	46,305	59,800	77,227	104,514	136,390
Revenue		0	35,438	46,305	59,800	77,227	104,514	136,390
Operating Costs (MZN):								
Water		250	250	250	250	250	250	250
Feed		8,000	12,335	14,535	17,136	20,627	25,349	30,848
Animal health care		1,600	3,142	3,789	4,566	5,596	7,060	8,767
Labour		6,400	12,568	15,156	18,265	22,385	28,242	35,070
Miscellaneous		0	1,772	2,315	2,990	3,861	5,226	6,820
Operating Costs		16,250	30,067	36,045	43,208	52,719	66,127	81,755
Profit (MZN):								
Revenue		0	35,438	46,305	59,800	77,227	104,514	136,390
Starter pack		1,600	0	0	0	0	0	0
Operating Costs		16,250	30,067	36,045	43,208	52,719	66,127	81,755
Operating Profit before Tax, Interest, Depreciation		-14,650	5,371	10,260	16,592	24,508	38,387	54,636
Interest on working capital (16%)		624	0	0	0	0	0	0
Interest on long-term investment loan (15%)		0	0	0	0	0	0	0
Depreciation		0	0	0	0	0	0	0
Operating profit before tax		-15,274	5,371	10,260	16,592	24,508	38,387	54,636
Herder income tax (0%)		0	0	0	0	0	0	0
Net operating profit		-15,274	5,371	10,260	16,592	24,508	38,387	54,636
(USD)								
Net operating profit (USD)		-546	192	366	593	875	1,371	1,951

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 8: Economic and Financial Analysis – Appendix 1: Financial Analysis

Enterprise:		Slaughterhouse, with project						
L5		Units	Details					
Parameters:	Labour requirements (n. people/yr)							
	- Manager	1						
	- Admin. staff/accountant	1						
	- Secretary	1						
	- Killer	1						
	- Cutters	15						
	- Entrails cleaners	2						
	- Processors	5						
	- Skinner	1						
	- Retailer	1						
	- Cleaning ladies	2						
	- Guards	6						
	- Drivers	2						
	Labour costs (MZN/month)							
	- Manager	42,000						
	- Admin. staff/accountant	28,000						
	- Secretary	16,800						
	- Killer	16,800						
	- Cutters	12,600						
	- Entrails cleaners	9,800						
	- Processors	14,000						
	- Skinner	9,800						
	- Retailer	9,800						
	- Cleaning ladies	2,800						
- Guards	2,800							
- Drivers	8,400							
Total salaries (MZN)	5,292,000							
Total salaries plus charges (MZN)	6,879,600							
Slaughtering fees cattle (MZN/head)	2,500							
Slaughtering fees shoats (MZN/head)	500							
Animal purchased by mgn, slaughtered and cut (%)	5%							
Price of meat sold by slaughterhouse mgMZN to consumers (MZN/Kg)	24,000							
Quantity of tripes per head (Kg/head)	100							
Price of tripes (MZN/Kg)	60							
Price of animals sold by MZNAs to slaughterhouse mgMZN	19,000							
Miscellaneous expenditure		10%	% of operating costs					
Investment:		Unit	No. of Units	Cost/Unit (MZN)	Total (MZN)	Years (n.)	Depreciation (MZN)	
	Access road							
	Asphalted tarmac	sq.m.						
	Study, design and work supervision	study		2,022,000	2,022,000	5	404,400	
	Buildings							
	- Slaughter building	sq.m.	350	3,000	1,050,000	25	42,000	
	- Processing and retail shop	sq.m.	200	3,000	600,000	25	24,000	
	- Admin. building	sq.m.	200	3,000	600,000	25	24,000	
	- Skin warehouse	sq.m.	50	3,000	150,000	25	6,000	
	Holding pen	sq.m.	300	200	60,000	n.a.		
	Equipment							
	Slaughtering and processing	set	1	12,600,000	12,600,000	10	1,260,000	
	Cold storage facility	unit	1	3,500,000	3,500,000	10	350,000	
	Generator	unit	1	400,000	400,000	10	40,000	
	Biogas system	unit	1	700,000	700,000	7	100,000	
	Borehole	m	100	5,600	560,000	25	22,400	
	Admin. furniture and equipment	set	1	554,400	554,400	3	184,800	
	Refrigerated truck	unit	1	800,000	800,000	5	160,000	
	Vehicle	unit	1	560,000	560,000	5	112,000	
	Total				24,156,400		2,729,600	
Operations		2013	2014	2015	2016	2017	2018	2019
	Slaughtering capacity (heads of cattle)	20,000	20,000	20,000	20,000	20,000	20,000	20,000
	Slaughtering capacity (heads of shoats)	12,000	12,000	12,000	12,000	12,000	12,000	12,000
	Build-up of output	40%	60%	75%	90%	100%	100%	100%
	Heads of cattle slaughtered	8,000	12,000	15,000	18,000	20,000	20,000	20,000
	Heads of shoats slaughtered	4,800	7,200	9,000	10,800	12,000	12,000	12,000
	Revenue (MZN):							
Slaughtering, cutting, residence, storage fees	22,400,000	33,600,000	42,000,000	50,400,000	56,000,000	56,000,000	56,000,000	
Sales of meat from retail shop	9,600,000	14,400,000	18,000,000	21,600,000	24,000,000	24,000,000	24,000,000	
Sales of tripes	2,400,000	3,600,000	4,500,000	5,400,000	6,000,000	6,000,000	6,000,000	
Total revenues	34,400,000	51,600,000	64,500,000	77,400,000	86,000,000	86,000,000	86,000,000	
Operating Costs (MZN):								
Purchase of animals	7,600,000	11,400,000	14,250,000	17,100,000	19,000,000	19,000,000	19,000,000	
Salaries and social charges	6,879,600	6,879,600	6,879,600	6,879,600	6,879,600	6,879,600	6,879,600	
Electricity	4,380,000	4,380,000	4,380,000	4,380,000	4,380,000	4,380,000	4,380,000	
Transport	192,000	288,000	360,000	432,000	480,000	480,000	480,000	
Insurance cost	1,040,000	1,040,000	1,040,000	1,040,000	1,040,000	1,040,000	1,040,000	
Miscellaneous	2,009,160	2,398,760	2,690,960	2,983,160	3,177,960	3,177,960	3,177,960	
Subtotal Operating Costs	22,100,760	26,386,360	29,600,560	32,814,760	34,957,560	34,957,560	34,957,560	
Profit (MZN):								
Revenue	34,400,000	51,600,000	64,500,000	77,400,000	86,000,000	86,000,000	86,000,000	
Operating Costs	22,100,760	26,386,360	29,600,560	32,814,760	34,957,560	34,957,560	34,957,560	
Operating Profit before Tax, Interest, Depreciation	12,299,240	25,213,640	34,899,440	44,585,240	51,042,440	51,042,440	51,042,440	
Interest on working capital (15%)	552,519	659,659	740,014	820,369	873,939	873,939	873,939	
Interest on long-term investment loan (15%)	1,405,104	936,736	468,368	0	0	0	0	
Depreciation	2,729,600	2,729,600	2,729,600	2,544,800	2,544,800	2,272,800	2,272,800	
Operating profit before tax	7,612,017	20,887,645	30,961,458	41,220,071	47,623,701	47,895,701	47,895,701	
Corporate income tax (35%)	2,664,206	7,310,676	10,836,510	14,427,025	16,668,295	16,763,495	16,763,495	
Net operating profit	4,947,811	13,576,969	20,124,948	26,793,046	30,955,406	31,132,206	31,132,206	
(USD)	Net operating profit (USD)	176,708	484,892	718,748	956,895	1,105,550	1,111,864	1,111,864

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 8: Economic and Financial Analysis – Appendix 1: Financial Analysis

Enterprise:		Breeding centre, with project						
L6		Units	Details					
Parameters:	Price of animals (own herd, 2 yrs old) (MZN/head)	25 000						
	Price of animals (exchange) (MZN/head)	30 000						
	Interest on investment	15%						
	Investment loan (MZN)	2 466 400						
Investment:		Unit	No. of Units	Cost/Unit (MZN)	Total (MZN)			
	Heifers	head	150	20 000	3 000 000			
	Bulls	head	12	25 000	300 000			
	Tractor	unit	1	710 800	710 800			
	Hay-making equipment	unit	1	200 000	200 000			
	Scales	unit	3	54 000	162 000			
	Vehicle	unit	1	560 000	560 000			
	Total					4 932 800		
Operations		2013	2014	2015	2016	2017	2018	2019
	Heads of cattle to be slaughtered							
	- From own herd	100	100	100	100	100	100	100
	- From exchange with small producers	10	20	30	40	50	60	70
Total Heads of cattle	110	120	130	140	150	160	170	
Revenue (MZN):								
	- From own herd (2 years old)	2 500 000	2 500 000	2 500 000	2 500 000	2 500 000	2 500 000	2 500 000
	- From exchange	300 000	600 000	900 000	1 200 000	1 500 000	1 800 000	2 100 000
	Total revenues	2 800 000	3 100 000	3 400 000	3 700 000	4 000 000	4 300 000	4 600 000
Expenses (MZN):								
	Loan repayments							
	- Interest	369 960	277 470	184 980	92 490			
	- Principal	616 600	616 600	616 600	616 600			
Loan repayment installments	986 560	894 070	801 580	709 090				
Profit (MZN):		1 813 440	2 205 930	2 598 420	2 990 910	4 000 000	4 300 000	4 600 000
Profit (USD):		64 766	78 783	92 801	106 818	142 857	153 571	164 286

Enterprise:		Meat trader organization, with project						
L7		Units	Details					
Parameters:	Number of heads of cattle transported per week	71						
	Purchase price cattle (MZN/head)	17,000						
	Number of heads of shoats transported per week	57						
	Purchase price shoat (MZN/head)	1,000						
	Financing investment							
	MZNAs contribution	50%						
Investment:		Unit	No. of Units	Cost/Unit (MZN)	Total (MZN)	Years (n.)	Depreciation (MZN)	
	Truck (Mitsubishi Fuso)	n.	1	840,000	840,000	5	168,000	
	Scales	unit	1	54,000	54,000	3	18,000	
	Small equipment	set	1	140,000	140,000	3	46,667	
	Total investment				1,034,000		232,667	
Revenue (MZN):		2013	2014	2015	2016	2017	2018	2019
	Build-up of output slaughterhouse	40%	75%	100%	100%	100%	100%	100%
	- Carcasses/cut meat sold to butchers/clients	32,849,748	61,593,277	82,124,370	82,124,370	82,124,370	82,124,370	82,124,370
	- Carcasses sold to slaughterhouses	2,605,714	4,885,714	6,514,286	6,514,286	6,514,286	6,514,286	6,514,286
Total revenues	35,455,462	66,478,992	88,638,655	88,638,655	88,638,655	88,638,655	88,638,655	
Expenses (MZN):								
	Purchase animals (MZN/week)	508,571	953,571	1,271,429	1,271,429	1,271,429	1,271,429	1,271,429
	Total purchase animals (MZN/year)	24,411,429	45,771,429	61,028,571	61,028,571	61,028,571	61,028,571	61,028,571
	Transport cost	4,853,048	9,303,048	12,481,619	12,546,286	12,546,286	12,714,286	12,714,286
	Slaughterhouse fees and taxes	2,240,000	3,360,000	4,200,000	5,040,000	5,600,000	5,600,000	5,600,000
Total expenses	31,504,476	58,434,476	77,710,190	78,614,857	79,174,857	79,342,857	79,342,857	
Working capital (MZN):	Total	508,571	953,571	1,271,429	1,271,429	1,271,429	1,271,429	1,271,429
	Yearly total	24,411,429	45,771,429	61,028,571	61,028,571	61,028,571	61,028,571	61,028,571
Profit (MZN):	Operating Profit before Tax, Interest, Depreciation	3,950,986	8,044,515	10,928,465	10,023,798	9,463,798	9,295,798	9,295,798
	Financial charges							
	- Investment loan (15%)	77,550	0	0	0	0	0	0
	- Working capital	152,571	286,071	381,429	0	0	0	0
	Depreciation	232,667	232,667	232,667	168,000	168,000	0	0
	Net profit	3,488,198	7,525,777	10,314,370	9,855,798	9,295,798	9,295,798	9,295,798
Profit (USD):	Net profit	124,578	268,778	368,370	351,993	331,993	331,993	331,993

Republic of Mozambique: Pro-poor Value Chain Project in the Maputo and Limpopo Corridors (PROSUL)
Project Design Report
Annex 8: Economic and Financial Analysis – Appendix 1: Financial Analysis

Enterprise:		Vet franchisees network, with project						
LG		Units	Details					
Parameters:	Labour requirements (n. people/yr)							
	- Manager	1						
	- CHWs	1						
	Labour costs (MZN/month)							
	- Manager	11,200						
	- CHWs	4,760						
	Total salaries (MZN)	191,520						
	Total salaries plus charges (MZN)	248,976						
Loan amount (MZN)	426,925							
Miscellaneous	3.5%	% of expenses						
Investment:		Unit	No. of Units	Cost/Unit (MZN)	Total (MZN)			
	Local vet selling points							
	- Rehabilitation of a two-room office	sq.m.	50	2000	100,000			
	- Refrigerated cabinet	unit	1	100,000	100,000			
	- Shelves	set	1	28,000	28,000			
	- Office furnitures	set	1	60,000	60,000			
	- Computer equipment	set	1	115,000	115,000			
	- Motorcycle	unit	3	140,000	420,000			
	- Generator	unit	1	170,000	170,000			
	- Solar panels	unit	1	150,000	150,000			
	- Miscellaneous	ls			40,000			
	Total				1,183,000			
	Revenue (MZN):		2013	2014	2015	2016	2017	2018
Build-up of output slaughterhouse		40%	75%	100%	100%	100%	100%	100%
- Margin on vet products		391,429	421,429	442,857	442,857	442,857	442,857	442,857
- Margin on small equipments		107,143	107,143	107,143	107,143	107,143	107,143	107,143
Total revenues		498,571	528,571	550,000	550,000	550,000	550,000	550,000
Expenses (MZN):								
Salaries and social charges		248,976	248,976	248,976	248,976	248,976	248,976	248,976
Electricity		49,920	49,920	49,920	49,920	49,920	49,920	49,920
Transport costs		50,400	50,400	50,400	50,400	50,400	50,400	50,400
Miscellaneous		12,225	12,225	12,225	12,225	12,225	12,225	12,225
Total expenses		361,521	361,521	361,521	361,521	361,521	361,521	361,521
Profit (MZN):								
Profit before financial charges		137,050	167,050	188,479	188,479	188,479	188,479	188,479
Financial charges								
- Investment loan (15%)		64,039	48,029	32,019	16,010	0	0	0
- Working capital (16%)		9,038	9,038	9,038	9,038	0	0	0
Net profit		63,973	109,983	147,421	163,431	188,479	188,479	188,479
Profit (USD):								
Net profit		2,285	3,928	5,265	5,837	6,731	6,731	6,731

**APPENDIX 4: ECONOMIC ANALYSIS OF PROJECTED INVESTMENT BENEFITS
(USD)**

ECONOMIC ANALYSIS																				
	Y1	Y2	Y3	Y4	Y5	Y6	Y7	Y8	Y9	Y10	Y11	Y12	Y13	Y14	Y15	Y16	Y17	Y18	Y19	Y20
Economic benefits from Horticulture value chain development	-	-29,662,787	- 291,072	23,936,274	13,447,088	27,458,114	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408	13,492,408
Economic benefits from Cassava value chain development	-	262,887	279,606	1,835,223	985,427	2,181,274	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081	1,036,081
Economic benefits from Red meat value chain development	-	(1,755,904)	702,519	4,505,509	2,199,040	7,152,074	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257	3,709,257
Total estimated economic benefits	0	-31,155,804	691,054	30,277,006	8,315,778	36,791,463	18,237,746	18,237,746	9,118,873	18,237,746	18,237,746	18,237,746	18,237,746	18,237,746	9,118,873	18,237,746	18,237,746	18,237,746	18,237,746	18,237,746
Economic cost of the project	2,217,837	10,170,100	12,325,930	10,047,658	3,492,399	2,328,539	1,434,684	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434	2,232,434
Benefits-Costs	- 2,217,837	-41,325,904	-11,634,877	20,229,349	4,823,379	34,462,924	16,803,062	16,005,312	6,886,439	16,005,312	16,005,312	16,005,312	16,005,312	16,005,312	6,886,439	16,005,312	16,005,312	16,005,312	16,005,312	16,005,312
EIRR	24.6%																			
NPV	38,999,514																			
Sensitivity Analysis																				
	Base case scenario	Cost increments			Benefits increments		Benefits decrease			Benefits delay										
		+10%	+20%	+50%	10%	+20%	-10%	-20%	-30%	1 year	2 year									
EIRR	24.6%	23.1%	17.9%	17.9%	26.0%	27.3%	22.9%	21.0%	18.7%	21.3%	18.4%									
NPV (USD millions)	39.0	35.4	31.9	21.2	46.5	53.9	31.5	24.1	16.6	29.3	20.7									

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 9: COMPLIANCE TO IFAD POLICIES

Annex 9 – Compliance to IFAD Policies

1. This Annex analyses the extent to which the design of PROSUL complies with the relevant IFAD policies. In general, the design is fully aligned to the IFAD policy framework, as is shown below for the IFAD policies on Rural Finance, Rural Enterprise Development, and Private Sector Development and Partnerships.

Rural Finance Policy (2009)

As per the policy, throughout its interventions in rural finance, IFAD works to:	PRICE complies with this policy as follows:
1. Support access to a variety of financial services, including savings, credit, remittances and insurance, recognizing that rural poor people require a wide range of financial services	The financial services supported are varied and not fixed to a certain delivery model. They include short and long term credit, warehouse receipt schemes, leasing and patient capital financing
2. Promote a wide range of financial institutions, models and delivery channels, tailoring each intervention to the given location and target group	Financial services are to be provided by the BAGC Catalytic Fund and three well performing MFIs in the Southern provinces
3. Support demand-driven and innovative approaches with the potential to expand the frontiers of rural finance	All financial services are fully demand-driven and innovative approach is proposed to provide the full range of financial services required to support inclusive value chain development at an affordable cost for smallholders
4. Encourage – in collaboration with private sector partners – market based approaches that strengthen rural financial markets, avoid distortions in the financial sector and leverage IFAD’s resources	Project approach builds on existing financial institutions and includes an innovative scheme to provide affordable credit to agriculture that is compatible with existing government and donors’ approaches
5. Develop and support long-term strategies focusing on sustainability and poverty outreach, given that rural finance institutions need to be competitive and cost-effective to reach scale and responsibly serve their clients	Long-term strategies are supported by enhancing the services of permanent financial service institutions through capacity building

Rural Enterprise Policy (2004)

As per the policy, IFAD supports the provision of entrepreneurial-oriented financial services (see above), and the provision of non-financial services, including entrepreneurship training for smallholders’ organisations and private investors involved in business ventures supported by the project.

Further elements of the policy relate to the facilitation of market access, policy dialogue and cost-recovery for services. Improving market access is at the core of the rationale for PROSUL, including the improvement of the terms of trade for smallholder farmers. In terms of policy dialogue, the project will assist value chain stakeholders, through value chain platforms at district and regional level to contribute towards shaping the policy and legislative environment for the development of inclusive value chains.

Private Sector Development and Partnership Strategy (2007)

As per the strategy, IFAD will support local private sector development through policy dialogue, investments and co-financing partnerships. Private sector development is at the core of PROSUL approach, and all three elements feature clearly in its design. Policy dialogue will be supported by the multi-stakeholders value chain platforms. Investments in joint private investors/smallholders operations featuring co-financing partnerships will be promoted throughout the three value chains through the development of innovative business models for the sustainable provision of support services and market linkages.

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS
(PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 10

ENVIRONMENTAL AND SOCIAL REVIEW NOTE

Table of Contents

Contents

<u>I. INTRODUCTION</u>	1
<u>II. PROJECT DESCRIPTION</u>	1
<u>III. MAJOR SITE CHARACTERISTICS</u>	1
<u>IV. ISSUES IN NATURAL RESOURCE MANAGEMENT</u>	2
<u>V. PROSUL POTENTIAL SOCIAL AND ENVIROMENTAL IMPACTS AND RISK</u>	3
<u>VI. ENVIRONMENTAL CATEGORY</u>	4
<u>VII. FURTHER INFORMATION REQUIRED TO COMPLETE SCREENING AND SCOPING</u> .5	
<u>VIII. FEATURES OF PROJECT DESIGN AND IMPLEMENTATION TO IMPROVE NATUAL RESOURCE MANAGEMENT AND MITIGATE ENVIRONMENTAL CONCERNS</u>	5
<u>IX. MONITORING</u>	6
<u>X. COMPONENTS REQUIRING ESA AND SCOPE OF ASSESSMENT NEEDED</u>	7
<u>XI. RECORD OF CONSULTATIONS</u>	7

ANNEX 10: ENVIRONMENTAL AND SOCIAL REVIEW NOTE

INTRODUCTION

This Environmental and Social Review Note (ESRN) has been prepared in line with IFAD's Procedures for Environmental Assessment in the Project Cycle (EB 2009/96/R.7) using information gathered on site during the design process in March 2011. The environmental classification for the project is "B". No further information is deemed necessary to complete the ESRN and no formal Environmental Impact Assessment (EIA) is considered necessary for the whole project.

PROJECT DESCRIPTION

PROSUL has been designed to address long term objectives of raising rural incomes through the development of three commodity value chains (VC) that increase to both input and output markets. The project will be implemented in 18 districts of the three Southern Provinces, 5 districts in Maputo, 7 districts in Gaza and 5 districts in Inhambane. A detailed description of the project is given in the text of the Main Report with further details in the Working Papers. The three value chains are Horticulture, Cassava and Red Meat.

To ensure earmarked climate and environmental finance is channelled to smallholders through IFAD-supported programmes, the 'Adaptation for Smallholder Agriculture Programme' (ASAP) was established in 2012. A USD 5 million grant from this programme has been earmarked to contribute to the financing of PROSUL with a view to increase the climate resilience and environmental sustainability of the three VCs and reduce the impact of climate change on the productivity and profitability of smallholder farming.

MAJOR SITE CHARACTERISTICS

Mozambique is situated on the eastern coast of southern Africa, between parallels of 10° 27' and 26° 52' south latitude and 30° 12' and 40° 51' east longitude. It borders the Republic of Tanzania to the north, Malawi, Zambia, Zimbabwe, South Africa and Swaziland to the west, and South Africa to the south. The east coast of Mozambique is on the Indian Ocean. The country spans an area of about 799,380 km², of which 786,380 km² is land and 13,000 km² is surface water. Some 25% of the cultivated soils are located in low-lying soils, which during floods are largely inundated¹²². The focus of this project will be the drought prone provinces of Maputo, Gaza and Inhambane (Figure 1).

The three southern provinces are home to 4.3 million people (excluding Maputo City), constituting 21% of the country's total population. As is shown in Figure 1, this southern region is prone to droughts and is predominantly arid to semi-arid, with scarce irregular rainfall averaging 500 to 600 mm per annum (IGNC, 2009).

A relatively dense network of rivers crossing from west to east provides ample potential for irrigation, mostly in the inland part of Maputo province and southern Gaza. Only 5% of small scale farmers use some form of irrigation, and of the 75,000 ha with irrigation equipment, less than 30% is currently operational because of poor maintenance, degradation of infrastructure, tenure issues and weak management institutions.

Extensive agriculture and animal husbandry constitute the primary and secondary sources of income for about 70% of the population. Proximity to South Africa and to Maputo City provides for a wider set of economic opportunities, including wage labour, trade and remittances. However, this does mean

¹²² INGC (2009). *Synthesis report. INGC Climate Change Report: Study on the impact of climate change on disaster risk in Mozambique*. [van Logchem B and Brito R (ed.)], INGC, Mozambique

that a growing number of households are female headed, where the women have access to, but no



control over natural resources and other property rights.

Figure 1 - Drought Prone Areas of Southern Mozambique

Source: National Adaptation Programme of Action (NAPA), 2007.

With an estimated population growth rate of 2% per annum, agricultural production must increase accordingly. This can be achieved through expanding the area of cropped/irrigated land or increasing productivity per unit area through the promotion of improved practices.

Regional climate research on changes and increases in extremes is limited but shows there may be an increase in the intensity of high rainfall events particularly in the summer, and shifts in the onset of the rains¹²³.

ISSUES IN NATURAL RESOURCE MANAGEMENT

Climate. Droughts are frequent in the central and southern regions of Mozambique, with some events occurring in the northern provinces. Drought results from the shortages of precipitation and is associated with El Nino or ENSO (El Niño Southern Oscillation). Drought and desertification in Mozambique result from a combination of (i) low levels of precipitation, which result in lack of water to maintain vegetation coverage, and (ii) the overgrazing and overuse of agricultural lands.

Crop Production Constraints. The single most important source of risk for crop failure nation-wide is drought. According to a study by IIAM (2006)¹²⁴ on maize, rice, sorghum and groundnut, drought constitutes between 48-73% of the risk of crop failure in Mozambique. The project will improve irrigation infrastructure in currently farmed irrigation schemes and rehabilitate areas that are not

¹²³ Christensen, J.H., et al., 2007: Regional Climate Projections. In: Climate Change 2007: The Physical Science Basis. Contribution of Working Group I to the Fourth Assessment Report of the International Panel on Climate Change (S. Solomon et al., (Eds)). Cambridge University Press, UK; Tadcross, M. et al., 2005. The interannual variability of the onset of the maize growing season over South Africa and Zimbabwe. Journal of Climatology 18: 3356-3372.

Tadcross, M. et al., 2009. Growing season rainfall and scenarios of future change in southeast Africa: implications for cultivating Maize. Climate Research 40:147-16

¹²⁴ Institute of Agricultural Research of Mozambique (IIAM).2006

currently cultivated due to failures of the existing institutional and infrastructural arrangements. This will be supplemented by the diversification of horticultural crops and the promotion of more climate resilient practices that encourage the judicious use of agro-chemicals. Activities will start in those zones where a significant area is already in operation, i.e. Moamba and Chokwe/Gujia, continue with Marracuene and Manjacaze, and finally Namaacha/Boane and Chibuto.

Livestock Production. Cattle and small ruminants are mainly raised by smallholder farmers in the targeted project area (seven districts of the Maputo and Gaza provinces, namely: Manhiça, Magude, Chokwe, Gujia, Massingir, Mabalane and Chicualacuala) but economic returns to farmers are constrained by the following reasons: (i) poor health conditions of livestock mainly tick-borne diseases and internal parasites and limited access to veterinary services and medicines; (ii) limited access to water and fodder during the dry season; (iii) lack of access to services such as extension, credit, communication and marketing; (iv) theft of livestock and smuggling of uninspected meat from neighbouring countries.

Institutional Framework for Land Rights. The Land Law of 1997 and its 1998 regulations, aside from reiterating the fact that all land belongs to the state, also introduce legal measures to help communities, men and women gain legal occupation rights to land without requiring written proof of de facto use. These can be converted into private occupation rights through a right of use and exploitation (DUAT) title, which only 2% (Inhambane, Gaza) and 6% (Maputo Province) of households have obtained. In reality, however, the majority of the rural population does not yet benefit from the new provisions; this is partly because the people, especially women, lack information and knowledge about their rights and partly because the administrative and judicial practices are still far from incorporating the new norms. Land conflicts were reported by less than 3% of the population and households report that it is easy to gain additional land (TIA 2008; fieldwork) and that the key concern is the lack of animal traction for cultivation. However whilst access to land is currently not a major constraint on agricultural production nor a source of significant conflict it remains an issue that will have to be addressed for securing smallholder rights and access.

Water resources. A majority of households in rural areas depend on wells and rivers as sources of domestic water. Generally no treatment is made of water that is used for drinking. Often the same sources are used for irrigation purposes. Increasing use of water resources for agricultural production purposes could disadvantage those already using the resource, increase contamination of the water, or potentially lower the water table in the area.

Institutional Framework for Climate Adaptation in Mozambique. The Ministry for the Coordination of Environmental Affairs (MICOA) created by Presidential Decree n° 2/94 of 21 of December is the institution responsible for promoting a better inter-sectoral coordination and to promote an appropriate planning and utilization of natural resources in Mozambique. It has also the responsibility of monitoring compliance with obligations under the United Nations Framework for Combatting Climate Change (UNFCCC) and other Rio conventions. In respect of these, MICOA works closely with: the Ministry of Agriculture (MINAG) through the Technical Secretariat for Food Security and Nutrition (SETSAN – the body responsible for coordinating the implementation of the National Food Security and Nutrition Strategy); the Ministry for Foreign Affairs, through the Institute for Disaster Management (INGC – the coordinating body for disaster risk management); the Mozambique Red Cross (CVM) that provides immediate assistance to vulnerable people during and immediately after natural disasters; and with other relevant institutions such as Eduardo Mondlane University as a research institution. These institutions integrate several inter-institutional groups led by MICOA whose main task is to impel the implementation of existing legislation and actions.

PROSUL POTENTIAL SOCIAL AND ENVIROMENTAL IMPACTS AND RISK

From an environmental perspective, most of the proposed interventions to improve or diversify the present way of farming in the three value chains of the target areas will try to make the present

farming systems more sustainable than they are today, by gradually including new and improved plant material and crop/animal management practices. These improvements will constitute a reservoir of technical options from where it will be possible to select components suited to different types of farming and environments as the population pressure arises or the development of new markets and demand for agricultural produce increases.

Irrigation. According to decree 45/2004 of 29 September 2004 that stipulates procedures for environmental impact assessment (EIA), EIA studies are only required for irrigation schemes above 100 ha, which are considered to belong to Category C. Only two schemes that will be rehabilitated by PROSUL are over 100 ha, i.e. Chaimite (Gaza) and Mafuiane (Maputo). For the Regadio Baixo Limpopo, in which the Project will cover 900 ha, an environmental impact assessment has been carried out and the civil works have already been completed.

Processing. Limited negative impact is expected from processing activities as follows:

- *Slaughterhouse:* a slaughterhouse will be built in the outskirts of Maputo with a total capacity of 25,000 cattle and 20,000 sheep and goats per annum. Animal slaughtering will generate water and solid disposal;
- *Cassava processing:* waste water generated by cassava processing even in areas of intensive starch is considered to generate minimal contamination of ground and surface water. Solid waste might create a negative environmental impact if not properly managed¹²⁵;

Imbalance in access to land resources. In the horticulture sector there is a risk that land in rehabilitated irrigation schemes will be allocated to outsiders at the expense of the project's target groups and there is a need for strengthening the regulation of plot allocations by Water Use Associations to ensure equitable land access for the PROSUL target groups. In the cassava sector there is a risk that either land is allocated to outside investors for competing land uses or that interests in large-scale cassava production lead to increasing competition for land. Whilst this is not currently an issue in the PROSUL target areas, it is an issue that will have to be addressed as the Cassava value chain evolves. In the livestock sector there is a risk of land conflicts over grazing/browsing areas and water access for livestock.

Across all three value chains there is a need for securing land rights and access to land, concentrating on priority 'hot spots' (i.e. areas where there is good investment potential, expressed interest by outside investors and/or prevalence of land conflict), for strengthening community-level land use zoning and planning, and for considering measures for improving land access by poorer people, women and youth.

Climate Change. Within the framework of the UNFCCC, Mozambique completed a first National Communication¹²⁶ and a National Adaptation Programme of Action (NAPA¹²⁷). Unfortunately, gender issues are poorly addressed in both first national communication and NAPA. No concrete gender focused actions are presented.

ENVIRONMENTAL CATEGORY

Pursuant to IFAD's environmental assessment procedures, this project has been classified as a Category B in that the potential negative environmental impact of the project is expected to be of low significance and sensitivity. In fact, in view of the strong focus on climate-smart investments funded

¹²⁵ See <http://www.fao.org/docrep/007/y2413e/y2413e0d.htm>

¹²⁶ MICOA. (2003). Mozambique initial national communication to the UNFCCC. MICOA. Maputo

¹²⁷ MICOA/DNGA. (2007). NAPA (National Adaptation Programme of Action). 2007. "Ministry for the co-ordination of environmental affairs." Report Approved by the Council of Ministers at its 32nd Session, December, 04, 2007, Maputo, Mozambique.

by ASAP, the project is expected to have many positive impacts on the environment and beneficiaries' ability to cope with climate change. However, based on guidance from the National Directorate for Agriculture Services (DNSA) and the Ministry for the Co-ordination of Environmental Affairs (MICOA), localised EIAs will be part of the design studies required for two of the proposed irrigation schemes that will be rehabilitated, as they are in excess of 100 ha.

FURTHER INFORMATION REQUIRED TO COMPLETE SCREENING AND SCOPING

No further information required.

FEATURES OF PROJECT DESIGN AND IMPLEMENTATION TO IMPROVE NATURAL RESOURCE MANAGEMENT AND MITIGATE ENVIRONMENTAL CONCERNS

Since the expected environmental impact of the project will be positive, the following paragraphs concentrate both on how the project will explore the opportunities to contribute to improve natural resource management in the development of the three value chains, and on measures for the mitigation of negative impacts.

Horticultural Value Chain. The investment is aimed at facilitating the diversification of horticultural crops and the promotion of more climate resilient practices that allow the efficient and sustainable production of selected crops to occur in both the traditional dry seasons and the wet season. This will include the promotion of low-cost shade-cloth greenhouses ensuring year-round production and increased efficacy of agro-chemicals; production of seedlings in a cost efficient and timely manner; investment in dry and cold storage infrastructures in the service hub; demonstrations and trials at IIAM's research station in Chokwe, including the establishment of a basic meteorological facility. The investment will enable the dissemination, on wider a basis, of climate proven technologies that would improve crop yields and improve the efficacy of agro-chemical usage. It will also promote efficient utilization of both surface and underground water to boost horticultural productivity.

EIAs will be carried out for the two irrigation schemes that have a total surface beyond 100 ha and where PROSUL will carry out rehabilitation works: Mafuiane in Namaacha District in the province of Maputo (196 ha) and Tchaimite in Chibuto District in the province of Gaza (110 ha). These studies will be carried out as part of the rehabilitation design studies.

Cassava Value Chain. The investment is aimed at facilitating the sustainable intensification of the cassava crop in response to increasing market demands as a result of PROSUL activities. The investment will enable the dissemination, on wider a basis, of climate proven technologies, including fertilization and weeding regimes that will strengthen households abilities to participate in the evolving cassava value chain without jeopardising household food security.

It will also promote efficient utilization of both surface and underground water to boost the productivity of processing units at cassava service hubs, with due environmental considerations given to waste handling and disposal. Feasibility studies for the boreholes will assess the extent to which water pumping could alter water availability for other purposes, which is expected to be minimal, with only hand pumps to be used to pump out water. The waste processing water will not be allowed to drain into streams and other surface water. It will be used to the extent possible to water the cassava and other nurseries, and any residual waste water will be drained into the soil, using its filtration capacity to clear the water from bitter substances. Solid waste will be used for the production of compost, which will be sold by cassava service hubs.

Red Meat Value Chain. Rangelands persistently affected by droughts cannot easily produce pastures with adequate feed intake and enough nutrient content to sustain acceptable livestock production standards. A lack of stock management during these periods exacerbates these problems and hinders rangeland recovery and productivity of the system. The project investment will include: the promotion of climate resilient livestock and grazing technologies and practices to

increase fodder production as well as soil carbon stocks, including fodder banks; support to the establishment of private district-based network of veterinary pharmacies at district level; and establishment of water storage and management facilities at key concentration points. Furthermore, it will generate the following benefits: (i) improved management of natural resources at community level (i.e. pasture, water management); (ii) increased off take of livestock contributing to reducing pressure on natural resources (i.e. reduced effects of overgrazing); (iii) better livestock-crop integration through improved livestock management and utilisation of manure in alternative to fossil fuel/chemical fertilizers.

Additional investments will be made in the design and development of a new environmentally friendly slaughter house, that will include a biogas plant for waste management and the production of renewable energy to operate meat processing equipment. This will contribute to reduced gas emissions from livestock slaughtering operations through generation and capturing of biogas, as well as production of renewable energy from biogas for slaughtering operations.

Water Resource Management. Care will be taken to ensure current water users are not adversely affected by any of the three value chain activities, and that an integrated watershed management approach is taken for the micro-irrigation schemes, including consideration of downstream users. With regard to pumps for wells, these will be manually operated and limited to local cassava processing units and at key concentration points within the Red Meat Chain. Baseline assessments of current water usage and resources available will be made as part of the feasibility studies for the rehabilitation and expansion of irrigation schemes and measures to ensure that the proposed value chain intervention do not jeopardize the water needs of the local population will be included.

Land Tenure. PROSUL will support measures aimed at strengthening land rights of the project's target groups and at improving the management of land use by associations and communities. These measures will be integrated into the support provided to the various value chains. Activities will include: (i) mapping of information relevant to the districts targeted under the three value chains on existing and planned DUATs for communities, associations or other players, to be part of the initial scoping studies for each value chain and to be regularly updated; (ii) farmer association-based analysis of land access and tenure security issues, to be done as part of the strengthening of farmer organisations, with special attention given to identifying measures for strengthening land/natural resources rights of poor and vulnerable groups including women and youth; (iii), depending on the outcomes of (i) and (ii), support to community land delimitation and the issuing of DUATs to associations.

Policy support. PROSUL will provide institutional support to CEPAGRI for mainstreaming climate change adaptation in policy instruments to promote climate-proof commercial agriculture. This should include training in and exposure to issues related to the broader national and regional climate change agenda, as well as the building of strong institutional linkages with relevant institutions (particularly MICOA and INGC) and with the Strategic Program For Climate Resilience Mozambique (SPCR)¹²⁸. SPCR for Mozambique integrates climate change budget support, technical assistance for knowledge management, capacity-building and studies, and pilot investments across a range of sectors that complement PROSULs three value chains. In addition scoping studies will be undertaken to assess the feasibility of weather insurance schemes for different stages of the value chains.

MONITORING

Environmental monitoring is part of the monitoring and evaluation (M&E) component of the Project. Participatory environmental monitoring will be part of the Value Chain Development Action Plans

¹²⁸ STRATEGIC PROGRAM FOR CLIMATE RESILIENCE MOZAMBIQUE PPCR/SC.8/6, June 14, 2011. Climate Investment Funds.

designed for each of the value chains during the initial phase of the project, and which will be annually reviewed by the Regional Value Chain platforms to be set up with project support.

COMPONENTS REQUIRING ESA AND SCOPE OF ASSESSMENT NEEDED

No further information required.

RECORD OF CONSULTATIONS

This note was prepared after consulting Government of Mozambique staff from Ministry of Agriculture; CEPAGRI, DNSA, IIAM, Ministry for Coordination of Environmental Affairs (National Directorate for Environmental Impact Assessment, National Directorate of Environmental Promotion and the Directorate of Cooperation), and the National Disasters Management Institute (INGC). Additional consultation were made with representatives from the following key donor and research organizations in Maputo: World Bank, African Development Bank, United Kingdom’s Department for International Development, The Embassy of the Kingdom of the Netherlands, Canadian Center for International Development, CGIAR centers, International Fertilizer Development Centre, EMBRAPA (Brazil), Michigan State University and the University of Florida, and a wide range of communities in the target districts.

**PRO-POOR VALUE CHAIN DEVELOPMENT IN THE MAPUTO AND LIMPOPO
CORRIDORS (PROSUL)**

PROJECT DESIGN DOCUMENT

ANNEX 11: KNOWLEDGE MANAGEMENT AND M&E

ANNEX 11 – KNOWLEDGE MANAGEMENT AND M&E

Background

CEPAGRI. Monitoring and evaluation (M&E) and Knowledge Management (KM) in CEPAGRI have scope for improvement. There is no overall management information system (MIS) that consolidates data in a centralised manner for in-depth analysis. M&E is primarily based on self-prepared narrative reports by agri-businesses or other partners who report progress according to a management plan that they submit to CEPAGRI at the beginning of establishing their activities. These reports are primarily about the implementation of activities and achievements rather than impact such as improvement in yields, income of beneficiaries etc. Project impact is measured at the end of the project compared to a baseline that was set at the beginning, measuring progress on pre-set indicators. Currently, there is limited on-going monitoring of projects where impact can be identified throughout the project lifespan and assist decision making accordingly.

District authorities and CEPAGRI regional delegations also send reports with some qualitative (type of crops produced in the region) and quantitative (yields, prices etc.) information, which is subsequently stored as separate files (such as excel or word) on a computer, with limited dissemination. Restricted analysis is made as it is difficult to compare narrative reports towards one another in a systematic manner in order to identify trends. CEPAGRI itself reports quarterly to the Ministry of Agriculture on indicators specified in a sub-sector action plan provided annually to the Ministry. The harmonization between different reports provided to CEPAGRI and these indicators can be improved.

Currently, there is no specific and specialised M&E department at CEPAGRI, although M&E is located at the department for analysis and monitoring, M&E is being carried out by an Investment Analyst with several different work responsibilities. Thus, there is a need to establish a specialised M&E function within the department who solely works with M&E. There is also need to establish an overall CEPAGRI M&E system that consolidates all CEPAGRI activities, monitor progress and impact, and enable CEPAGRI to carry out adequate analysis that can be used as a management tool in order to improve impact, of which the PRO-SUL M&E system will be integrated with in terms of data compatibility. This will improve transparency and management capacity of CEPAGRI, and enable the management to better monitor progress and influence activities accordingly.

CEPAGRI Southern Delegation. There is no specific M&E function based at the CEPAGRI southern delegation. Despite of this, the delegation has been proactive in trying to identify a methodology on how to capture data, including developing templates for capturing and sharing information with the CEPAGRI office in Maputo. This work would be a natural starting point when developing the M&E system.

Provincial Directorate for Agriculture (DPA). At DPA level, activities implemented are reported on a frequent basis, including self-assessment by extension officers on relevant impact, status of projects, and challenges. Prices for various crops are also being collated and disseminated (for example through newsletters, local radio, etc). This information is subsequently reported to MINAG and local authorities. However, there is no systematic way of storing and analysing information for the purpose of knowledge management, and there is no system in-place to facilitate for this process.

Knowledge management. Knowledge management, in general, is very much an underdeveloped concept in Mozambique. There tends to be a limited strategic approach to collecting, analysing, documenting, and disseminating knowledge for the purpose of sharing experiences, good practices, innovations, challenges, and lessons learnt between all stakeholders with the purpose of improving performance or influencing policy. Knowledge management tends to limit itself to information storing, and some sharing, with limited analysis and strategic thinking behind it. Therefore, there is a need to build capacity and understanding of the value that adequately managed KM can bring.

Main challenges. The main challenges identified are as follows: (i) lack of an overall M&E system with pre-set indicators linked to outcomes; (ii) lack of analytical capacity and M&E and KM experience; (iii) poor data collection processes and, subsequently, poor quality of data; (iv) M&E is primarily utilised for upward accountability and not performance improvement; and (v) lack of a functional system to adequately analyse and disseminate data.

Objectives and Approach

Objectives. A project learning system (PLS) integrating planning, M&E and KM will be developed with three main objectives:

steer project implementation: it should provide project stakeholders with information and analysis required to: measure project outcomes; assess project effects on the livelihoods of participating farmers (including vulnerable households, women and young people); assess the relevance of the project strategy, methodologies and implementation processes; detect difficulties and successes; and support decision-making to improve project performance. It should also provide information to measure project contribution to the implementation of PEDSA and of PNDA, and to the achievement of COSOP targets;

support economic decisions and policy-making: it should provide value chain stakeholders, and, in particular, farmers' organisations, service hubs and private sector actors, with the information and analysis they need to assess the return brought by innovation, to develop profitable activities and to adapt their strategies accordingly, by monitoring both quantitative (yields and production, margins, stocks, credit management...) and qualitative results (members'/clients' satisfaction). Furthermore, it should provide stakeholders and government with the informative environment needed to make policy decisions that can positively benefit economic activities within the value chains;

share knowledge: based on the above, the PLS should develop lessons learnt, capture good practices and successful innovation, and share knowledge under appropriate formats to support project performance and policy dialogue. Specific areas of interest in this respect comprise inclusive business models, public-private partnerships for farmers' access to services, and innovative financial instruments.

Strategic principles. The system will be:

open and easily accessible, i.e. its use would not be restricted to project or government agencies' staff, but also provide information and learning for value chain stakeholders;
participatory, i.e. associate project stakeholders, and specifically, producers' organisations in the definition of indicators, data collection, analysis and dissemination of results;
growing, thus small initially and develop progressively as needs and capacities develop;
focused on analysis and learning in support of decision-making and policy dialogue, and not merely on data production;
connected to CEPAGRI's future information systems;
inclusive so that women, poorer, and marginalised groups participate in the system;
support accountability towards project stakeholders.

Multi-stakeholders' platforms. Multi-stakeholders' platforms at the district and at the regional level will have a key role to play in the M&E/KM system:

Value Chain Platforms: Regional Value Chain Platforms (VCPs), covering the three provinces, will be established for each value chain. VCPs will gather the representatives of key value chain stakeholders in the southern provinces as well as relevant national institutions, and will provide a venue to discuss project achievements, identify successes and problems as well as good practices, discuss possible solutions including non-project based

solutions and identify policy issues. They will also be involved in the preparation of annual Value Chain Development Action Plans (VC DAPs) and of PROSUL Annual Work Plans and Budgets (AWPB). They will progressively evolve into permanent multi-stakeholder value chain platforms at the regional level;

Innovation platforms: Innovation Platforms will be organised at district level within each component. Innovation platforms will serve a similar function as the VCPs at a local level. More specifically, the innovation platforms are local spaces which allow individuals and organizations to come together to address issues of mutual concern and interest, project achievements in the relevant value chain, identify successes and problems as well as good practices, and discuss possible solutions including non-project based solutions. They can also identify policy issues and discuss how to provide overall project guidance, which will subsequently be brought up and discussed at the VCPs by the Innovation Platform's representative. Innovation Platforms shall also be a forum where stakeholders form peer coaching and learning groups. A key role within Innovation Platforms is that of innovation brokers who facilitate and support the platform, this role should be adopted by the LSP. Innovation brokers serve such functions as promoting networking, negotiation of roles and responsibilities, integrating different types of information and knowledge, promoting a culture of continuous learning, and capacity building – both in terms of innovation capacity and specific technical or organizational capacities. Innovation platforms are dynamic and exist only as long as they are useful. Their composition is likely to change over time as different issues are addressed and ultimately they may evolve into a different type of organization that is more permanent, such as producers' associations, cooperatives or even businesses, or be reconfigured to address a new set of problems.

M&E System

General. The M&E system will be setup and managed by the Project Management Team (PMT), in close collaboration with relevant department of CEPAGRI, and will be fully integrated within CEPAGRI and compatible with existing/future CEPAGRI data systems as much as possible. It will build upon the systems and experience gained by two IFAD-financed projects, PROMER and ProPESCA. The system shall be connected to the overall CEPAGRI system and be consistent with CEPAGRI reporting requirements. A specialised M&E/KM¹²⁹ consultant will be hired by the PMT to support CEPAGRI/project staff and Value Chain Service Providers (VCPs) in:

- agreeing on a shared understanding of project objectives, approaches and planned activities;
- agreeing on a vision of the objectives and expected results of the PLS, as well as on a broad framework for M&E and KM and on priority actions to implement it;
- identifying quantitative and qualitative indicators on a participatory basis, building on the logical framework and key indicators;
- provide guidance as to the implementation of the baseline study.

Indicators will be developed with relevant stakeholders at each level, at the producers', component/value chain, and global project level (see below para. 20). They will have to be coherent with CEPAGRI's thinking regarding future information systems, SMART (specific, measurable, achievable, relevant, time-bound), easy to collect and gender-disaggregated. The consultant will prepare an M&E and KM strategy (including a detailed plan for the first year) and an M&E and KM manual. (S)he will also provide orientations to design a management information system (MIS) to be set up by a service provider/consultant and accessible to project stakeholders. The consultation will be coordinated with CEPAGRI to ensure harmonisation of PROSUL PLS with CEPAGRI M&E system.

¹²⁹ Terms of reference in Attachment 1.

The Targeting and Gender Specialist will be consulted regularly during the development of the PLS to ensure that it adequately monitor inclusion and gender aspects, and that achievements and lessons learnt are made available to multi-stakeholders platforms and project implementers to support regular analysis, improved performance and annual programming of related activities. Main elements of the system to be designed for CEPAGRI M&E should be as follows.

Baseline. A baseline study measuring the status of the logframe indicators will be carried out at the beginning of the project to constitute the PROSUL baseline data as part of the scoping studies to be carried out Lead Service Providers for each value chain. The scope of the survey and their modalities of implementation will be defined by the PROSUL M&E and KM Officer, with technical assistance from the M&E consultant at the beginning of the project.

When gathering data for the baseline, close attention must be made to ensure that adequate baseline information is gathered for the Adoption for Smallholder Agriculture Programme (ASAP). The M&E and KM Officer with support from the M&E consultant shall liaise with relevant ASAP documentation and staff to identify adequate ASAP indicators. These indicators shall be clearly identified in the logframe for ASAP specific reporting.

Household assets and child malnutrition. In order to comply with IFAD's mandatory Results and Impact Management System (RIMS), the programme will have to report on household assets and child malnutrition, and related information should thus be included in the baseline study. In order to obtain compatible data on household assets, the standard IFAD RIMS questionnaire should be used as a reference. Regarding data on child malnutrition, this can be obtained through the nutritional surveillance system (updated monthly) implemented by the Ministry of Health, which obtains data using the same anthropometrical (height and weight) methodology as the IFAD RIMS. This system is currently being improved with assistance from WHO, thus an assessment by the PMT and the M&E consultant will have to be made prior to the initiation of the baseline study to evaluate if the quality of data is sufficient for the purpose of PROSUL. In the case where the data from the nutritional surveillance system is deemed inadequate, the PMT would, with assistance from the M&E consultant, identify other sources for the data. In the case where no sources are identified, the data would be collected using the standard IFAD RIMS questionnaire.

Establishment of a Geographic Information System (GIS). A Geographic Information System will be set up and managed by the PMT to enhance project management, monitoring and evaluation. The system will strengthen integrated community, public and private sector value chain development planning processes and the ability of project implementers to monitor and evaluate project progress and impact. During the project's start-up, information will be geo-referenced and mapped on existing and planned: (i) infrastructure, facilities, service and market centres; (ii) land and natural resource capabilities (soils, bio-climatic zones, environmental degradation) and use; (iii) land ownership (community delimitations, DUATs for Associations and concessions); (iv) farmers' groups and organisations; and (v) any other data considered relevant for the three value chains. Readily available satellite imagery, aerial photographs and digitized maps will also be compiled and used as base-maps. The data and maps will be collected from existing sources as well as from the project's initial scoping exercises. Shape files will be linked to the project's M&E data base and website using suitable GIS software. Geo-referenced data will be regularly up-dated by the PMT, value chain service providers and other implementers as part of the project's overall M&E system. If necessary, hand-held GPS will be used by the PMT and LSPs to capture the coordinates for project investments and activities.

A service provider (GIS SP) with the necessary expertise in establishing a GIS will be contracted at the start of project implementation to support the PMT in setting up the project's GIS. It will be responsible for: (i) initially compiling the spatial data and maps in digital format which is already available and which is obtained during the scoping studies; (ii) doing an assessment of the PMT's equipment, software and training needs; (iii) designing and installing the GIS; and (iv) providing on-going training and technical support to the PMT and other implementers. Suitable equipment, software and materials (computer, GIS software, printer/plotter, hand-held GPS units, digital satellite

imagery/aerial photos/maps and office material) will be purchased for the PMT. It is anticipated that LSPs will provide their own equipment such as hand-held GPS for surveying purposes. The GIS SP will work closely with the LSPs, Land Tenure Service Provider, the Land Tenure Adviser and other implementers. The PMT will be responsible, together with LSPs and upon consultation of main stakeholders in each value chain, for identifying the type of geo-referenced information to be included in the scoping study, also building on guidance provided by the Project Design Report.

Project planning. The PLS cycle would start with the preparation of the project Annual Work Plan and Budget (AWPB), first at component level, then for the whole project. The AWPB will be a key instrument for implementation and operational control. It will cover detailed annual planning of activities implementation responsibilities, physical results targeted, outputs expected, budget and procurement plan. Particular attention will therefore be given to its preparation process, which should be inclusive, participatory and demand driven, and involve all relevant stakeholders from within and beyond government.

To this effect, planning workshops will be organised for each value chain-based component to prepare the AWPB. These workshops will be organized within the framework of the regional VCPs as a natural follow-up of the annual implementation reviews. With support from the M&E and KM officer and the respective LSPs, Value Chain Platforms gathering value chain stakeholders will analyse past project performance, identify corrections needed and propose an annual Value Chain Development Action Plan (VC DAP), which will include non-project as well as project-financed interventions. The latter will form the basis for each value chain-based component AWPB. Value Chain Development Action Plans will also be used by the Catalytic Fund to prepare the AWPB for component 4, in collaboration with participating MFIs.

These component-based AWPBS will be collated by the M&E and KM Officer under the supervision of the Project Coordinator into a project-wide AWPB, which will also reflect interventions planned against Component 5, to be decided with CEPAGRI. The global AWPB will be submitted to the Project Steering Committee for final approval. The M&E and KM Officer will receive support from the Financial Management Officer to ensure proper budgeting. The Financial and Management Officer will then be responsible for drafting the procurement plan. The project will have the possibility to amend the AWPB in mid-year based on consultation with the VCPs, but all adjustments will need to be approved by the project's steering committee and receive a renewed no-objection from IFAD.

Data collection. Data will be collected and organised along three levels:

producers' level: this level will encompass information relating to farmers and to their organisations, as well as to service hubs' performance. Information systems at this level will be set up by LSPs. They will reflect the specificities of each value chain and provide information needed to support decision-making within farmers' organisations and service hubs. Poorer producers and women will have to be specifically consulted. A small database will be set up within each service hub to facilitate the process;

component level: this level will provide information on progress in implementing components, including on the outcomes of market linkages developed between small farmers and traders/institutional buyers/processors. This will be managed by the LSPs and, for component 4, by the Catalytic Fund;

global project level: this level will aggregate information on the five project components to measure project/RIMS/Adoption for smallholder agricultural programme (ASAP) indicators and to assess overall project performance. It would be the responsibility of the PROSUL M&E and KM Officer.

Information would include both quantitative data, to report against agreed indicators, and qualitative data. Qualitative data can include information on users' satisfaction, on the utilisation made of project

interventions, as well as on good practices and innovations (see KM for further explanation). All data will be gender-disaggregated where relevant.

All stakeholders in PROSUL will have an active and important role in identifying and reporting data, either *formally* or *informally*. Those with *formal* reporting responsibility to the PMT are defined as those institutions holding a contract with the PMT to implement PROSUL interventions, including LSPs, DNSA, IIAM, ANE and the Catalytic Fund. Contracts will specify reporting responsibilities. These institutions will be responsible for maintaining a close dialogue with those stakeholders with an *informal* reporting responsibility (such as FOs, farmers, input/output traders, individual private sector actors, etc.). LSPs will make sure that women and youth are adequately represented in this process and that they are allowed to voice specific concerns.

Analysis. Data from different sources will be consolidated and analysed so as to provide information on the performance of the various components, detect problems and identify opportunities/constraints to develop solutions and identify good practices to share through the knowledge management system. Information will also be shared with and discussed by the Value Chain Platforms, with a view to assess progress in implementing Value Chain Development Plans and decide on measures required to improve performance. VCPs will also identify innovations/good practices that are presenting the best potential and opportunities to be replicated at a larger scale, as well as areas in which solutions would be required at provincial/national policy level. If necessary, the Value Chain Platform will also decide on the organisation of further field investigation through cost-effective modalities to be determined to complete the basis of information and analysis. The VCPs may choose to establish an M&E and KM stakeholder team operating within the umbrella of the platform to facilitate this process, with the purpose of carrying out preliminary (time-consuming) work which will then be presented for final validation by the platforms. This whole process will be inclusive, i.e. women, poorer smallholders and youth will have the opportunity to voice their special concerns in the course of discussions and solutions geared towards providing specific responses will be devised collectively. To this effect, LSPs will ensure that women constitute at least 30% of participants and that other special groups are adequately represented. They will also ensure that facilitation processes enable their active participation in VCP discussions and preparatory work. The consolidated data will also be fed into the overall M&E system of CEPAGRI.

Reporting. The analysis will be formatted along reporting formats adapted to the various levels of decision-making and dialogue such as CEPAGRI management/Project Steering Committee, innovation platforms and VCPs and IFAD country programme (to report on COSOP implementation).

Quarterly, semester and annual reports would be produced by those implementing units with formal reporting responsibilities to the PMT. Reports would provide information such as (i) overview of programme activities undertaken in the last quarter and cumulatively over the fiscal year; and: (ii) progress and impact in terms of the agreed M&E indicators. It will also include all movements on the accounts since the last reporting (including account statements), information about progress towards achieving results, assess the short-term and potential long-term impact, provide lessons learnt, innovations, good practices, and knowledge gaps identified, (see KM reporting format for specifics regarding reporting on innovations, knowledge gaps, and good practices), as well as GPS coordinates obtained.

Dialogue. Multi-stakeholder dialogue will be developed on an annual/semi-annual basis in the Project Steering Committee, Innovation Platforms (at local level) and the VCPs (at regional level). There will also be feedback from the analytical work to the project partners, especially the platforms, FOs and LSPs, in the form of regular reports that provide comparative performance data on specific topics of relevance to the sub-sector players. The VCPs will also use this information to liaise on a regular basis with relevant government and non-government institutions for the purpose of influencing policy to facilitate for an improved business environment. The M&E and KM Officer will be responsible for ensuring that women and youth are participating in the dialogue as equal partners, and that issues specifically related to women and youth are being adequately addressed.

Management Information System (MIS). The flow of data will be facilitated through the utilisation of an MIS. It will process information and present it along appropriate formats such as dashboards, charts and maps. Regular updates will be carried out to incorporate new information requirements that will arise during project implementation. The MIS will contain registers of project financial and technical data from the PLS, project and other CEPAGRI documentation, lessons learnt, good practices, knowledge gaps, and other important sector information to analyse performance of the project and other initiatives, including information regarding price and export statistics. The consultant/service provider developing the MIS should ideally be the same consultant developing the M&E and KM system.

Website. Information will also be available through an online website. The objective of the website is to provide a place online where key information about the project and project progress can be identified and accessible to all. More importantly, it is a place for government and non-government staff (such as investors and private sector actors) to obtain information about the status of the project, location of infrastructure, and project specific activities within the project value chains.

The website will have a simple user-interface where the user can obtain reports and additional information about PRO-SUL area and project specific VCs. This can include but does not necessarily limit to availability of key documents, lessons learnt, and case studies. As much as possible, the website will be linked with the MIS database to provide historical overview about important information such as crop yields and prices. The geo-referenced maps will be available on the site with the option to view historic progress and filter objects according to its type (infrastructure, FOs, Hubs, output traders, etc).

It might not be necessary or desirable to make the entire database available through the website. In this case, the M&E and KM consultant will work with CEPAGRI and the PMT in determining the level and type of information that website users will be able to access. The website will be hosted at CEPAGRI and should ideally be integrated into to the existing CEPAGRI website. CEPAGRI and project staff will obtain training on how to use and update the system.

Knowledge sharing. A vital aspect of the M&E and KM system is the dissemination of information obtained. Consequently, tools and venues for knowledge sharing will be identified as part of the PLS based on the project document, and will be described in the M&E and KM manual and the communication strategy.

Capacity building. An inclusive M&E and KM system will require capacity building on (i) the importance and role of M&E and KM; (ii) identification, analysis and dissemination of information; and (iii) website and MIS management. Capacity building will be in the form of participation in KM workshops and training, both to staff and stakeholders as per needs identified by the M&E and KM Officer.

Reviews and Workshops

Inception and final stakeholders' workshops. An inception workshop will be organised at the beginning of the project with project stakeholders and implementing partners with the purpose of: (i) ensuring that all partners understand and agree on the scope and implementing modalities of the project; (ii) introducing key processes, tools, strategies and reporting needs; and (iii) acting as a networking event to build relationships for future knowledge sharing. A final project workshop will also be hosted at the end of the project. The workshop will gather all key stakeholders and review project outcomes, lessons learnt, and other key information and experienced generated throughout the lifespan of the programme. The end of programme workshop will generate information that will guide and serve as the launch of the Project Completion Report exercise.

Annual implementation reviews. Annual implementation reviews will be conducted as part of the annual Value Chain Platform meetings, involving implementers at all levels and key stakeholders to

analyse and review lessons and challenges. The reviews will be linked with the AWPB planning process to ensure that lessons lead to improved implementation. The review will be in two stages. First, the LSPs, PMT, and other implementing units will critically assess themselves in conjunction with their stakeholders and partners. Secondly, this exercise will culminate in a presentation at the VCPs where all stakeholders will review the project holistically. Qualitative analysis will be conducted from the end of the second year to assess whether activities are likely to lead to the desired higher-level results. Process monitoring will also be carried out during these reviews, by assessing the degree of beneficiaries' participation in project activities, quantifying the numbers of households reached through the different components, and confirming the level of participation by women and youth. Specialized studies to evaluate the extent to which the PROSUL purpose and overall goal are being achieved, or to review certain processes and procedures would be carried out on a need basis. An assessment of quantitative targets included at all levels in the logical framework will be carried out before the Tri-Term Reviews.

Implementation Support Missions and Mid-Term Review (MTR). Formal implementation support missions will be conducted by IFAD on an annual basis with additional informal supervision and contact over the course of the year. An MTR will be undertaken during the last semester of the third year to assess programme achievements and interim impact, the cost-effectiveness and performance of innovative business models, the efficiency and effectiveness of PROSUL management, and the continued validity of PROSUL design. Additional, specific issues to be reviewed by the MTR include the following:

- *Horticulture value chain:* (i) assess outcomes generated by greenhouses, and make recommendations as to the expansion of the greenhouse programme; (ii) identify market promotion activities to be developed;
- *Cassava value chain:* review the achievements, lessons learnt and further market prospects and make recommendations as to expansion, with regard to (i) new districts/production areas and to the increase of processing capacities, (ii) key areas for project support to develop a conducive policy and legislative environment, and (iii) market promotion activities to be developed;
- *Red Meat value chain:* based on outcomes as well as on market development and requirements, assess the opportunity of setting up permanent technical advisors financed by the proceeds of the slaughterhouse that will be financed by PROSUL;
- *Regional VCPs:* review achievements of Regional Value Chain Platforms and provide orientations as to whether and how they should evolve into a permanent structure

Based on findings, the MTR will make recommendations for revisions to project activities and approach for the remainder of the implementation period.

Furthermore, a comprehensive Implementation Support Mission will be organised by IFAD beginning 2018, which will conduct a thorough review of achievements and make recommendations for the remainder of the project with the specific view of ensuring the sustainability of project achievements beyond project completion.

Impact Assessment and Programme Completion Report. At the end of the implementation period, an end of programme impact assessment will be carried out to measure changes at beneficiary level, compared to the baseline study. The assessment will be contracted out to a service provider (other than the LSPs) under the supervision of the PMT. The PMT will also prepare an internal Programme Completion Report (PCR), which will include an assessment of the achieved versus the planned impact, to be submitted to IFAD and the government of Mozambique within three months after programme completion.

An ASAP specific impact assessment will be carried out by the end of ASAP financing. The assessment shall measure impact on the ASAP specific indicators identified in the logframe which will be shared with the IFAD ASAP team within three months of completion of the grant.

Knowledge Management

The integration of knowledge management in all aspects of project management aims at improving management processes and the delivery of the project's objectives. Learning from successes and failures and a continuous improvement process within PROSUL will strengthen project performance. The main purpose of knowledge management processes is to ensure that knowledge generated within the project is systematically identified, analysed, documented and shared. This systematic learning and knowledge management approach will enable the project to be flexible and responsive to changing circumstances, while also identifying important issues to convey to policy makers. It will also ensure that appropriate lessons learnt and good practices from different actors are gathered and disseminated to the benefit of stakeholders for adoption and use.

Strategy. In consultation with the Project Coordinator and the M&E and KM Officer, the same consultant hired to design the M&E system will prepare a KM strategy covering both quantitative and qualitative information. The strategy will include a detailed implementation plan for the first year on how information is to be obtained, analysed, and disseminated. In this regard, the KM strategy shall also include a strategy on communication, which will outline how knowledge will be disseminated using, but not limited to, the communication channels described below. This will include types of channels used (radio, video, journals, etc) and means delivered (radio, hubs, extension officers, etc) as well as communication method (story mode, role-play, etc.) according to the target audience. The communication strategy will be flexible and should be adjusted according to needs as they arise and feedback from the beneficiaries.

Effective communication at all levels would be critical to awareness raising, learning and adoption of new approaches. Communication would also support multi-stakeholder approaches and help to ensure participation of the target groups. Communication with the wider public, including the media, would also be an important aspect, including to share emerging lessons and experience and to raise awareness about the importance of the rural economy in order to attract investment, promote farming as a business, encourage entrepreneurship, and convince young people that opportunities for advancement exist in rural areas.

Action plan. The M&E and KM Officer will prepare an action plan for knowledge management and communication. This will integrate activities related to the Good Practice and Innovation Tracking System, learning routes, VCPs, Innovation Platforms, Farmer Field Schools, documentation & dissemination and learning. This action plan will be integrated in AWPBs and will be updated every year. During the preparation of the plan, the M&E and KM Officer will ensure that the needs of women and youth are being adequately addressed and disseminated.

Good Practices and Innovation Tracking System. The M&E and KM Officer will set up a "Good Practice and Innovation Tracking System" that will be validated by the Project Steering Committee. This will allow keeping track of good practices from a variety of stakeholders, e.g. farmers, service providers, and other private sector actors, learning from their achievements and feeding them into policy dialogue. Most importantly, this system will allow for the identification of innovative case studies that CEPAGRI stakeholders and value chain actors can learn from and adopt in their work. The system will also be able to track knowledge gaps, which are thematic or operational areas where the capacity of the value chain actors (such as farmers) can be strengthened. Information on knowledge gaps can serve as a guide to steer the type of information that will be disseminated to the various actors. The M&E and KM Officer should be able to track progress, such as knowledge gaps solved, innovation and good practice disseminated, how it was implemented and the result of sharing the information. Identifying best practices related to overcoming gender (female) and age (youth) specific challenges should be an integral aspect in the system, both during the selection of thematic areas, documentation and dissemination.

Selection of thematic areas. Every year, the Project Stakeholders' Annual Performance and Learning Assessment mentioned above will identify areas in which project stakeholders intend detecting good practice, identifying best practices and developing exchange of knowledge. Areas could include for example: agricultural intensification; access to agricultural inputs; access to extension and advisory services; market access; rural financial systems; risk management, etc.

Setting up an annual reporting format. The M&E and KM Officer will develop a format for bi-annual reporting on innovations/knowledge gaps/good practices by main project stakeholders. The format will require information on the features of innovation/knowledge gap/good practices, who can benefit from it, outcomes achieved, inputs required and modalities of implementation as well as costs. Particular attention should be devoted to describing the context in which the innovation/good practices were developed, critical factors of success, difficulties met and solutions found to mitigate them. Attention should also be given to describing how the innovations/good practices are accessible by both men and women, poorer and less poor groups, and how access by a larger range of stakeholders could be improved. The report shall also inform about positive and negative impacts, including the level of adaption of previously disseminated good practices and innovations in order to learn from experience and help steer the decision-making process.

Validation of good practices and innovations. The M&E and KM Officer, in collaboration with CEPAGRI M&E will make a first screening of innovations/best practices presented through the reporting system. Reports retained will then be validated by the VC platforms, with a view of making a final selection of those innovations/good practices presenting the best potential and opportunities to be replicated at a larger scale. Such selection will be based on a matrix of criteria previously determined. The VC platforms will also decide on the organisation of further field investigation through cost-effective modalities to be determined to complete the basis of information and analysis.

Documentation. Documentation and sharing of lessons, experience (successes and failures) and good practice will be carried out continuously during PROSUL implementation to share knowledge and experience on specific topics. Relevant information will be collected and documented to show the evolution of the various project's activities, and to compare results with previously defined objectives. Tools, such as case studies and stakeholder interviews, will be used to deepen the understanding of factors contributing to successes and failures, and to enable full documentation of lessons and impacts. The M&E and KM Officer will select appropriate channels for sharing the documentation according to the targeted groups such as through publication in printed form and on dedicated websites, or through network meetings and other forums. Specific areas of interest in this respect include inclusive business models, public-private partnerships for farmers' access to services, and innovative financial instruments

Apart from PROSUL documentation, the M&E and M&E and KM Officer will make sure all key documents such as reports, studies, WAs, correspondence, no-objection tracking sheets, contract monitoring forms, asset registers, etc, are stored securely and are easily accessible. All tangible documents shall be hosted at CEPAGRI for easy access.

Dissemination. The last stage will be to devise proper ways to package information about innovation/good practices/knowledge gaps retained and to disseminate information to support replication. Appropriate supports (written material, videos, radio programmes) and communication channels (farmer organisations, hubs, extension officers, farmer field schools, rural radios, mobile phones, journals, newspapers, value chain platform, website, private sector actors, etc.) will be selected according to targeted audiences and in line with the knowledge management and communication strategy. Depending upon the need, several communication channels (such as journal and radio) might be used interchangeably to complement one another and ensure the information has been adequately communicated and received. Furthermore, every year, an award for innovation will be attributed to an institution or individual that is at the origin of innovations retained through the tracking system. Candidates to the award will be proposed by the M&E Stakeholder Group and the

final decision will be made by an Innovation Award Committee composed of representatives of CEPAGRI, LSPs, Private sector, FOs, and DPAs.

Radio. Innovation, knowledge, and good practices can be distributed through the radio in the form of short 5-10 minute case studies told through role-play or story-mode. Information should ideally be repeated several times during the week and be accompanied by a physical document that can be collected. Other information, such as weather, prices, and disaster information can also be shared through the radio. The radio programme should also include the option for callers to call in to ask questions or share information and personal experiences. If possible, an agronomist should be present to answer questions that the callers might have, this should be managed by the radio broadcasters and the DPAs themselves. As much as possible, the shows should be broadcasted in local languages.

The project should utilise existing radio shows already managed by DPAs. In this regard, there will be a need for capacity building for the radio staff on the techniques used to adequately disseminate information through radio in an interesting and engaging manner.

Newspaper/Journal. A range of information can be shared through newspapers and journals to be chosen according to the level of outreach to beneficiaries. Specifically, learning from the experience of IFAD projects in Madagascar (see Attachment 1 for example), information can be disseminated through informative and simple illustrations, where farmers can easily obtain good practices and good farming knowledge in a simple and engaging manner that does not require high levels of literacy skills.

The M&E and KM officer would, with assistance from the LSPs, FOs and the VCPs, identify newspapers or journals to disseminate information. The M&E and KM officer will subsequently identify an individual or institution (could be an illustration company) to create the illustrations according to needs.

Text messaging and low cost video. Reminders (timeframes for land preparation, planting, harvest, etc.) and brief timely and effective dissemination of crop-specific extension messages can be distributed through text messaging. Text messages can also be sent to remind farmers where to collate information, or the topics that will be discussed on the daily radio show. In addition, good practices and new innovations can be illustrated and disseminated through low cost video and small low cost projectors that can be easily transported and projected on walls. This method is ideal for more complicated issues which are better disseminated through visual aids.

PROSUL should not seek to develop these independently but leverage on existing initiatives such as the PRONEA support project and USAID ICT programmes. In this regard, the PMT should establish a connection with these initiative and aim to sign an MOU that will facilitate for usage of text messaging and low cost video within the PROSUL area.

Informal communication. Effort should be made to identify and strengthen informal communication channels between farmers and traders in order to facilitate for dissemination of knowledge informally. This entails the way information is shared between different stakeholders without a formal mean to facilitate for such information exchange, for example a conversation between two farmers. This can for example be awareness raising on how to identify good practices and innovations as many farmers may not be aware themselves that they are innovating or doing something that is worth sharing with others.

Knowledge sharing within PROSUL and CEPAGRI. A vital necessity for the success of the KM strategy is the existence of a knowledge sharing environment within the PMT, CEPAGRI, and other implementing partners. In this regard, efforts would be made to ensure that this develops and that key staff understands the importance of KM for the success of the project, and that KM is integrated as a key tool for decision making and shared learning. The PMT should identify *KM champions* who are interested in leading this effort and act as focal point for KM issues. The IFAD grant-funded regional

knowledge network, IFADAfrica, will provide guidance and support to the PMT, M&E and KM officer and knowledge champions. This would include participation in third party organized KM workshops (for example by IFADAfrica), as well as invitation to IFADAfrica to visit the project and advise accordingly. These visits should be in the second year to guide the start-up of the KM activities, and shortly after the MTR and the comprehensive Implementation Support Mission planned for 2018 to provide further guidance according to the recommendations provided by these two missions.

Knowledge sharing between projects. The PMT should encourage the development of linkages between PROSUL and other IFAD and non-IFAD run projects in Mozambique and the region. Specifically, the PROSUL M&E and KM Officer should be active participants in the country KM team, including participants from all IFAD financed activities in Mozambique with the aim to facilitate shared learning and experience between the PMTs in the different IFAD projects in Mozambique. This could include, but is not limited to, programme management, financial management, value chain facilitation (PROMER), M&E and KM.

Learning Routes¹³⁰. Learning Routes will be organised by the projects, with guidance from IFAD-funded grant project PROCASUL, for each value chain on topics identified during the scoping studies or throughout the project lifespan by the VCPs. These will focus on specific and innovative case studies in selected countries that the project wants to implement related to its value chains. Prior to the learning route, training needs and interests of potential participants in the Route will be identified based on a demand-driven approach. The organizers of Learning Routes will determine the itinerary, sketch out specific activities to be carried out during the Route, provide essential documentation to participants and address logistical and administrative issues.

Two Learning Routes have been identified at the project design stage:

Gender Action Learning System (GALS): GALS is a participatory approach developed by Oxfam, aiming at ensuring women and poor inclusion in the VC. It has been implemented in several IFAD projects in the region (including Malawi, Uganda and Zambia) as well as in Sierra Leone where the approach is being applied to the whole IFAD portfolio without any particular intervention of Oxfam, which is also the approach aimed at by PROSUL (see Annex 2 – Poverty, Targeting and Gender for more details);

red meat value chain: as an initial idea the Learning route should be between Tanzania (Arusha's slaughterhouse and meat processing, pastoralists) and Kenya (Amboseli MACs, Kiserian slaughterhouse, MeatCo. industries, Farmers' Choice industries, private butchers and pastoralists). It should involve livestock producers, butchers, traders and technical staff of DNSV in Mozambique involved in the development of the beef value chain approached proposed for the new IFAD project PROSUL.

Two more Learning Routes will be organised to support innovation in the horticulture and cassava value chains.

Participants in the Learning Route will review approaches, methodologies, tools and experience gained in implementing them in the context of the selected case studies. This will usually be followed by the field visit to the selected localities where participants can interact with those with direct experience in implementation of the chosen innovation. Complementing the field visits, thematic panels will be developed by specialists and daily analysis workshops organized to collectively evaluate the value of the experience, provide feedback to the hosts and systematically improve the design of Innovation Plans. Upon completion of the Route, a final workshop will be organized to assess what has been learned and the strategies to be taken in order to adapt and adopt innovations.

¹³⁰ See more details in Attachment 3.

Innovation Plan. The participants in the Learning Routes will design an Innovation Plan based on the innovative products they have learnt during the Route and want to implement in PROSUL. To this effect, the organizers of the Route will provide the guidelines for the development of the innovation plans. Once validated, the Innovation Plan will be integrated into the project's AWPB and regularly updated. PROSUL will make sure there is feedback on the learning approach, success and failures in implementing Innovation Plans in order to: i) verify and analyse achievement of expected results; ii) assess impact of the services provided at different levels by organizations and suppliers of services; and iii) generate lessons and recommendations for future initiatives.

Implementation Arrangements

The CEPAGRI PMT will hire a consultant to assist in designing the PROSUL M&E and KM system along the above indications. The consultant will also provide orientations to design the database/MIS, devise an M&E/KM strategy and action plan and prepare an M&E and KM manual. After one year, the consultant will return and review the implementation of the system and adapt the system, strategy and manual according to lessons learnt from the first year. The manual will then be regularly updated by the M&E/ KM Officer to reflect evolving project practices. During development, the focus shall be on usability and simplicity to prevent the development of a complex and heavy system that will not be adequately used. It is more favourable to start with a smaller set of indicators and build on those as the needs arise than having a large range of indicators which are not adding value to the decision-making process.

The consultation will be in coordination with the CEPAGRI M&E team to ensure the system is harmonized with their internal systems. PROMER and PROPESCA should also be consulted to ensure some consistency between IFAD financed projects. It is vital to reiterate that the aim of the project is to build capacity and strengthen the ability of local actors to identify, document, and disseminate knowledge post-project. The KM strategy should consequently take this into effect and ensure there is a clear exit strategy prior to the end of PROSUL.

Specific M&E and KM responsibilities will be allocated to implementing units and key stakeholders (VCPs) according to the M&E and KM strategy.

ATTACHMENT 1: TERMS OF REFERENCE FOR M&E/KM CONSULTANT

INTRODUCTION

The Government of Mozambique with the support of the International Fund for Agricultural Development (IFAD) has designed the Pro-poor value chain development in the Maputo and Limpopo Corridors project (PROSUL). The project is developed along a value chain approach. In the three target value chains, it will address key production, processing and marketing constraints, with a view to improve farmers' ability to deliver the qualities and quantities required to respond to market opportunities, maximise their profit and strengthen their position in the value chain governance. This will involve: (i) *supporting farmers to increase their production*; (ii) *addressing key market constraints and promoting market linkages* between smallholders and market agents; (iii) *ensuring smallholder sustainable access to the services* they need to boost production; and (iv) *promoting key interventions to develop a more favourable business environment* in the value chain.

The project goal is to improve the livelihoods of small farmers in selected districts of the Maputo and Limpopo corridors. To that effect, the project development objective is to sustainably increase returns to farmers in the three target value chains, by promoting increased volume and quality of production, improved market linkages, efficient farmers' organisations and higher farmers' share over the final added value. Main indicators are, for each value chain: (i) volume and value of annual production marketed from target areas; (ii) percentage of final price accruing to small-scale producers; and (iii) number of farmers' associations strengthened and providing effective service to members. The project comprises five components: (i) Horticulture; (ii) Cassava; (iii) Livestock; (iv) Financial Services; and (v) Institutional Support and Project Management.

In order to facilitate for the achievement of the project objectives, a project learning system (PLS) integrating planning, M&E and KM will be developed with three main objectives:

steer project implementation: it should provide project stakeholders with information and analysis required to: measure project outcomes; assess project effects on the livelihoods of participating farmers (including vulnerable households, women and young people); assess the relevance of the project strategy, methodologies and implementation processes; detect difficulties and successes; and support decision-making to improve project performance. It should also provide information to measure project contribution to the implementation of PEDSA and of PNDA, and to the achievement of COSOP targets;

support economic decisions and policy-making: it should provide value chain stakeholders, and, in particular, farmers' organisations, service hubs and private sector actors, with the information and analysis they need to assess the return brought by innovation, to develop profitable activities and to adapt their strategies accordingly, by monitoring both quantitative (yields and production, margins, stocks, credit management) and qualitative results (members'/clients' satisfaction). Furthermore, it should provide stakeholders and government with the informative environment needed to make policy decisions that can positively benefit economic activities within the value chains;

share knowledge: based on the above, the PLS should develop lessons learnt, capture good practices and successful innovation, and share knowledge under appropriate formats to support project performance and policy dialogue. Specific areas of interest in this respect comprise inclusive business models, public-private partnerships for farmers' access to services, and innovative financial instruments.

PURPOSE OF CONSULTING

A specialised M&E and KM consultant will be hired by the project to support CEPAGRI/project staff and Value Chain Lead Service Providers (LSPs) in developing a Project Learning System (PLS) that includes project planning, the identification, storage, analysis, and dissemination of information, and

subsequent adoption of best practices. The consultant will work closely with PROSUL M&E and KM Officer and the Project Coordinator in developing the PLS using the Project Design Report as a starting point. At the end of the consultancy, the project will have an operationalized PLS including adequate systems and strategies to facilitate the management of an effective system.

MAIN TASKS OF THE CONSULTANT

Main tasks that are expected to be performed by the consultant are to:

- develop a shared understanding of project objectives, approaches and planned activities by main project stakeholders, and of the objectives of the PLS;
- propose a broad framework for M&E and KM and on priority actions to implement it;
- identify quantitative and qualitative indicators on a participatory basis, building on the logical framework and the indicators proposed in the project document;
- provide guidance as to the implementation of the baseline study;
- define data collection modalities, information flow, and responsibilities of key actors in the PLS;
- develop appropriate tools and strategies to facilitate for the implementation and management of the PLS;
- guide and coach the PMT and the M&E and KM Officer particularly in how to implement and manage a successful PLS;
- assist the PMT and M&E and KM Officer in identifying the scope and implementing modalities of the baselines studies to be part of the scoping studies and identifying data to be geo-referenced and mapped;
- support any additional activities necessary for the successful implementation of the PLS.

EXPECTED OUTPUTS

At the end of the consultancy, it is expected that the PMT will have a functional PLS for the effective realisation of planning, implementation, data collection and management, analysis, innovation and learning, dissemination and communication. This will:

- an M&E and KM strategy outlining a clear framework and implementation strategy for the overall PLS. The strategy should also clearly define the vision and objective of the PLS as well as an action plan for implementation for the first year;
- revised project logframe;
- an M&E and KM manual;
- a communication strategy and action plan; and
- a functioning management information system in support of project planning, collecting, storing, analysing, and reporting, include necessary forms and report templates.

DURATION OF CONSULTING

The consultancy will have duration of 120 working days, which will be allocated over a total of three phases. The first phase will include the design of the overall framework of the PLS and provide support to organise the collection of baseline data through the scoping studies. The second and main mission will take place once the scoping studies will be available. It will further develop the PLS and produce the strategies, manual and MIS. Phase three will take place after the system has been in use for a period of time and will include any revisions as identified during the operation of the system by key stakeholders.

In the beginning of the consultancy, the consultant, in coordination with the PMT will establish a detailed schedule outlining the different stages and timeframe of the work.

CANDIDATE'S PROFILE

To fulfil these tasks as defined under the terms of reference the consultant is expected to have a minimum of 10 years' experience in designing system for monitoring, evaluation and knowledge management for rural development projects, including developing computer-based management information software. (S)he should hold a master's degree in social science, development, economics, or any other related field. Experience with value chain development projects, especially in Mozambique would be an asset.

1. ATTACHMENT 2: EXAMPLE OF DISSEMINATION POSTER¹³¹

KATSAKA
 PAN 6844 sy PAN 6480

Zezi-pahitra 10 sarety sy NPK 200Kg isaky ny 1 Hekitara

Aparitaka aloha ny zezika NPK 11 22 16 sy ny zezi-pahitra vao asaina ny tany efa voadio

Voa 1 isaky ny lavaka no alatsaka ka 1 dingana no elanelam-pototra

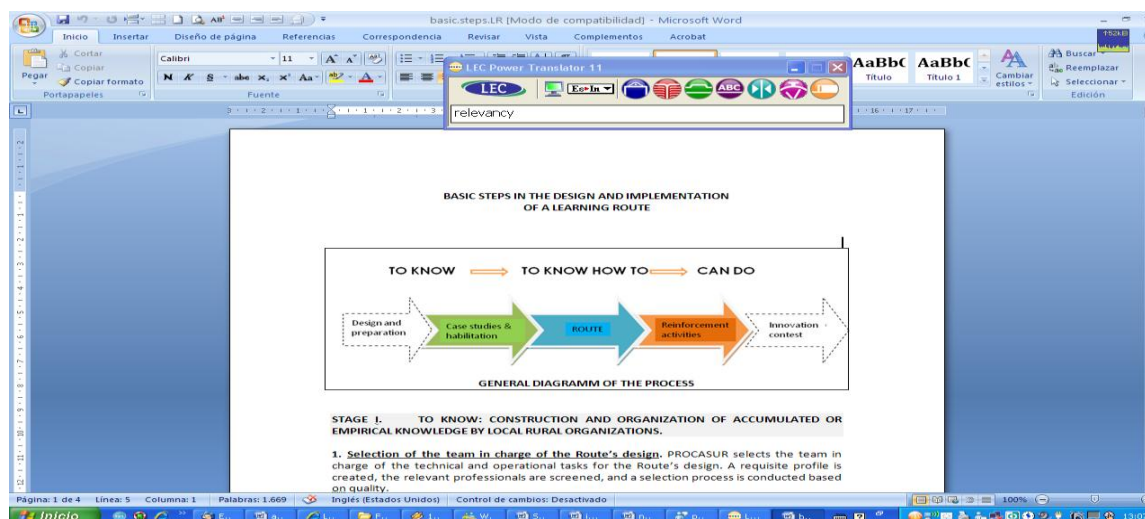
Tsara kokoa ny mampiasa rakotra :

- tsy mila fiavana
- mitahiry hamandoana
- mahatanty hainandro
- manome roroka ny tany
- tsara ho an'ny tany tsy ampy ranon'orana

¹³¹ From the *Projet du Haut Bassin du Mandraré* financed by IFAD in Madagascar.

2. ATTACHMENT 3: LEARNING ROUTES METHODOLOGY

1. The Learning Route methodology includes three distinct stages as described further below.



Stage I: To Know. Construction and organization of empirical knowledge accumulated by local or rural organizations.

2. ***Selection of the team in charge of the route's design.*** The methodology calls for selecting a team in charge of the technical and operational tasks for the route's design. A requisite profile is created, the relevant professionals are screened, and a selection process is conducted based on quality.
3. ***Identification of the training needs of the route's potential users.*** A second step involves the identification of the universe of participants in the Learning Route, together with the specific demands for training, so as to achieve an appropriate design of one or several alternative learning processes, each one with direct user value. Through the review of current documentation, interviews with managers of projects and programmes for poverty alleviation in the region, and advice from experts, relevant themes in demand by the players linked to rural development are identified. Priority is given to: i) work with professionals, technicians, partners and beneficiaries of IFAD's operations in the region, and ii) the design and execution of Routes which underscore the heterogeneity of the rural world, attempting to achieve a shared diagnosis and pertinent action strategies which promote policy dialogue.
4. ***Selection of cases to be studied.*** Once the specific user/participants are selected, the performances to be strengthened are identified, and the main training needs defined, the process of selecting pedagogically relevant cases to be included in the Route as local talent or champions to be providers of training begins. This stage considers: i) determining through consultation with experts the principal contents of topics to be addressed, and proposing relevant experiences which have demonstrated to have user value, which can be considered state of the art; ii) defining learning goals in which productive, economic, social and/or cultural working practices are detailed, and over which a positive impact is sought; iii) identifying local and regional specialists on the topics of each Route as potential instructors; iv) designing the itinerary for technical knowledge acquisition to be implemented, the specific activities to be carried out in each location, and the mechanisms to be applied for evaluating results, and v) operational planning of each Route, including administrative and financial aspects.

5. ***Systematization and preparation of case studies.*** Once the experiences or cases are determined, a process of participatory systematization is initiated in which the lessons learned, the materials, presentations, and activities to be employed during the Route are prepared. At this stage, the protagonists of the cases reflect upon their own practices, an exercise which contributes to the construction of knowledge. The contribution of the case to the theme and the Route must be validated by experts. There are several ways for documenting this knowledge; the most efficient have until now been audiovisual documents. For the effective assessment of knowledge, the process of systematization must be participatory and lead to capacity building of human resources involved. Through the use of basic systematization tools and the preparation of training activities, the skills of local talents are promoted and the participation of small-scale farmers, micro entrepreneurs, and citizen's groups in technical assistance services markets are encouraged.

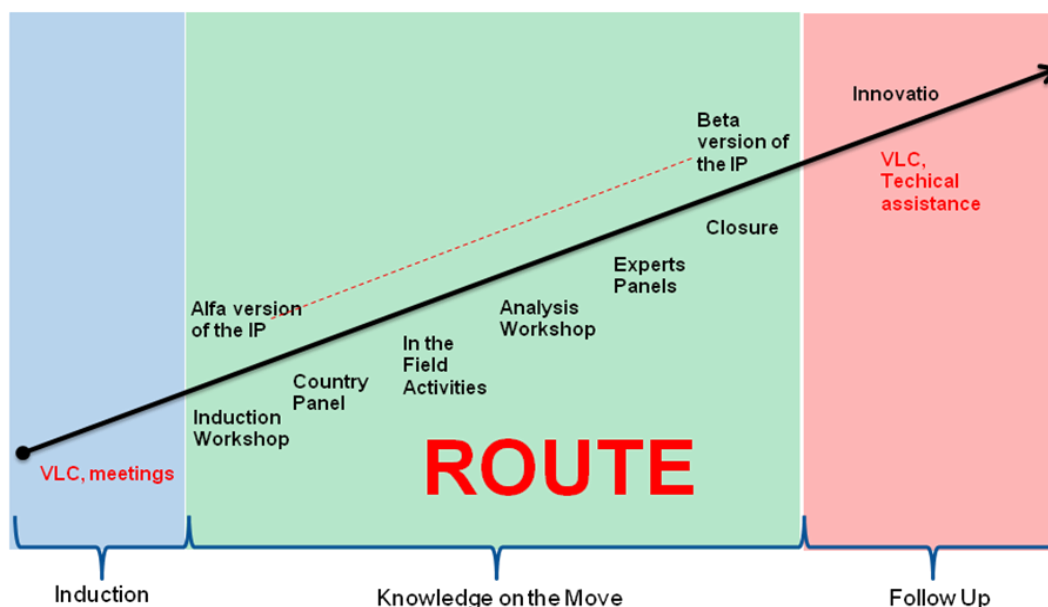
6. ***Selection of local and regional experts.*** A number of local and regional experts on the subject matter of each Route are identified as a crucial task prior to the design of training. This allows for managing updated information on key concepts and tools and on study cases which demonstrate high levels of innovation and educational potential.

7. ***Dissemination, convocation, and application.*** Proposed routes are disseminated through electronic media and published in regional media, as well as in an electronic bulletin which is sent to the directors of the organizations of potential participants. Through these means the convocation is launched and the registration form and scholarship applications may be downloaded, which can be returned to the Programme by fax, e-mail, or conventional mail.

8. ***User/participant selection.*** To select user/participants, the information provided in the registration form is analyzed. Applications are ranked according to basic criteria, including ethnic and gender equality, age and position within the organization. Specific criteria are built in allowing for an assessment of the different potential participants in the Route according to their own strategic requirements.

9. ***Preparation for the trip.*** Support is provided for final preparations and user/participants are introduced to the thematic and operational aspects of the Route: i) activities in support of the study case should be primarily concerned with the delivery of specific information about the group they will receive, such as names, ages, nationalities, memberships, and organizational expectations; assistance in the preparation of documents, presentations, and activities; the dissemination of information regarding the activities, both within the organization and outside of it; ii) the activities to prepare the user/participants are both technical and operational. Basic documentation is delivered via e-mail and through electronic media. In addition, a personal and institutional presentation is requested. This is based on a diagnostic pattern and is designed as an initial task for developing an innovation plan. On the operational side, a detailed itinerary and recommendations for each field visit are provided.

Stage II: To Know How to. Knowledge build-up during the Route



10. **Induction workshop.** This is carried out at the beginning of the Learning Route and offers an in-depth look at the approaches, concepts, tools, and experiences that are linked to the issues of the Route, providing a critical reflection of the practices to be analyzed by user/participants and identifying their needs and expectations. Knowledgeable authorities participate and presentations relevant to the Learning Route are made, working groups are formed, and open discussions are held. This is a motivational milestone in the implementation of the Learning Route.

11. **Field work.** Activities in the field include above all field visits to the cases previously selected, systematized, and incorporated to the Route are undertaken. The principal actors are the associations and farmer communities who present their experiences, answer questions, and exchange information pertinent to their activities. In addition, other local actors such as field technicians, local authorities, association leaders, financial operators, merchants, and small entrepreneurs who have collaborated in the implementation of the experience participate. The purpose is for user/participants to achieve a comprehensive view of the case, identify the factors that have facilitated the processes of innovation, and examine in depth the results obtained.

12. **Panel of experts and decision makers.** Complementing the field work, a panel of experts and decision makers is convened including actors from civil society, the public and private sectors, NGOs, academia, thematic specialists, politicians and others with knowledge or a position relevant to the subject.

13. **Workshops for the development of Innovation Plans.** During the Route three workshops are carried out which are aimed at facilitating the adaptation of innovative products or services to the reality of user/participants of the Learning Route. For this purpose, the Route Technical Coordinator has a teaching guide which covers the different parts of the trip, the participant's return to his or her organization, and participation in the Learning Community.

14. **Case Summary Workshop.** This workshop aims to review the selected innovative experience, study its outstanding aspects, and examine the concepts and approaches analyzed and discussed during the Induction Workshop. This activity finishes with conclusions and recommendations on the daily program, focusing on the usefulness of each experience and discussions on the performances of the user/participants of the Route. In addition, a commitment is made to generate a series of recommendations for the local organizations and talents who participated

in each Route, recommendations drawn from a review of the case conducted at the end of each workday.

15. **Closing Workshop.** The Route concludes with a workshop that discusses the main lessons learned during the Learning Route and the innovations available for adaptation. It provides a collective assessment of the experience and participation certificates are presented.

Stage III: Can do. Implementing innovations

16. **Activities to reinforce learning.** With the aim of improving the impact of training at the organizational level, activities are undertaken to reinforce learning, as well as socialization, and the transfer of contents and the skills acquired. These activities are designed in accordance with the characteristics of each group. They are designed as activities suitable for professionals, technicians, and others with basic connectivity, and involve the implementation of a Virtual Learning Community (VLC). If the connectivity and digital literacy requirements are not met, local support activities are implemented, including in field and distance advice.

17. **Innovation Plan.** The design of an Innovation Plan results in improved incorporation of learning by user/participants through an applied exercise and also provides a concrete product for the organization. To encourage the process of reflection and dissemination of learning, the development of the plan considers stages of dissemination and validation by the community and/or organization. A competitive fund will co-finance the execution of the best plans, with an amount, terms, and activities clearly established.

18. **Systematization and dissemination of the results of the Route.** Using a systematic and uniform model for all the Routes, the main lessons generated by each case are presented. The basic documentation is in the form of an Activity Log and complementary information on the Route, and includes photographic and video recordings, and the presentations made by participants, local talents, and the technical crew. It is designed to be disseminated through a Web page and in Digital Video Disc (DVD) form. This material is distributed to local champions or talents with the aim of returning the results to the community and to participants.

19. **Follow up and evaluation.** The Learning Route approach carries with it a follow up and evaluation activity. A representative group of user/participants are surveyed six and twelve months after their participation in the Route. The objectives of this activity which is part of a monitoring and evaluation approach are to: i) verify and analyze achievement of expected results; ii) assess impact of the services provided at different levels by organizations and suppliers of services; and iii) generate lessons and recommendations for future initiatives.

3. ATTACHMENT 4: INFORMATION SHARING

Information	Responsible	Reporting Interval	Sharing Modalities	Recipients / Users
Progress report	M&E and KM Officer, Implementing agencies	Quarterly, Semester and Annual	E-Mail	CEPAGRI, IFAD
Financial report	PRO-SUL	Monthly	E-Mail	MINAG, CEPAGRI
GIS Information	Implementing agencies	Quarterly	E-Mail	M&E and KM Officer
AWPB	PRO-SUL	Annually	E-Mail	PRO-SUL, IFAD
Action Plan	M&E and KM Officer	Annually	E-Mail	Stakeholders
General PRO-SUL documentation	M&E and KM Officer	When available	Website, electronic soft copy, Hubs	Stakeholders
Innovation Plan	Learning Route Participants	Upon completion of the Learning Route	E-Mail	Learning Route Participants, PRO-SUL
Ongoing documented information	M&E and KM Officer	When available	Website, electronic soft copy, Hubs	Stakeholders
Programme Completion Report	PRO-SUL	Project completion	Hard Copy	IFAD

ANNEX 12 – CONTENTS OF THE PROJECT LIFE FILE

COMPLETION DESIGN REPORT

Main report

Annexes

Working Paper 1

DETAILED DESIGN REPORT

Main Report

Annexes

Annex 1 – Country and Rural Context Background

Annex 2 - Poverty, Targeting and Gender

Attachment 1 – Assets, Resources, Livelihoods Strategies and Priorities

Attachment 2 – Producer Constraints and Priorities in the PROSUL Value Chains

Attachment 3 – Main Documents Consulted

Attachment 4 – District Level Extension Capacity

Annex 3 – Country Performance and Lessons Learnt

Annex 4 –Detailed Project Description

Section 1 – Horticulture Value Chain Development

Section 2 – Cassava Value Chain Development

Section 3 – Red Meat Value Chain Development

Section 4 – Financial Services

Section 5 – Service Hubs

Section 6 – Outgrower schemes

Section 7 - Farmer Organisations and Extension

Section 8 – Land Tenure Security

Attachment 1 – Horticulture: Detailed Description of Irrigation Sub-Component

Attachment 2 – Draft Terms of Reference for Scoping Studies

Attachment 3 – Cassava: Multiplication of Cassava Cuttings

Attachment 4 – Financial Services and Business Models

Attachment 5 – Draft Terms of Reference for Hub Staff

Attachment 6 –Land Tenure Security

Annex 5 - Climate Change Adaptation Approach

Attachment 1 – Pesticide usage/guidelines for various horticultural crops in Mozambique

Attachment 2 – Trilateral Cooperation on Food Security (U.S.-Brazil-Mozambique)

Attachment 3 – Guidelines for a Basic Meteorological Station

Attachment 4 – Environmental Impacts of Cassava Processing

Attachment 5 – Institutional Capacity Needs for Mainstreaming Climate Changes

Attachment 6 – ASAP Results Framework

Annex 6 - Implementation and Financial Arrangements

Attachment 1 – Staff at CEPAGRI Delegation for the Southern Provinces

Attachment 2 – PROSUL Organisational Chart

Attachment 3 – Draft TOR for PMT positions
Attachment 4 – Draft TOR for Lead Service Providers
Attachment 5 – PROSUL Flow of Funds
Attachment 6 - Procurement
Attachment 7 – Draft 18-month procurement plan
Attachment 8 – PROSUL start-up activities
Attachment 9 - Code of Practices for Project Management in Mozambique
Attachment 10 - Outline of PIM
Attachment 11- PROSUL District Phasing

Annex 7 - Project Cost and Financing

Attachment 1 – Summary Cost Tables
Attachment 2 – Detailed Cost Tables

Annex 8 - Economic and Financial Analysis

Attachment 1 – Financial Models
Attachment 2 – Economic Analysis Calculation

Annex 9 – Compliance with IFAD Policies

Annex 10 - Environmental and Social Review Note

Annex 11 – Knowledge Management and M&E

Attachment 1 – List of Key Indicators

Annex 12 – Contents of the Project Life File

REFERENCE DOCUMENTS

- QE Reviewers' Recommendations Note
- Maturity Assessment Template (MAT) for QE
- CPMT Meeting Minutes 16 January 2012
- Final Design Mission Aide Memoire
- Terms of Reference – Final Design Mission
- Terms of Reference – First Design Mission, 2009
- Terms of Reference – Institutional Contract KIT – Preparatory Study for Value Chain Analysis.
- Terms of Reference – Institutional contract ILRI – Design of the investment activities related to one specific value chain for Project Sul in Mozambique
- Value chain selection and analyses for Projecto Sul, Mozambique - KIT
- A Value Chain Analyses for Projecto Sul - Analyses of vegetables, livestock and cassava value chains in Southern Mozambique – KIT
- GOM request for New Project