Triangular Cooperation for Agricultural Development of the Tropical Savannah in Mozambique

SUPPORT AGRICULTURE DEVELOPMENT MASTER PLAN IN THE NACALA CORRIDOR IN MOZAMBIQUE

(PROSAVANA-PD)

REPORT No.2

Quick Impact Projects

March 2013

For Mozambique: MINAG, DPAs
For Brazil: Getulio Vargas Foundation
For Japan: Oriental Consultants Co. Ltd.
NTC International Co. Ltd.
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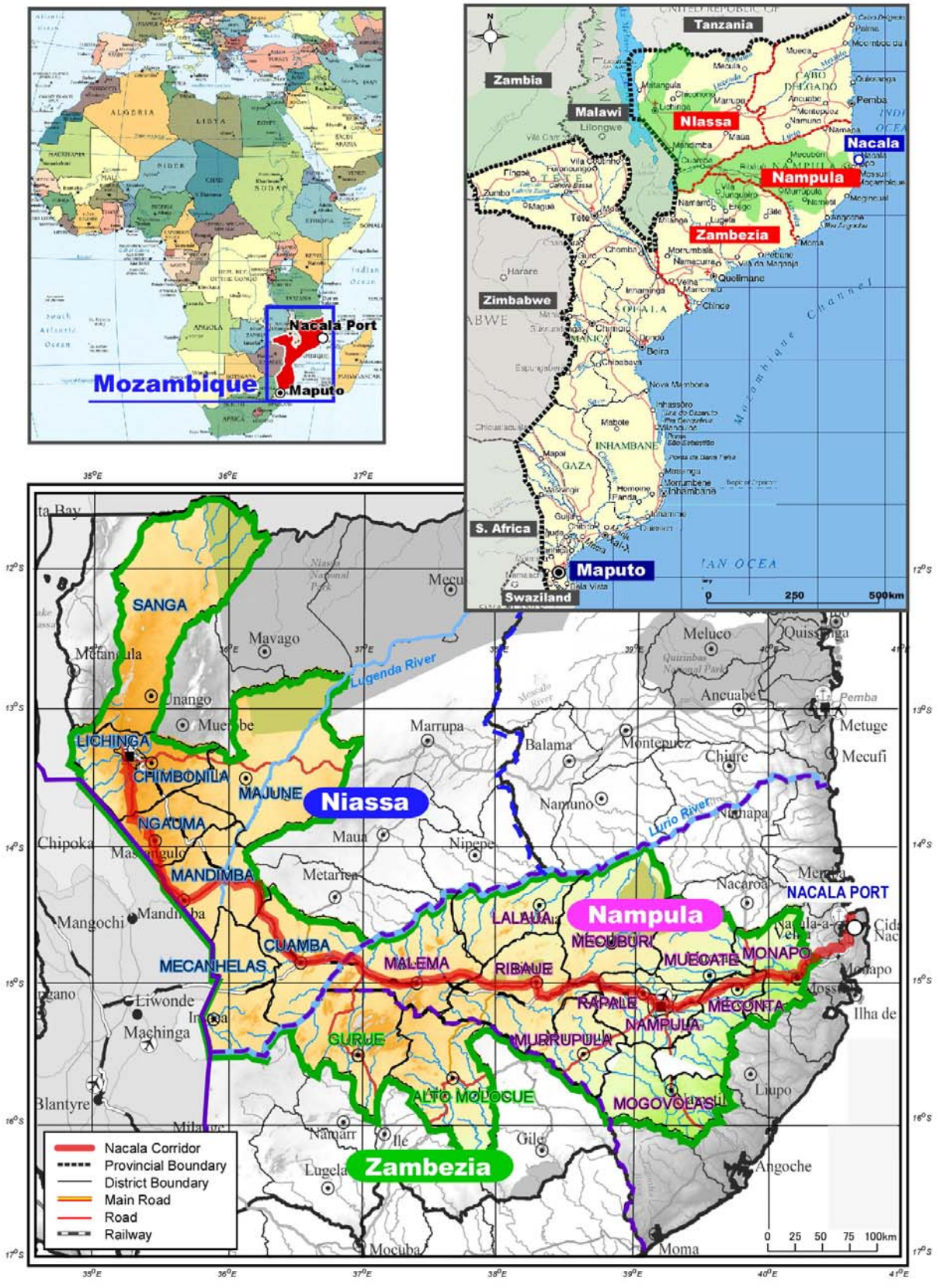

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Abbreviation

	English / Inglês	Portuguese / Português
ABC	Brazilian Cooperation Agency	Agência Brasileira de Cooperação
AIDS	Acquired Immune Deficiency Syndrome	Sindrome de Imuno Deficiência Adquirida
AIFM	Integrated Assessment of Forest in Mozambique	Avaliação Integrada das Florestas de Moçambique
ANE	National Agency of Roads	Administralção Nacional de Estradas
ARA	Basin Water Management Agency	Administração Regional de Águas
AU	African Union	União Africana
BAD	African Bank of Development	Banco Africano de Desenvolvimento
CAMPO	The company of Agricultural Promotion	Companhia de Promoção Agricola
CPAC	Cerrado Agricultural Research Center	Centro de Pesquisa Agropecuária dos Cerrados (EMBRAPA Cerrados)
CENACARTA	National Center of Cartography and Remote Sensing	Centro Nacional de Cartografia e Teledetecção
CEPAGRI	Center for the Promotion of Agriculture	Centro de Promoção da Agricultura
C/P	Counterpart	Contraparte
CPI	Investment Promotion Centre	Centro de Promoção de Investimentos
CSR	Company's Social Responsibility	Responsabilidade Social da Empresa
CTV	-	Centro Terra Viva
DAF	Directorate of Administration and Finance	Direcção de Administração e Finanças
DE	Economics Directorate	Direcção de Economia
DNA	National Directorate of Water	Direcção Nacional de Águas
DNAIA	National Directorate of Environmental Impact Assessment	Direcção Nacional de Avaliação do Impacto Ambiental
DNAPOT	National Directorate of Territorial Planning and Arrangement	Direcção Nacional de Planeamento e Ordenamento Territorial
DNEA	National Directorate of Agrarian Extension	Direcção Nacional de Extensão Agrária
DNTF	National Directorate of Land and Forestry	Direcção Nacional de Terras e Florestas
DPA	Provincial Directorate of Agriculture	Direcção Provincial da Agricultura
DPCA	Provincial Directorate for the Co-ordination of Enviromental Action	Direcção Provincial para Coordenação da Acção Ambiental
DPEC	Provincial Directorate of Education and Culture	Direcção Provincial de Educação e Cultura
DUAT	Land Use Rights	Direto de Uso e Aproveitamento da Terra
EIA	Environment Impact Assessment	Estudo de Impacto Ambiental
EMBRAPA	Brazilian Agricultural Research Corporation	Empresa Brasileira de Pesquisa Agropecuária
EPDA	Environmental Pre-viability Report and Scope Definition	Estudo de Pré-Viabilidade Ambiental e Definição do Âmbito
FAO	Food and Agriculture Organization	Organização para Agricultura e Alimento
FDD	Fund of District Development	Fundo de Desenvolvimento Distrital
FFS	Farmer Field School	Escola na Machamba do Camponês
FGV	Getulio Vargas Foundation	Fundacao Getulio Vargas
F/S	Feasibility Study	Estudo de Viabilidade
FUNAB	Environment Fund	Fundo do Ambiente
GAP	Good Agricultural Practice	Boas Práticas Agrícolas
GAPI	Office to Support Small Scale Industries	Gabinete de Consultoria e Apoio à Pequena Indústria
GAZEDA	Cabinet of Accelerated Economic Development Zones	Gabinete das Zonas Económicas de Desenvolvimento Acelerado
GDP	Gross Domestic Product	Produto Interno Bruto
GIS	Geographic Information System	Sistema de Informação Geográfica
GOM	Government of Mozambique	Governo de Moçambique
GPS	Global Positioning System	Sistema de Posicionamento Global
ICM	Cereals Insitute of Mozambique	Instituto de Cereais de Moçambique
ICT	Information and Communication Technology	Tecnologías da Informação e da Comunicação
IDA	International Development Association	Associação Internacional para o Desenvolvimento
IFAD	International Fund for Agricultural Development	Fundo Internacional para o Desenvolvimento Agrícola

IAM	Cotton Institute of Mozambique	Instituto do Algodão de Moçambique
IIAM	Agriculture Research Institute of Mozambique	Instituto de Investigação Agrária de Moçambique
IIED	International Institute for Environment and Development	Institute Internacional para o Meio Ambiente e Desenvolvimento
INAM	National Institute of Meteorology of Mozambique	Instituto National de Meteorologia de Moçqmbique
INCAJU	Institute of Promotion of Caju	Instituto de Fomento do Caju
INE	National Statistic Institute	Instituto National de Estatistica
INIA	National Institute of Agriculture Research	Instituto Nacional de Investigação Agronómica
ISRIC	International Soil Reference and Information Centre	Referência Internacional de Solo e Centro de Informação
IUCN	International Union for Conservation of Nature	União Internacional para a Conservação da Natureza
JCC	Joint Coordinating Committee	Comitê de Coordenação Conjunta
JICA	Japan International Cooperation Agency	Agência de Cooperação Internacional do Japao
JIRCAS	Japan International Research Centre for Agricultural Sciences	Centro de Pesquisa Internacional do Japão para as Ciências Agrárias
MAE	Ministry of the State Administration	Ministério da Administração Estatal
MEC	Ministry of Education and Culture	Ministério da Educação e Cultura
MF	Ministry of Finance	Ministério das Finanças
MICOA	Ministry for Coordination of Environment Action	Ministério para Coordenação da Acção Ambiental
MINAG	Ministry of Agriculture	Ministério da Agricultura
MITUR	Ministry of Tourism	Ministério de Turismo
MOPH	Ministry of Public Works and Housing	Ministério das Obras Públicas e Habitação
NGO (ONG)	Non Government Organisation	Organização Não Governamental
PAPA	Action Plan for Food Production	Plano de Acão para a Producão de Alimentos
PARPA	The Action Program for Reduction of Absolute Poverty	Programa de Ação para Redução de Pobreza Absoluta
PCM	Project Cycle Management	Gestão de Ciclo de Projeto
PD	Master Plan	Plano Director
PDUT	District Land-Use Plan	Plano Distrital de Uso da Terra
PEDSA	The Strategic Plan for the Agricultural Sector Development	Plano Estratégico para o Desenvolvimento do Sector Agrário
PROAGRI	National Program for the Agrarian Development	Programa Nacional de Desenvolvimento Agrário
PRONEA	National Program for Agrarian Extension	Programa Nacional de Extensão Agrária
ProSAVANA-JBM	Triangular Cooperation Program for Agriculture Development of the African Tropical Savannah among Japan, Brazil, and Mozambique	Programa de Cooperação Triangular para o Desenvolvimento Agrícola da Savana Tropical de Moçambique – Japão, Brasil e Moçambique
QIP	Quick Impact Project	Projetos de Rápido Impacto
RAI	Responsible Agricultural Investment	Investimento Agrícola Responsável
RAP	Resettlement Action Plan	Plano de Ação de Reassentamento
RAS	Simplified Environment Report	Relatório Ambiental Simplificado
R/D	Record of Discussion	Registro da Discussão
SADC	Southern African Development Community	Comunidade de Desenvolvimento da África Austra
SDAE	District Services of Economic Activities	Serviços Distritais de Actividades Económicas
SDPI	District Service of Planning and Infrastructure	Serviço Distrital de Planeamento e Infraestrturas
SEACAM	Secretariat for Eastern Africa Coastal Area Management	Agência de Gestão Costeira e Marina da África Oriental
SER	Simplified Environmental Report	Estudo Ambiental Simplificado
SEZ	Special Economic Zone	Zona Económica Especial
SOTER	Soil and Terrain Database	Banco de Dados de Terras e Solo
SPFFB	Provincial Service of Forest and Wildlife	Serviço Provincial de Floresta e Fauna Bravia
SPGC	Provincial Service of Geography and Cadastre	Serviço Provincial de Geografia e Cadastro
TAC	Technical Assessment Commission	Comissão Técnica de Avaliação
TICAD	Tokyo International Conference on African Development	Conferência Internacional de Tokyo para o Desenvolvimento Africano
TOR	Term of Reference	Termo de Referência
UN	United Nations	Nações Unidas

UNCTAD	United Nations Conference on Trade and Development	Conferência das Nações Unidas sobre Comércio e Desenvolvimento
UNCDF	United Nations Capital Development Fund	Fundo de Desenvolvimento de Capital das Nações Unidas
UNEP	United Nations Environment Programme	Programa das Nações Unidas para o meio Ambiente
WB-OP	World Bank Operational Policy	Política Operacional do Banco Mundial
WRB	World Reference Base	Base de Referência Mundial

CHAPTER 1 INTRODUCTION

1.1 Background and Objectives of the Study

1.1.1 Background of the Study

The basic framework for the Program on Triangular Cooperation for Tropical Savannah Agricultural Development in Mozambique (ProSAVANA-JBM) was signed by Japan International Cooperation Agency (JICA), Brazilian Cooperation Agency (ABC) and the Ministry of Agriculture (MINAG) on 17th September 2009, aiming to create new models of sustainable agricultural development in the tropical savannah region of Mozambique with due considerations of human security, food security, and poverty reduction for local population, as well as protection of wildlife and preservation of the environment. The program of ProSAVANA-JBM was formulated in March 2010.

Based on the Minutes of Meeting on ProSAVANA signed on 26th April 2011, the mission of JICA, ABC and MINAG jointly visited the Nacala Corridor area for the second ProSAVANA program of "Support of Agriculture Development Master Plan in the Nacala Corridor" (hereinafter referred to as the Study) and discussed the scope of work for the Study. As a result, three parties signed the Minutes of Meeting on 28th July 2011. This Minutes of Meeting was approved at the first Joint Coordination Committee (JCC) of ProSAVANA held on 29th August 2011. In addition, the Triangular Agreement, Record Discussion and Supplementary Agreement were signed on 24th November and 2nd December2011.

Based on these agreements, JICA dispatched a Japanese Study Team led by Mr. Keiji Matsumoto of Oriental Consultants from 3rd March 2012 and ABC dispatched a Brazilian Study Team led by Mr. Giuliano Senatore of FGV Projetos from 15th July 2012.

1.1.2 Objectives of the Study

Goal of the Proposed Plan is "to promote economic and social development through agricultural development in the Nacala Corridor".

Objective of the Study is "to formulate an Agricultural Development Master Plan that contributes to social and economic development by engaging private investment to promote a sustainable production system and poverty reduction in the Nacala Corridor".

1.2 Revised Study Area

At the third Joint Coordination Committee (JCC) held on December 3, 2012, the ProSAVANA-JBM area was reconfirmed that the region between the latitude 13°S to 17°S covering the Provinces of Cabo Delgado, Nampula, Zambezia, Niassa and Tete.

At the second JCC held on June 18 2012, two districts in Niassa Province were added to the original 14 districts in the Nacala Corridor area. At the third JCC, two districts in Nampula District and one district in Niassa Province are added as target districts of the Study Area. Finally, the Study Area of ProSAVANA-PD is composed of 19 districts as follows;

Province of Nampula: Monapo, Meconta, Muecate, Mogovolas, Nampula, Murrupula, Mecuburi, Ribáuè, Lalaua and Malema
Province of Niassa: Lichinga, N'Gauma, Mandimba, Cuamba, Sanga, Majune and Mecanhelas
Province of Zambezia: Gurue and Alto Molocue.
(note: under lined districts are added)

The total area of the Study Area is about 106,600 km^2 and the population is estimated about 4,300,000 (2011).

1.3 Period and Scope of the Study

Originally, the Study has started the beginning of March 2012 and completed by the end of August 2013 for eighteen months. After adding 5 districts, the duration of the Study became 20 months up to October 2013. The scope of the Study is summarized as follows.

Table 1.3.1 Scope of the Study

Outputs	Major Activities	Submission of Report
【Output 1】 Data collection and information analysis	1-1 Analysis of the current invest environment in the agricultural sector in Mozambique (legislation and framework on labor, land tenure, environmental regulation and taxes) 1-2 Review of socioeconomic census, existing overall economic development plans and agricultural development plans for Nacala Corridor • Supporting the stakeholder meeting 1-3 Study on social, gender and environment aspects 1-4 Information gathering for functions and interventions of the governments, NGOs, donors and private sector (including financing institutions) for agricultural development 1-5 Zoning of Nacala Corridor area based on the agricultural environment 1-6 Study on current agricultural value chains and overall infrastructures in Nacala Corridor 1-7 Survey on current situation of land use in Nacala Corridor	Report No.1* Overall Picture of Development Plan May 2013*
【Output 2】 Drawing of an Overall Picture	2-1 Drawing an overall plan (blueprint) of agricultural development in Nacala Corridor • Supporting the 2nd stakeholder meeting	

【Output 3】 Quick Impact Projects (QIPs) planning	3-1 Characterization of selected areas which have agricultural development potential based on basic survey 3-2 Formulation of QIPs and expected immediate effects for target areas 3-3 Prioritization of QIPs 3-4 Beginning of the actions to attract investors for the implementation of prioritized QIPs	Report No. 2 Quick Impact Projects Middle of March 2013
【Output 4】 Engagement stimulation of stakeholders focusing on investment promotion	• Environmental impact assessment for the development projects. Supporting the formulation of resettlement plan if required for QIPs • Supporting the 3rd stakeholder meeting 4-1 Elaboration and presentation of Data Book to private investors 4-2 Holding seminars and workshops for stakeholders	Report No.3: Draft Final Report and Investment Data Book Middle of August 2013
Preparation of draft final report and Investment data book	Finalization of Agricultural Development Master Plan for the Nacala Corridor	
Preparation of final report	Preparation of Final Master Plan Report and Data Book for Investors	Final Report October 2013

Note: Underlined activities are additional scope of study for JICA Study Team.
*Report No.1 (draft) was prepared in 2012, the final version will be prepared by May 2013.

1.4 Study Team and Counterparts

The Study is conducted through triangular cooperation among the study teams of Japanese (JICA), Brazilian (ABC), and Mozambican counterparts of the Ministry of Agriculture (MINAG), Provincial Directorate of Agriculture of Nampula, Niassa and Zambezia. Members of the Counterparts and study teams are shown in Appendix - 4.

1.5 The Report

Based on the definitions of outputs mentioned Table 1.3.1, this Report No. 2 is prepared as the output of "Quick Impact Projects (QIPs) Planning".

Chapter 2 of this Report shows the results of review of agricultural zoning the Draft Master Plan shown in draft Report No.1. Also the study of agricultural cluster development with value chain is added after determination of zoning and zonal agricultural development plan.

In Chapter 3, the review and rearrangement of proposed Master Plan component projects shown in the draft Report No.1 and their prioritizations were confirmed.

Main contents of the Report No.2: Quick Impact Projects (QIPs) Planning is shown in Chapter 4 together with environmental and social consideration of QIPs.

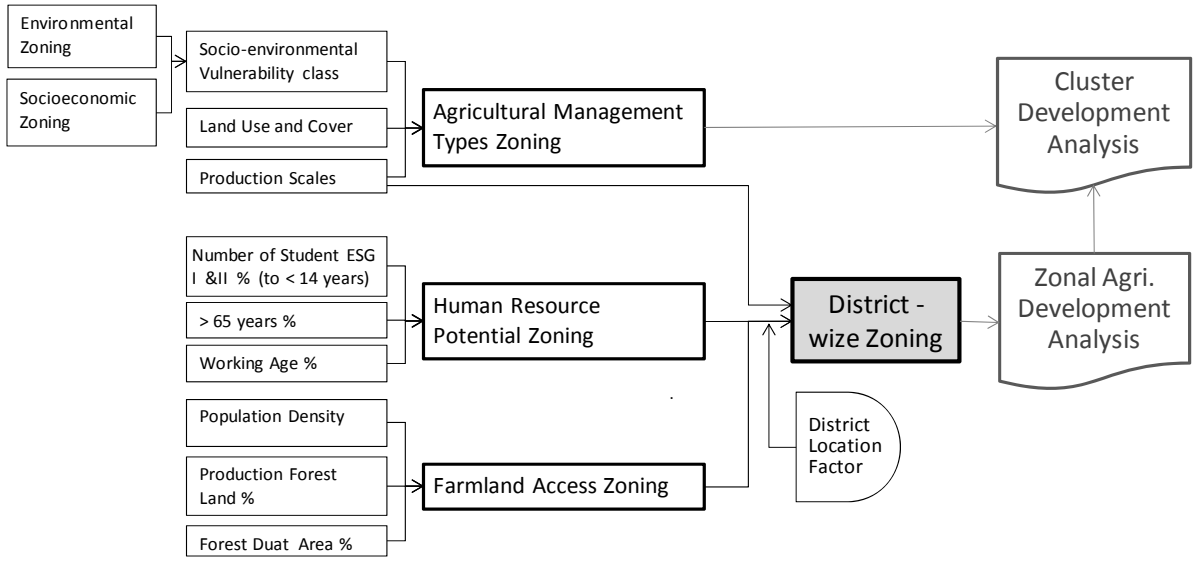
Preparation of the ProSAVANA guideline on Principle of Responsible Agricultural Investment is described in Chapter 5 of the Report.

CHAPTER 2 ZONING AND CLUSTER DEVELOPMENT

2.1. Zoning of the Study Area

Figure 2.1.1 shows an overall sequence for identifying district-wise zoning. District-wise zoning is produced from analysis of three factors, namely production scales, human resource potential zoning, and farmland access zoning.

Development analysis, such as district development goals and strategies, would be carried out based on the district-wise zoning.



Source: Study Team

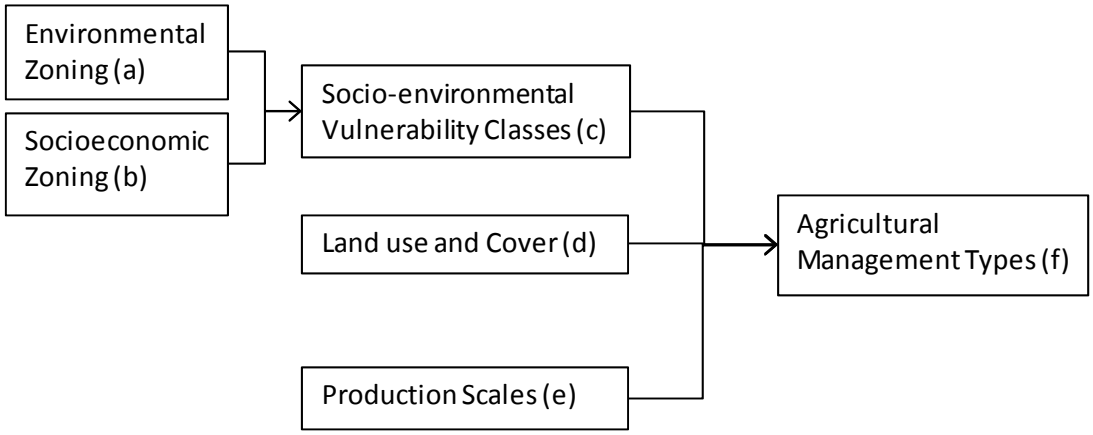
Figure 2.1.1 Sequence for Identifying of District-wise Zoning

2.1.1. Agricultural Management Type Zoning

Agricultural management type zoning has as its central objective the identification of possible arrangements and production scales in each district in order to support future recommendations. Figure 2.1.2 shows the analyzing flow for identifying agricultural management type. In order to identify agricultural management types (f), 5 elements (see Table 2.1.1) and following 2 analyzing steps are adopted.

1st step: Environmental zoning (a) and socioeconomic zoning (b) was analyzed to identify management zone (c).

2nd step: In addition to the identified management zone (c), land use and cover (d) and production scales (e) were resulted identifying agricultural management types (f).



Source: Study Team

Figure 2.1.2 Approach to Identify Agricultural Management Types

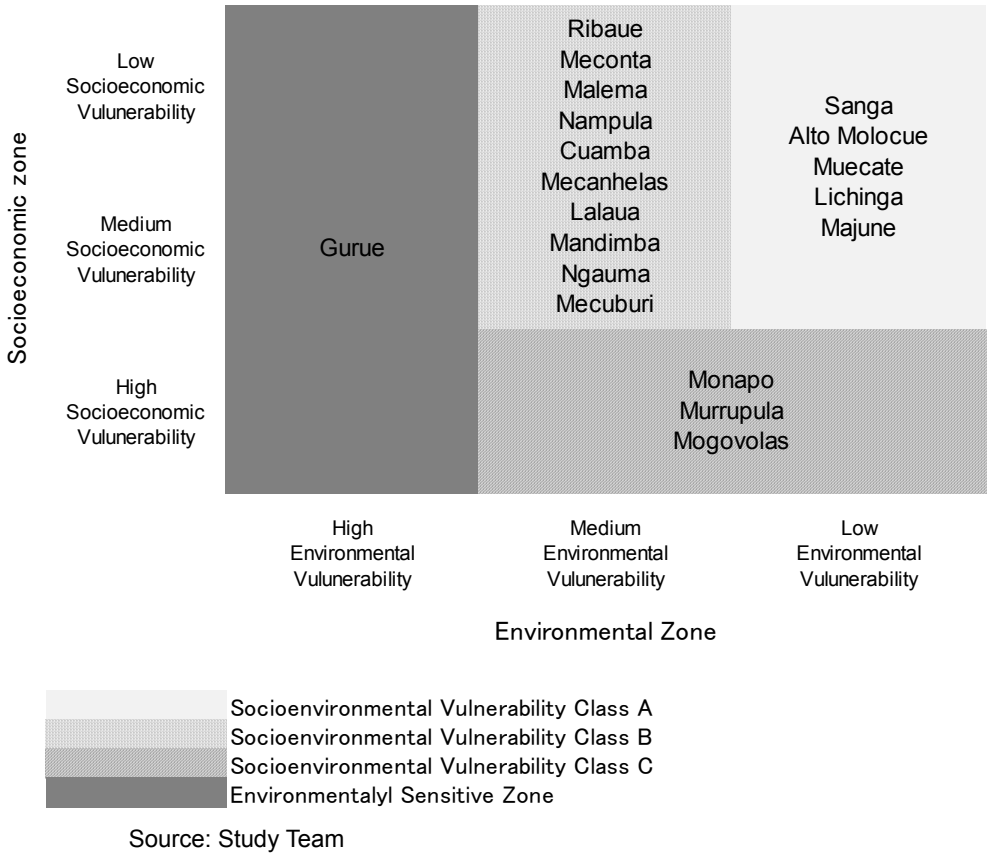
Table 2.1.1 Five Elements to Identify Agricultural Management Types

Factors	Contents
Environmental zoning (a)	Environmental Vulnerability by districts Balance between firewood supply and consumption (FAO's WISDOM methodology)
Socioeconomic zoning (b)	Socioeconomic Vulnerability by district (Ranking districts by the indicators of Rural population, Road density, Railway density, Total cultivated area %, and Literate population %)
Socio-environmental Vulnerability Classes (c)	Classification of districts by Environmental Vulnerability and Socioeconomic Vulnerability
Land use and cover (d)	Land cover and land use map at the scale of 1 : 1,000,000 from AIFM by DNTF
Production Scales (e)	Distribution of suitable areas to corporate production (large-scale), entrepreneurial production (medium-scale) , or family farming (small-scale) by referring Crop Suitability Maps

For the district-wise zoning, only the information of production scales (e) is used.

(1) Socio-environmental Vulnerability Classes

The 19 districts are classified into 4 Socio-environmental Vulnerability Classes, based on difference of environmental and socioeconomic vulnerability, as shown in Figure 2.1.3. Muecate, Alto Molocue, Majune, Lichinga and Sanga are classified as Socio-environmental Vulnerability Class A, in which serious environmental and socioeconomic consideration are not required. Mecuburi, Meconta, Nampula, Lalaua, Ribaue, Malema, Cuamba, Mecanhelas, Mandimba and Ngauma are categorized Socio-environmental Vulnerability Class B, which allows low socioeconomic consideration, but needs high environmental consideration. Monapo, Murrupula and Mogovolas are classified as Socio-environmental Vulnerability Class C, which requires high socioeconomic consideration. Gurue is categorized in environmental sensitive zone at any socioeconomic vulnerability level, where large-scale land development is not recommended.



Source: Study Team

Figure 2.1.3 Socio-environmental Vulnerability Classes

(2) Land Use and Cover

A land use/ land cover map was referred for identifying land use situation in the Study Area. Field surveys were conducted to verify the quality and reliability of the information presented on the official map. With this activity, inconsistencies were resolved in GIS environment.

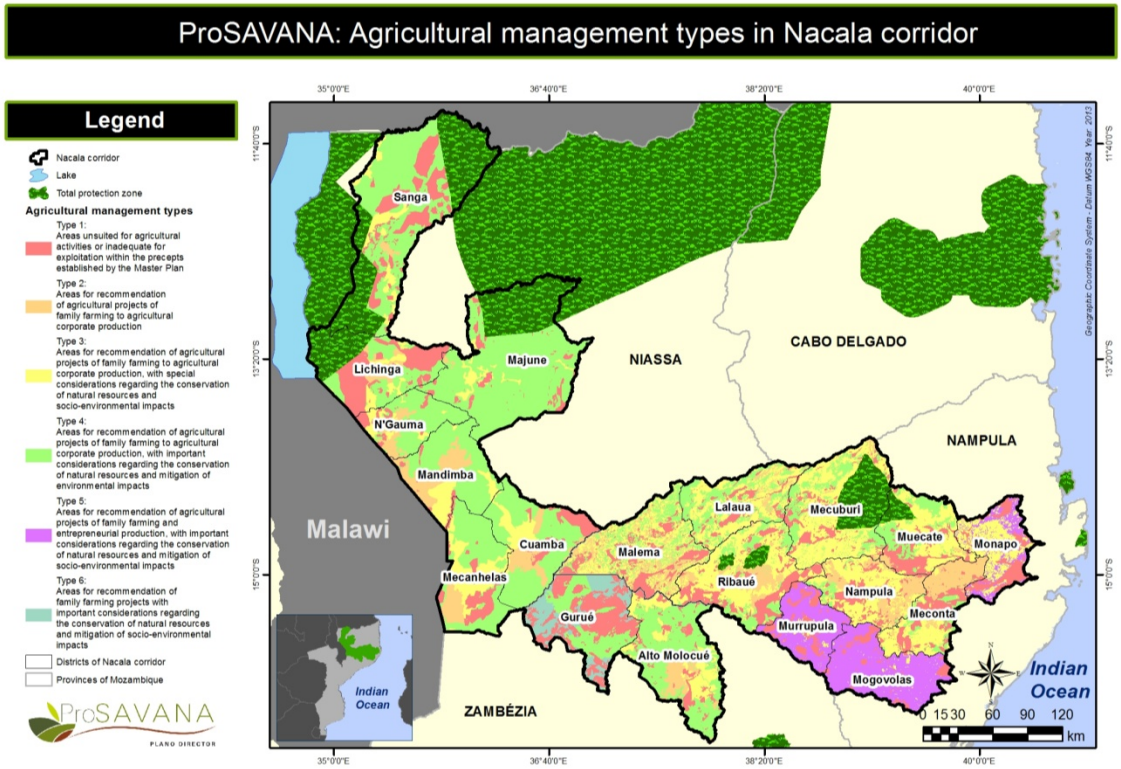
(3) Production Scales

Crop suitability maps was prepared for banana, cashew, cassava, castor oil, coffee, cotton, nhemba beans,, elephant grass, eucalyptus, groundnut, maize, off-season maize, potato, paddy and upland rice, sesame, soybean, sugarcane, sunflower, sweet potato, tobacco, wheat. Those maps were built by the condition of crop suitability to annual rainfall, water balance, annual average temperature, and soil type. Simultaneously, applicable production scales, namely family farming (small-scale), entrepreneurial production (medium-scale) and corporate production (large-scale) were analyzed for those crops. Then, the distribution of areas by the applicable production scales was identified on a map.

Percentage of suitable land area for corporate farming by districts was referred for the district-wise zoning.

(4) Agriculture Management Types Zoning

Based on the management zones, the land use/land cover map and the production scale map, six agricultural management types were identified, and put on the map of agricultural management types (see Figure 2.1.4). Descriptions of each type are shown in Table 2.1.2.



Source: Study Team

Figure 2.1.4 Distribution of Agricultural Management Types

Table 2.1.2 Description of Agricultural Management Types

Management Type	Description	Production Scale		
		Family farming	Entrepre-neurial	Corpo-rate
Management Type 1	Areas unsuited for agricultural activities or inadequate for exploitation within the precepts established by the Master Plan	No	No	No
Management Type 2	Areas for recommendation of agricultural projects of family farming to corporate farming	Yes	Yes	Yes
Management Type 3	Areas for recommendation of agricultural projects of family farming to corporate farming, with **special considerations** regarding the conservation of natural resources and socio-environmental impacts	Yes-	Yes-	Yes-
Management Type 4	Areas for recommendation of agricultural projects of family farming to corporate farming, with **important considerations** regarding the conservation of natural resources and mitigation of environmental impacts	Yes--	Yes--	Yes--
Management Type 5	Areas for recommendation of agricultural projects of family farming and entrepreneurial production, with **important considerations** about the conservation of natural resources and mitigation of socio-environmental impacts	Yes--	Yes--	No
Management Type 6	Areas for recommendation of family farming with **important considerations** regarding the conservation of natural resources and mitigation of socio-environmental impacts	Yes--	No	No

Source: Study Team

2.1.2. Human Resource Potential Zoning

Human resource potential zoning can show richness in human resource by districts as a certain level of quality workforce for future development. Following three parameters were used to measure the level of human resource potential.

- Percentage of students of ESG I&II in the population between 10 years and 14 years by districts (human capacity).
- Percentage of seniors (above 65 years) in the total population by districts (health).
- Percentage of working age population by districts (the population of the workforce)

2.1.3. Farmland Access Zoning

Farmland access zoning shows the level of future farmland availability by changing land use practice with keeping proportion of the present forest area. Following three parameters were used to measure the accessibility to farmland without serious environmental impacts.

- Population density by districts (land availability)
- Percentage of forest area in the entire area by districts (limitation of new land development 1)
- Percentage of forest DUAT in the entire area by districts (limitation of new land development 2)

2.1.4. District-wise Zoning

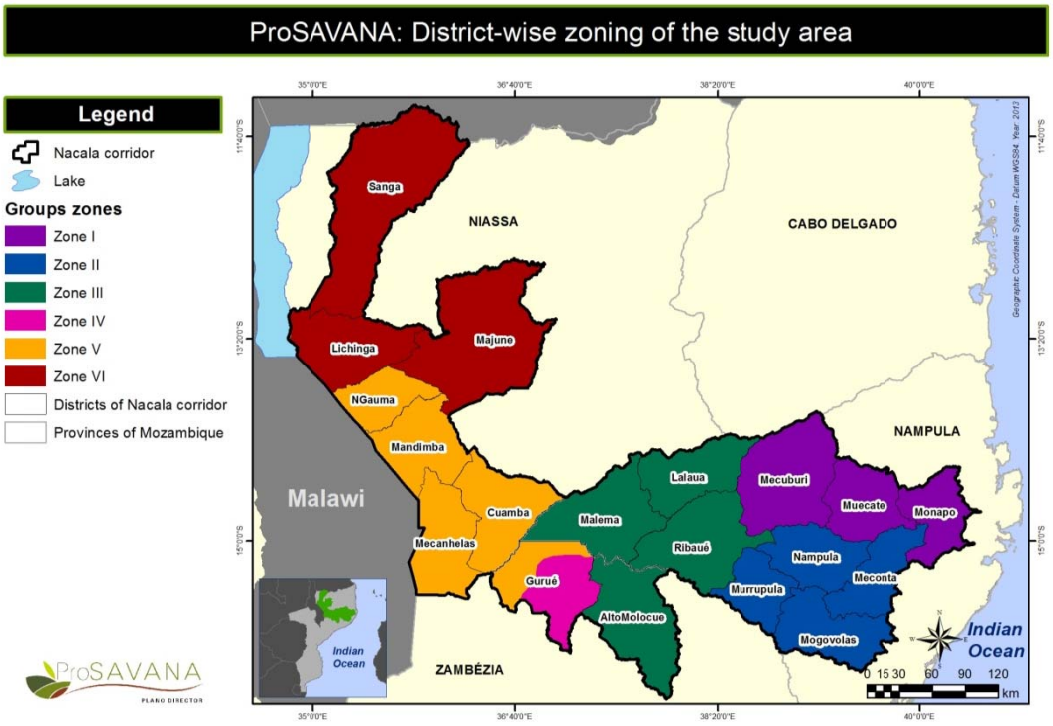
In order to identify district-wise zoning, each district was scored by their characteristics through the three factors as shown in Figure 2.1.1. Districts were classified into types varied from “a” to “d” by its total score. Furthermore, topographic condition (location) of each district was considered for zoning identification. Even though being classified into the same type, a different zone was adopted by topographic condition of each district. The Study Area is finally divided into 6 zones as shown in Table 2.1.3 and Figure 2.1.5 below.

Regarding to Gurue, the district is clearly divided in two different areas by its geological formation. One is plain area and another is mountainous area. Since an administration boundary is drawn reflecting the geological difference, it is set for a boundary for zoning. Consequently, mountainous area and plain area belong to Zone IV and Zone V respectively.

Unless otherwise noted, “zone” shall be represented by the “district-wise zone” afterwards.

Table 2.1.3 Identified Zone of Each District

Districts	Zoning			Total	Type	District-wise zoning
	Management type	Human resource potential	Farmland access			
Monapo	0	0	1	1	c	I
Muecate	1	0	1	2	c	I
Mecuburi	1	0	1	0	c	I
Meconta	1	1	1	3	b	II
Mogovolas	0	3	3	6	a	II
Nampula	3	1	0	4	b	II
Murrupula	0	1	3	4	b	II
Ribàué	1	0	1	2	c	III
Lalaua	1	0	1	0	c	III
Malema	1	1	0	2	c	III
Alto Molocue	3	0	1	4	b	III
Gurué	0	0	0	0	d	IV
Cuamba	3	1	1	5	a	V
Mecanhelas	3	0	3	0	a	V
Mandimba	3	1	1	5	a	V
N'Gauma	3	1	1	5	a	V
Majune	3	0	1	0	b	VI
Lichinga	0	0	1	1	c	VI
Sanga	1	0	3	0	b	VI
	High=3	High=3	High=3	5 – 6	a	
	Med=1	Med=1	Med=1	3 – 4	b	
	Low=0	Low=0	Low=0	1 – 2	c	
				0	d	



Source: Study Team

Figure 2.1.5 District-wise Zoning of the Study Area

2.1.5. Agricultural Development Potential

Based on primary and secondary data collection, the agricultural development potential by zones is summarized in Table 2.1.4.

Table 2.1.4 Agricultural Development Potential by Zone

Zones	I	II	III	IV	V	VI
Districts & area	Monapo, Muecate, Mecuburi	Meconta, Mogovolas, Nampula, Murrupula	Ribaue, Lalaua, Malema, Alto-Molocue	Gurue (excluded Lioma Administrative Post)	Gurue (Lioma Administrative Post), Cuamba, Mecanhelas, Mandimba, Ngauma	Majune, Lichinga, Sanga
Area (km^2)	14,865	15,528	23,257	5,664	18,106	29,581
Population	620,935	1,461,633	804,261	350,830	663,004	386,753
Population density (habit/km^2)	42	94	35	62	37	13
Average Temperature	23 - 25℃	Meconta, Nampula, Murrupula: 24 - 25℃ Mogovolas: 25 - 26 ℃	23 - 24 ℃ Around the boundary of Gurue: 22 - 23℃	22 - 23℃	Cuamba: 23 - 24 ℃ Mandimba: 21 - 23℃ Ngauma: 20 - 22 ℃	Lichinga: Less than 20℃ Majuen: 20 - 23℃ Sanga: 20 - 26℃
Annual Precipitation	1,000 - 1,200 mm	1,000 - 1,200 mm	Ribaue: 1,000 - 1200 mm Malema: 800 - 1,000 mm Alto Molocue: 1,200 - 1,600 mm	1,000 - above 1,600 mm	800 - 1,200 mm	1,000 - 1,400 mm
Soil fertility (area %) **In preparation now.**	High: % Medium: % Low: %	High: % Medium: % Low: %	High: % Medium: % Low: %	High: % Medium: % Low: %	High: % Medium: % Low: %	High: % Medium: % Low: %
Water resources (Specific runoff in mm)	154	226	323	648	281	262
Irrigated area (ha)	In operation: 160 Out of operation: 803	In operation: 267 Out of operation: 1,133	In operation: 732 Out of operation: 1,116	In operation: - Out of operation: -	In operation: 172 Out of operation: 164	In operation: 469 Out of operation: 133
Priority staple food crops	Maize, Cassava	Maize, Cassava	Maize, Cassava, Sorghum	NA	Maize, Sorghum	Maize
Priority cash crops	Groundnuts, Cowpea, Pigeon pea, Sesame, Vegetables, Cashew, Cotton	Groundnuts, Cowpea, Pigeon pea, Sesame, Vegetables, Cashew, Cotton	Groundnuts, Haricot beans, Cowpea, Sesame, Soybean, sunflower, Vegetables, Cotton, Tobacco	Haricot beans, Pigeon pea, Vegetables, Potato, Tea	Haricot beans, Pigeon pea, Soybean, Sunflower, Potato, Sesame, Cotton, Tobacco	Haricot beans, Soybean, Sunflower, Vegetables, Potato, Tobacco
Land use (area % of cultivated area, forest, and others)	Cultivated land: 50% Forest: 41% Others: 9%	Cultivated land: 60% Forest: 25% Others: 15%	Cultivated land: 43% Forest: 46% Others: 10%	Cultivated land: 49% Forest: 42% Others: 9%	Cultivated land: 29% Forest: 62% Others: 9%	Cultivated land: 13% Forest: 77% Others: 10%
Road density (road length m/km^2)	52	66	52	42	50	32
Railway density (railway length m/km^2)	5	10	9	0	18	2

Table 2.1.4 Agricultural Development Potential by Zone (continued)

Zones	I	II	III	IV	V	VI
Human resource potential	Low	Medium to high	Low to medium	Low	Low to Medium	Low
Socioeconomic consideration	1.High social vulnability in Monapo disrtrict 2. Large-scale mining concession in Monapo district	High socioeconomic vulnability in Mogovolas and Murrupula district	Large-scale mining concession in Lalaua and Alto-Molocue district		Large-scale mining concession in Ngauma districts	Large-scale mining concession in Lichinga, Majune, and Sanga districts
Farmland accessibility without reducing the present forest area %	Medium	Low to high (Low in Nampula)	Low to medium	Low	Medium to high	Medium to high
Land scape (area % of slope above 12%)	Monapo: 1 % Muecate: 4 % Mecuburi:6 %	Meconta: 2 % Mogovolas: 2 % Namupula: 8 % Murrupula: 5 %	Ribaue: 12% Malema: 18% Alto Molocue: 8%	Gurue: 32 %	Cuamba: 5 % Mecanhelas: 7% Mandimba: 2 % Ngauma: 11 %,	Lichinga: 20 %
Environmental consideration	<Normal Attention> High alart area: Forest conservation area in Muecate and Mecuburi. Alart area: Existing forest area in the western part of Muecate district. Very low % of forest area in Monapo district	<Normal Attention> Alart area: Existing forest area in the southern part of Meconta district. Very low % of forest area in the all districts	<Medium Attention> High alart area: Forest conservation area in Ribaue district, and river courses in the area Alear area: Existing forest area in Malema Distrrict and in the south-eastern part of Alto-Molocue district.	<High Attention> High alart area: Concentrated river cources in the area and steep-slopes of Mt. Namuli.	<Normal Attention> Alart area: Existing forest area in Cuamba area	<High Attention> High alart area: Forest conservation area in Lichinga, Majune, and Sanga district and river cources in the area. Alart area: Existing forest area in Majune and Sanga districts

Source: Study Team

2.2. Zonal Agricultural Development Goals

2.2.1 SWOT Analysis by Zones

SWOT analysis was made for each zone based on the potential of each zone as summarized in Table 2.1.4. Result of the SWOT analysis is enclosed at the end of this chapter as Table 2.2.1 - 2.2.6.

2.2.2 Development Strategy of Zones

An agricultural development strategy for each zone, as described below, is developed in accordance with the SWOT analysis.

(1) Zone I Strategy

"Food supply to Nacala port area, and production of high value crops"

1) Major crops promotion
   - Maize to fulfill the inter-zonal demand
   - Cassava, groundnuts and vegetables to fulfill the inter-zonal demand, and to Nacala port area and coastal districts
   - Cowpeas, pigeon pea and sesame to fulfill the inter-zonal demand, as well as for exporting
2) Development of small-scale maize and cassava processing mills
3) Replacement of old cashew trees and revitalization of the cashew industry
4) Promotion of cotton production and the related processing facilities
5) Supporting small scale pump irrigation for vegetables production
6) Rehabilitation of defunct irrigation facilities for producing vegetables and other high value crops
7) Fostering leading farmers to be a core of farmer associations/cooperatives
8) Development of farm commodity logistics connecting to Nacala port area and coastal districts
9) Careful control over new farmland expansion in Monapo
10) Reforestation in order to provide biomass as a substitute for native forests

(2) Zone II Strategy

"Agribusiness center of the eastern Nacala Corridor"

1) Major crops promotion
   - Maize to fulfill the inter-zonal demand
   - Cassava, groundnuts and vegetables to fulfill the inter-zonal demand and for processing
   - Cowpeas, pigeon pea and sesame to fulfill the inter-zonal demand, as well as for exporting
2) Development of small-scale maize, cassava and rice processing mills

3) Development of medium to large-scale agro-processing industries
4) Replacement of old cashew trees and revitalization of the cashew industry
5) Promotion of cotton production and the related processing facilities
6) Supporting small scale pump irrigation for vegetables production
7) Rehabilitation of defunct irrigation facilities for producing vegetables and other high value crops
8) Fostering leading farmers to be a core of farmer associations/cooperatives
9) Development of inter-zonal farm commodity logistics
10) Careful management over new farmland expansion (Effective use of fallow farmland and existing agricultural DUAT area)
11) Reforestation in order to provide biomass as a substitute for native forests
12) Rehabilitation of road between Nampula and Mogovolas

(3) Zone III Strategy

"Granary development in the Nacala Corridor"

1) Major crops promotion to cover all Nacala Corridor, mainly Nampula and Cuamba
2) Promotion of vegetable production, especially onion and garlic
3) Promotion of soybeans production for processing (edible oil & animal feed)
4) Development of small-scale maize, sorghum and cassava processing mills
5) Development of medium to large-scale agro-processing industries
6) Promotion of cotton production and the related processing facilities
7) Promotion of tobacco production
8) Development of poultry industry
9) Supporting small scale pump irrigation for vegetables production
10) Rehabilitation of defunct irrigation facilities in order to produce vegetables and other high value crops
11) Fostering leading farmers to be a core of farmer associations/cooperatives
12) Development of corporate farms, and promotion of contract farming
13) Effective use of fallow farmland and the existing agricultural DUAT area
14) Development of farm commodity logistics connecting to Nacala, Nampula and Cuamba
15) Rehabilitation of rural road networks

(4) Zone IV Strategy

"Production of special high value crops"

1) Promoting vegetables and potato production taking advantage of cool climate
2) Replacement of old tee trees and revitalization of the tea industry
3) Development of small-scale maize, sorghum and cassava processing mills
4) Fostering leading farmers to be a core of farmer associations/cooperatives
5) Careful control over new farmland expansion
6) Rehabilitation and development of rural road networks
7) Reforestation in order to provide biomass as a substitute for native forests

(5) Zone V Strategy

"Strategic logistics hub and processing center of farm commodities"

1) Major crops promotion
   - Maize and beans to fulfill the inter-zonal demand and for processing
   - Production of soybeans for processing (edible oil and animal feeds) and for export
   - Vegetables to fulfill the inter-zonal demand and for exporting to Malawi
2) Development of small-scale maize, sorghum and rice processing mills
3) Development of medium to large-scale agro-processing industries
4) Promotion of cotton production and the related processing facilities
5) Promotion of tobacco production
6) Development of poultry industry
7) Development of pump irrigation system for producing vegetables and other high value crops
8) Fostering leading farmers to be a core of farmer associations/cooperatives
9) Development of corporate farms, and promotion of contract farming
10) Effective use of fallow farmland and the existing agricultural DUAT area
11) Development of farm commodity logistics connecting to the whole country and Malawi
12) Development of supporting industries for agriculture production and processing

(6) Zone VI Strategy

"Development of new farm commodity value-chain"

1) Major crops promotion
   - Maize to fulfill the inter-zonal demand and for processing
   - Production of soybeans for processing (edible oil and animal feeds) and for export
2) Promoting vegetables, haricot beans and potato production taking advantage of cool climate
3) Development of small-scale maize processing mills
4) Development of medium to large-scale agro-processing industries
5) Promotion of tobacco production
6) Development of poultry industry
7) Rehabilitation of defunct irrigation facilities in order to produce vegetables, haricot beans, potato and other high value crops in Lichinga
8) Fostering leading farmers to be a core of farmer associations/cooperatives
9) Development of corporate farms, and promotion of contract farming
10) Development of farm commodity logistics connecting to Cuamba, Pemba and Malawi
11) Harmonized management over new farmland expansion with socio-environmental interest
12) Rehabilitation and development of rural road networks

2.2.3 Zonal Agricultural Development Goals by Phases

(1) Overall Master Plan Goals

Overall master plan goals are defined in accordance with the basic concepts of the master plan as shown in Table 2.2.7.

Table 2.2.1 Overall Master Plan Goals by Phases

	Phase I (2014-20)	Phase II (2021-25)	Phase III (2026-30)
Individual Farmers (Small to Medium-Scale)	Unit yield of major crops increases through transformation of small to medium scale farmers' practice into fixed farming	The unit yield further increases through accelerated improvement in farming technology of small to medium farmers. The farmers also start to diversify their producing crops	Small to medium scale farmers are well-empowered to improve their farming by their self-reliant efforts. Diversification of agriculture has expanded, and some of the farmers specialize in specific crop production
Farmers Organiza- tion	Involvement of small and medium scale farmers in agribusiness starts	Participation of small and medium scale farmers in agribusiness is strengthened by fostering a sound farmers organization	The development of agribusiness makes a considerable progress, and many agricultural clusters are established and in operation
Agribusi- ness	Private investment in agribusiness (production, processing and marketing) starts in consistency with PRAI	Private investment in agribusiness starts the expansion, and the development of agricultural cluster starts	

(2) Zonal Agricultural Development Goals

Zonal agricultural development goals for each zone by phases are, then, determined in accordance with the overall goals and the zonal development strategy. The zonal goals are shown in Table 2.2.8.

Table 2.2.2 Zonal Agricultural Development Goals by Phases

Area	Phase I (2014-20)	Phase II (2021-25)	Phase III (2026-30)
All Zones (Common Goals)	(A) Majority of small to medium scale farmers shift to fixed farming, and production of major food crops (maize, cassava and beans) increases	(A) Surplus of major food crops considerably increases , and amount of marketed crops also increases.	(A) Surplus of major food crops fulfills the demand from processing and livestock industries, as well as the exported amount of the crops increases
Zone I	(1) Production of vegetables to be marketed to Nacala area increases	(1) A vegetables production center is developed	
	(2) Production of beans and sesame increases	(2) A substantial amount of beans and sesame is exported	(2) Processing factories of beans and sesame are established
	(3) Production of cotton increases	(3) Cotton industry is further developed	(3) A cotton cluster is developed
	(4) The number of renewed cashew trees increases	(4) Cashew production increases	(4) Cashew industry is reactivated
	(5) Reforestation targeting the production of biomass starts	(5) Planted forests start to provide biomass to local communities	(5) Planted forests become a major biomass source as a substitute for native forests

Area	Phase I (2014-20)	Phase II (2021-25)	Phase III (2026-30)
Zone II	(1) Production of vegetables to be marketed to Nampula area increases	(1) A vegetables production center is developed	(1) Vegetable clusters are developed
	(2) Production of beans and sesame increases	(2) A substantial amount of beans and sesame is exported	(2) Processing factories of beans and sesame are established
	(3) Production of cotton increases	(3) Cotton industry is further developed	(3) A cotton cluster is developed
	(4) The number of renewed cashew trees increases	(4) Cashew production increases	(4) Cashew industry is reactivated
	(5) Reforestation targeting the production of biomass starts	(5) Planted forests start to provide biomass to local communities	(5) Planted forests become a major biomass source as a substitute for native forests
	(6) Processing factories of cassava, maize, etc. start their operation	(6) The accumulation of similar processing factories and their supporting industries progresses	(6) Agricultural clusters centered the processing factories are established
Zone III	(1) Production of vegetables to be marketed to Nampula and Nacala area increases	(1) A vegetables production center is developed	(1) Vegetable clusters are developed
	(2) Corporate farms to produce mainly soybeans and sesame start the cultivation	(2) A partnership business model between a farmers organization and a corporate farm prevails	(2) A substantial amount of soybeans and sesame is exported
	(3) Production of cotton and tobacco increases	(3) Cotton and tobacco industries are further developed	(3) A cotton cluster is developed
	(4) Processing factories of cassava, maize, etc. start their operation	(4) The accumulation of similar processing factories and their supporting industries progresses	(4) Agricultural clusters centered the processing factories are established
	(5) Modernized poultry industry starts the expansion	(5) The accumulation of poultry industry and their supporting industries (processing, storage, distribution, etc.) progresses	(5) A cold chain network with Nacala port is well established, and the exportation increases by introducing a certification system to access international markets (Halal, Kosher, EU, etc.)
	(6) Commercial seed growers provide quality seeds to local market	(6) Commercial seed growers expand business to cover the eastern to the central parts of Nacala corridor area	(6) Commercial seed growers expand business to out of Nacala corridor area
Zone IV	(1) Production of vegetables suitable to cool-highland climate condition and potato increases	(1) Vegetables and potato production centers are developed	(1) Vegetables and potato clusters are developed
	(2) The number of renewed tea trees increases	(2) Tea production increases	(2) Tea industry is reactivated
	(3) Reforestation targeting the production of biomass starts	(3) Planted forests start to provide biomass to local communities	(3) Planted forests become a major biomass source as a substitute for native forests
Zone V	(1) Corporate farms to produce mainly soybeans start the full-scale cultivation	(1) A partnership business model between a farmers organization and a corporate farm prevails	(1) A substantial amount of soybeans is exported
	(2) Processing factories of soybeans, maize, etc. start their operation	(2) The accumulation of similar processing factories and their supporting industries progresses	(2) Agricultural clusters centered the processing industries and chicken industry are established
	(3) Production of cotton and tobacco increases	(3) Cotton and tobacco industries are further developed	(3) A cotton cluster is developed
	(4) Modernized poultry industry starts the expansion	(4) The accumulation of poultry industry and their supporting industries (processing, storage, distribution, etc.) progresses	(4) Cold chain networks with Nacala port and other domestic destinations are well established, and the exportation increases by introducing a certification system to access international markets (Halal, Kosher, EU, etc.)
	(5) Commercial seed growers provide quality seeds to local market	(5) Commercial seed growers expand business to cover the central parts of Nacala corridor area	(5) Commercial seed growers expand business to out of Nacala corridor area

Area	Phase I (2014-20)	Phase II (2021-25)	Phase III (2026-30)
Zone VI	(1) Production of vegetables suitable to cool-highland climate condition and potato increases	(1) Vegetables and potato production centers are developed	(1) Vegetable and potato clusters are developed
	(2) Corporate farms to produce mainly soybeans, haricot beans and sesame start the cultivation	(2) A partnership business model between a farmers organization and a corporate farm prevails	(2) A substantial amount of soybeans, haricot beans and sesame is exported
	(3) Production of tobacco increases	(3) Tobacco industry is further developed	
	(4) Processing factories of soybeans, maize, etc. start their operation	(4) The accumulation of similar processing factories and their supporting industries progresses	(4) Agricultural clusters centered the processing industries and chicken industry are established
	(5) Modernized poultry industry starts the expansion	(5) The accumulation of poultry industry and their supporting industries (processing, storage, distribution, etc.) progresses	(5) Cold chain networks with Nacala & Pemba ports are well established, and the exportation increases by introducing a certification system to access international markets (Halal, Kosher, EU, etc.)
	(6) Commercial seed growers provide quality seeds to local market	(6) Commercial seed growers expand business to cover the northern to the central parts of Nacala corridor area	(6) Commercial seed growers expand business to out of Nacala corridor area

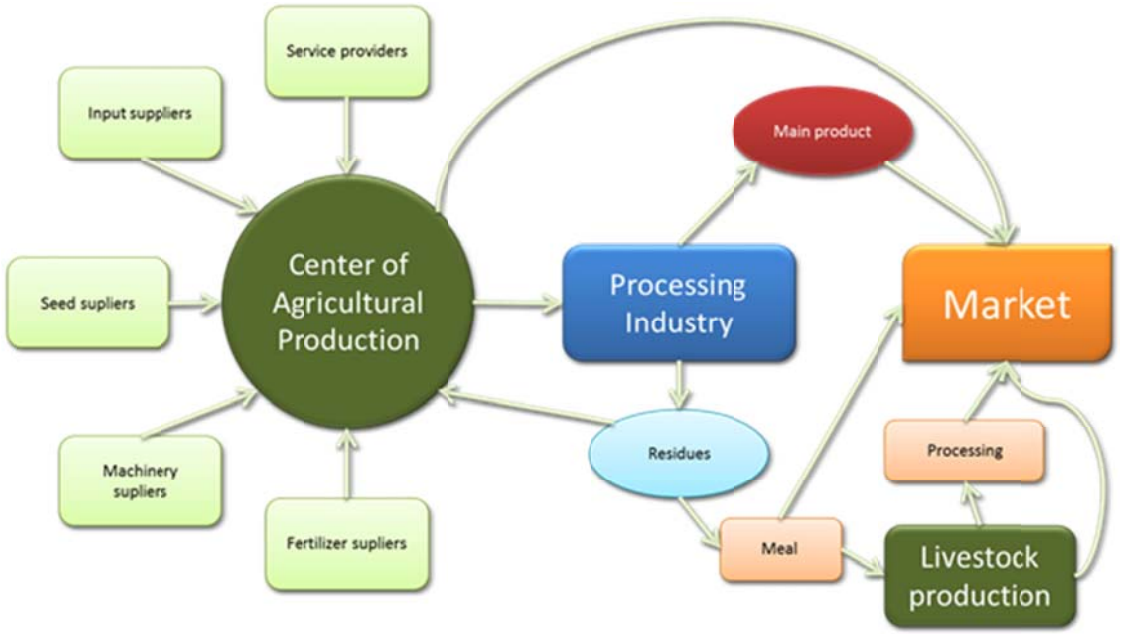
2.3. Agricultural Cluster Development

2.3.1. Concept of Clusters for Agricultural Development

Clusters are strategic approaches to accelerate development within a specified territory. The central line of development of these strategies is to design one or more value chains, with synergic potential and in appropriate context regarding the territory, in order to channel efforts for its realization within a period lower than that which could be achieved without integrated and specific actions. All producers, companies and institutions that are correlated with the central value chain, such as input suppliers, machinery suppliers, specialized infrastructure or competing entities, represent the constitutional elements of a Cluster.

Clusters also involve marketing channels and consumers as well as producers of complementary products and companies of related sectors. Finally, many clusters include governmental institutions, universities, training centers and commerce, which provide training, education, information, research and specialized technical support. Figure 1 below is an exemplification of an agricultural production cluster.

The production clusters present themselves as the basis for the political, social and especially economic development of Nacala Corridor. Each cluster will encompass a variety of agricultural, industrial and service providers companies, where will be involved corporate domestic and foreign producers up to the Mozambican smallholders working together in synergy between components.



Source: Study Team, 2013.

Figure 2.3.1 Example of an Agricultural Cluster

The installation location of the clusters was defined according to the previously presented zoning, where the distribution of Districts in Zones and Agricultural Management Types identified the most appropriate management strategy to be recommended.

In the areas with higher social and environmental vulnerability were recommended clusters that would enable the development of small-scale family agriculture and production of staple foods, enabling the involvement of a greater number of farmers with high value-added products, such as vegetables and poultry.

Prior regional assessments were performed so that the recommended crops in each cluster were based on feasibility and productive potential of each region, thus ensuring the correct selection of activities for each cluster.

The clusters, besides having internal synergies for regional socioeconomic development, should also work seamlessly to generate synergy between them, allowing the rationalization of investments, operations, products and services obtained in each macro-region. Activities related to grain production demands seeds, so seed production must be recommended within the clusters, and one cluster may produce a significant portion of necessary seeds for other clusters during the first phase of development, for example, while a cluster may receive initial investments in processing units to ensure value addition on the grain produced in the other clusters in the first phase of development. With the advancement of the process of development in the Corridor as a whole, local enterprises should be promoted to supply local needs, reducing generalist interdependencies among clusters and strengthening those interdependencies linked to expertise and strategic differentials.

2.3.2. Agricultural Clusters Developed in ProSAVANA

As part of the strategic recommendations for agricultural development in the Nacala Corridor, seven clusters are recommended to start the activities of the Master Plan.

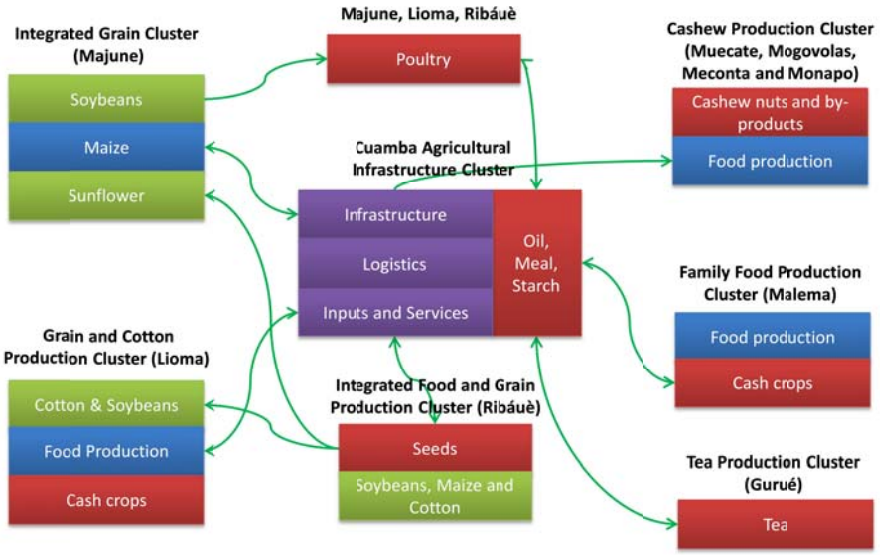
The Table 2.3.1 below presents the main features of these clusters.

Table 2.3.1 Outline of Agricultural Clusters and Suggested Initial Location

Nº	Name of Cluster	Main Production category	Concept	Suggested Initial Location	Possible Components
1	Integrated Grain Cluster	Corporate Farming	Greenfield[1]	Zone VI: Majune, expansible to Zone V: N'Gauma	Soybean, Maize, Sunflower, Elephant grass and Poultry
2	Family Food Production Cluster	Family Farming	Greenfield & Brownfield	Zone III: Malema	Maize, Cassava, Cotton, Vegetables and Groundnuts
3	Grain and Cotton Production Cluster	Entrepreneurial and Corporate Farming	Brownfield[2]	Zone V: Lioma plain (Lioma Administrative Post, Gurué)	Soybean, Maize, Cotton and Poultry
4	Cashew Production Cluster	Entrepreneurial and Family Farming	Brownfield	Zones I and II: Monapo, Mogovolas, Meconta, Muecate	Cashew nuts, Maize, Beans, Cassava, Groundnuts, Sesame, Vegetables and Eucalyptus
5	Integrated Food and Grain Production Cluster	All category	Greenfield & Brownfield	Zone III: Ribáuè	Soybean, Maize, Cotton, Seed Farm, Vegetable and Poultry
6	Tea Production Cluster	Entrepreneurial and Family Farming	Brownfield	Zone IV: Gurué	Tea
7	Cuamba Agricultural Infrastructure Cluster	(non-agricultural activities)	Brownfield	Zone V: Cuamba	Infrastructure, logistics, inputs&services

Note: Greenfield: Intended to develop a new value-chain and/or area as major driving force
Brownfield: Intended to develop existing value-chain and/are as major driving force

The Figure 2.3.2 below illustrates the possible synergy by the implementation of proposed clusters for agricultural and socioeconomic development of the Nacala Corridor.



Source: Study Team (BST), 2013.

Figure 2.3.2 Possible Synergies between Proposed Agricultural Clusters

It is recommended that the platform projects are implemented with priority in the areas of the clusters, whenever possible. The specific strategies and goals recommended for each cluster will be presented below.

2.3.3. Outline of the Agricultural Clusters

(1) Integrated Grain Cluster (Cluster-1)

The objective of the grain cluster would be to enhance local economy with the cultivation and processing of grains, specifically soya-beans, maize and sunflower, that jointly with the establishment of other complementary activities such as poultry, and one thermal plant will act in an integrated way to generate benefits. The productive arrangement for the initial development of the cluster shall be based on private corporative capital investment. At first, a single corporation shall be responsible for managing all operation of the cluster, acting in a vertical way, with activities that involve the acquisition of necessary inputs until the production and processing of raw material.

The grain cluster was recommended to be primarily located in Majune district due to its low environmental and social vulnerability and its excellent soil and climate conditions for the total usage of the crop productive potential. Meanwhile, the cluster can be replicated in the remaining of Zones VI, III and V, with some considerations. It is observed in the district PDUT report, the interest for the development of agricultural activities in the southwest region of the district, an area with appropriate climate and soil conditions for grain production. The district is strategically located near N'Gauma, a site where agriculture production can grow, and Cuamba districts, which has high potentiality for the development of support and logistic services, planned in Cluster 7 – Cuamba Agricultural Infrastructure Cluster. It is expected this cluster will be also integrated with Cluster 5 – Integrated Food and Grain Production Cluster, through the seed acquisition chain.

Table 2.3.2 Targets for Cluster - 1 related to all phases of the Master Plan

Components	Phase 1 (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Agricultural production	Implantation of areas and beginning of soya beans, maize and sunflower production	Increase of grain production	Grain production will be established
Industrial processing	Implantation of industry and beginning of grain processing	Development of a grain processing and marketing chain	Stabilization of the grain processing industry
Poultry production	Establishment and beginning of operations of the chicken production complex	Increase of the number of poultry production modules. Strengthening of the infrastructure necessary for the establishment of a cold chain	Chicken production process will have achieved high quality and traceability levels
Marketing	Integrate local production processing to be developed in	Internal grain processing and export of oil, bran and starch	Traceability and access to special markets

	Cluster-7 Cuamba district region		(Hallal, Kosher and European Union)
Supplementary activities	Beginning of production of Elephant grass biomass	Development of local biomass and electricity production	Incorporation of other sectors such as cattle, goats, dairy and food products.
Partnership with family sector farmers	Identification and establishment of contracts with local producers to boost production	Stabilization of family level grain production, provision of techniques to local farmers and labor capacity building.	Technical and financial independence of local farmers with the boosting corporation

(2) Family Food Production Cluster (Cluster -2)

The objective of the family cluster is the training and strengthening of family level farmers based on the production of food and cash crops. It is planned the continuous cultivation of cassava for industrial purpose intercropped with maize, groundnuts and cotton crops. The organization and structure of 1.000 farmers involved will be based on public investment, through the support of public extension provided by IIAM and SDAE. The industrial facility for cassava processing will be provided by private initiative, which will be responsible for the boosting of family production.

The region initially recommended for this cluster was Malema district. Most of the district was defined as being of low social and environmental vulnerability, apart from being identified as possessing good water resources and good soil condition for the development of irrigated agriculture. Its location is privileged due to its closeness to Cuamba, where support and logistic services will be developed, according to Cluster 7. The cluster can also be developed in all zones, if maize processing is considered as an option of cassava processing..

Table 2.3.3 Targets for Cluster - 2 related to all phases of the Master Plan

Components	Phase 1 (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Establishment of Associations	Promotion of farmers associations, improvement of rural extension workers and strengthening of governmental rural extension bodies	Stabilization of associations and farmers groups.	Strengthening of established associations
Cassava agricultural production	Implantation of recommended crops	Stabilization of production centers for cash and food crops	Raw material supply for industries will be established
Industrial production	Begin the establishment and expansion of the cassava processing agro industry	Processing stabilization	Processing stability and business diversification
Agricultural production of cash and food crops	To increase cotton, maize and vegetable production and improve the quality of the products	Increase of the marketing of cash crops	The first value chain of the cluster will be developed.
Partnership with family sector farmers	Identification and establishment of contracts to boost the production and for labor capacity building for the industry	Stabilization of the production and provision of techniques to farmers	Stability of established contracts

(3) Grain and Cotton Production Cluster (Cluster -3)

The objective of the cluster will be the consolidation of a region that already presents an initial process of agricultural production development, boosting the economy and strengthening local farmers. A series of initiatives shall be structured with the purpose of attracting investments, focusing in the development of potentialities and to overcome current limitations. The investments shall be public-private, with actions to improve local infrastructures. The public sector shall be involved through partnerships and fiscal incentives.

It is recommended the establishment of the cluster in Gurué district, specifically in Lioma Plains. The region also has areas subject to major environmental vulnerability. Support initiatives for the development of a sustainable production model must support the grouping of these ambiguities. The character and positioning of the corridor have excellent features for integration with clusters 5 and 7.

Table 2.3.4 Targets for Cluster - 3 related to all phases of the Master Plan

Components	Phase 1 (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Agricultural chain improvement actions	To encourage the development of model contracts and of agricultural relationships between different classes of farmers and an integrated agricultural planning and management system.	To strengthen the establishment of Modern Farmers Cooperatives.	Consolidation of the integration of local production with the export chain and inter-regional trade.
Marketing and trade	To integrate local production to processing initiatives to be developed in the Corridor, strengthening of funding services	Establishment of a production chain between the clusters in the Corridor	Supply to the internal market and export of possible surplus
Logistic infrastructure	Establishment of Public-Private Partnerships to accelerate rehabilitation and expansion works and to create necessary infrastructures.	Consolidation and expansion of local benefiting units of agricultural products	Consolidation of the Agricultural Production Complex and its integration in a distribution and export value chain.
Partnership with Local Farmers	Inclusion of local labor through technical capacity building actions in partnership with local investors.	Stabilization of the production and provision of techniques to farmers.	Stability of established contracts
Other	Evaluation of the current concession system for agricultural crops exploitation with the aim of cotton and tobacco production chains	Inclusion of cotton and tobacco production chains in development actions.	Consolidation of the development of cotton and tobacco productive chains.

(4) Cashew Production Cluster (Cluster - 4)

The objective of the cashew production cluster is to structure the cashew production chain through the formalization of trade, increase of cashew nuts production and value aggregation on the product and the creation of public and private initiatives to boost the production, thus strengthening the local economy and improving the livelihoods of family farmers in the region. Initiatives will be conducted to improve production techniques and to strengthen

organizations of solidarity economy, based on a participatory methodology, aiming at cashew tree sustainable productive chain. Simultaneously to these activities, the existing cashew units that benefit from support in the region will be reactivated and modernized. The project also plans to encourage mixed plantation of cashew trees with other agricultural crops, apart from the allocation of 50% of the plots to food crops production.

In principle the recommended district for the establishment of cashew clusters are Monapo, Magovolas, Meconta and Muecate. These districts are INCAJU's prioritary districts for the development of this crop, and currently the region already has many producers who cultivate cashew as an income source. The region also offers an excellent logistic advantage because it is located near Nampula city, a large consumer center and close to Nacala Port.

Table 2.3.5 Targets for Cluster - 4 related to all phases of the Master Plan

Components	Phase 1 (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Associations development	Promotion of farmers associations, improvement of rural extension workers. Strengthening of government bodies of rural extension.	Stabilization of farmers associations and groups.	Strengthening of established associations. Itinerant agriculture and conflicts for natural resources would have been considerably reduced.
Cashew agriculture production	To support and encourage the plantation and renovation of cashew trees	Increase of cashew production	The supply of raw material and of cashew nuts for the industry will be established.
Industrial production	To invest and encourage the establishment and expansion of cashew processing agro-industry. Develop a study on the use of cashew pulp in industrial process.	Stabilization of agro-industry. Cashew pulp value chain development.	Stability of industrial production and business diversification. Units that benefited from cashew pulp will be integrated in the production chain.
Agricultural production of cash and food crops	To encourage the diversification of agricultural crops as well as production intensification in place of itinerant agriculture.	Development and increase of crops yields	The cluster will have its first value chain developed
Partnership with family sector farmers	Identification and establishment of contracts with associations for production boost and labor capacity building for the industry.	Stabilization of production and provision of techniques to farmers.	Stability of established contracts
Marketing and trade	To develop solidarity economy organizations	Improvement in marketing networks, strengthening of solidarity economy organizations and increase cashew marketing and export.	Export and marketing of a considerable amount of products to other regions. New economic activities linked to agriculture should be developed due to benefits from the Cluster. Increase cashew nuts marketing and exports.

(5) Integrated Food and Grain Production Cluster (Cluster-5)

This cluster plans the social and economic development through the structuring of quality seeds and food production chains, working both with industrial production and with family sector farmers for the development of the new value chain which shall be comprised by quality seed production, food production and social and economic strengthening of family sector farmers through encouragement for the establishment of associations. The production of quality seeds will be core activity for the goals of increase of productivity established in the Master Plan to be achieved. In its initial phase, the cluster will be established by a single pioneer company for seed production that will include family sector producers through contract farming. Soya beans, cotton, sunflower (cultivated by the pioneer company), maize, cowpea, groundnuts and sesame (cultivated by family sector farmers) will be produced. Besides the production, the company will be responsible for the acquisition of inputs and necessary machinery for the production.

According to development strategies for each zone, this cluster can be developed in Zones I, II, III, V and VI. Initially, the cluster will be developed in Zone III, specifically in Ribaué district due to the availability of land for the development of corporate seeds processing unit, water resources to promote irrigation, family sector farmers for the development of contract farming, besides the average social and environmental vulnerability and the low socioeconomic vulnerability. Besides these factors, one can highlight the good climate and soil conditions for the development of the selected crops and the good infrastructure to ensure the outlet of the production to Nampula and Cuamba consuming markets, thus allowing seeds distribution for all the Nacala Corridor.

Table 2.3.6 Targets for Cluster - 5 related to all phases of the Master Plan

Components	Phase I (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Corporate Crop Production	Establishment of the areas and beginning of soya-beans, sunflower and cotton production. Establishment of the Seeds Benefiting Unit.	Increase of the seeds production area	Stabilization of production. Stabilization of the Seeds Benefiting Unit.
Partnership with Local Farmers	Promote farmers associations and begin contract farming cultivation including 1.000farmers. To improve and provide techniques to partner farmers.	Farmers associations strengthening and increase of the number of households involved.	
Marketing	Seeds and food marketing in the internal/ domestic market with focus in the Nacala Corridor region.	Strengthening of the supply to the internal/ domestic market.	Stabilization of the supply to the internal/ domestic market and possible start of surplus export.
Supplementary Activities	Promote the rehabilitation of existing irrigation schemes. Promote funding of inputs and technologies to local farmers.	Production and marketing chains will be developed. Improvement in outlet infrastructures to the main consuming centers.	Improving of the outlet infrastructure to Nacala Porto.

Other	Evaluation of the current system of concessions for the exploitation of agricultural crops with the productive chains of cotton and tobacco.	Incorporation of lines for production of cotton and tobacco in development actions.	Consolidating the development of productive chains of cotton and tobacco.

(6) Tea Production Cluster (Cluster-6)

This Cluster is specialized for Gurue (Zone IV), since tea production and processing is a unique and important local industry. Gurue tea is an established brand name in the country, and about 85% of the total product is exported to the international market. Due to limited frontier area for new farmland development in Zone IV, the tea industry must play a vital role in the development of local economy.

In order to revitalize the tea industry, tea trees older than 70 years old shall be replaced by new seedlings of an improved variety, may be imported from Malawi. Then, cuttings from the new seedlings shall be propagated for full filling the local for the replacement. Also, an out-growers scheme will be promoted by an association of the tea industry companies, named "the Tea Producer's Association in Gurue". A reforestation package shall be integrated in the cluster, since the tea industry needs a large amount of wood for the drying process of tea leaves, and the people in the area face a problem of low firewood availability.

Table 2.3.7 Targets for Cluster-6 related to all phases of the Master Plan

Components	Phase I (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Tea Production	Old tea trees are replaced by new seedlings	Productivity of tea increases	Stabilization of tea production at high level by systematic replacement of old trees
Partnership with Local Farmers	Promotion of out-grower scheme under a fair and transparent agreement with producers	Strengthening of producer associations, and disseminating improved technologies for tea garden management	
Marketing & Processing	Quality improvement through introducing quality standards	Promotion of joint processing and marketing	Promotion of echo-tourism in connection with the tea production

(7) Cuamba Agricultural Infrastructure Cluster (Cluster-7)

This cluster aims at the development of the agricultural sector of the Nacala Corridor through developing basic infrastructure necessary that includes the distribution of products and services geared to general agricultural development and agribusiness. The attraction of investments will be promoted based on the establishment of a Special Economic Zone (SEZ), which will generate tax incentives to encourage the private sector to invest resources in infrastructure in an enclosed area.

The Cuamba district, inserted in Zone V, is the site expected to receive the pioneer cluster. The region is strategically positioned in the center of the Nacala Corridor and currently has a slightly developed infrastructure. According to the development strategy, the cluster can also be developed in Zones I, II, III and VI. It is expected that a range of private initiatives of agro-processing facilities, as well as suppliers of machinery, inputs and services are installed on Cuamba after the establishment of the SEZ. Government intakes are also expected on the development of social infrastructure.

Table 2.3.8 Targets for Cluster-7 related to all phases of the Master Plan

Components	Phase I (2014-2020)	Phase II (2021-2025)	Phase III (2026-2030)
Special Economic Zone (SEZ) (ZEE)	Development of an SEZ with incentives and tax benefits for investments aimed at agribusiness.	Stabilization of SEZ	SEZ is stabilized
Rail road infrastructure	Access and operation improvement of the Cuamba – Nacala Port line.	Access and operation improvement of the line Cuamba - Lichinga, currently underutilized.	Expansion of rail transport and full operation of Lichinga – Nacala Port line.
Road infrastructure	Road paving of the main interconnection access between Cuamba to other districts. Improvements on existing local roads construction of other necessary ones.	Improvement and maintenance of the infrastructure of primary and secondary roads.	Expansion of road transport linking the main production centers.
Products and services distribution center	Creation of specific incentives to investments in machinery, inputs and services distribution centers related to agricultural activity.	Stabilization of Cuamba as reference in products and services distribution related to agriculture.	Stability in distribution in the central portion of the Nacala Corridor.
Storage capacity	- public warehouses revitalization. - Creation of specific incentives to attract private investments for installing storage and dryers.	Creation of specific incentives to attract private investments in warehouses and dryers.	The warehouses storage capacity is stabilized.
Electricity infrastructure	Improvements in the conditions of electricity distribution and subsidies to industries operating in the cluster.	Power grid availability and distribution stabilization.	Power grid stability.
Social infrastrucutre	Construction of schools, hospitals, adequacy of sanitation among other social infrastructure.	Stabilization of the infrastructure improvements.	

Table 2.2.1 SWOT Analysis for Zone I (Monapo, Muecate, and Mecuburi)

	Helpful	Harmful
Internal Origin	**<Strengths>** **Balance of staple food production** Surplus of Maize and Cassava production **Local special farm products** Cashew, Cotton (Monapo & Mecuburi), Sesame (Monapo) **Irrigation** High potential of small pump irrigation **Location** Close to Nacala Port, Developing Nacala Port (opportunities to export) **Transportation** Along Road N1, N12, and railway (good access to market of Nacala and Nampula)	**<Weaknesses>** **Socioeconomic** - Low human resource potential - Land conflict among local farmers, and between local farmers and corporate farms in Monapo **Land cover & land use** - Low farmland accessibility in Monapo (high population) - Land conflict among local farmers, as well as between local farmers and corporate farms - Limited area to be developed for farmland in Monapo (planned by PDUT) - Very low % of forest area in Monapo - Large mining concession in Monapo - Large forest conservation area and forest concession area in the both sides of the border between Muecate and Mecuburi **Irrigation** Many defunct irrigation facilities **Transportation** Not good access to National road from Mecuburi **Specific problems** Old cashew trees (need to replace to new trees)
External Origin	**<Opportunities>** **Market** - High demand of food from Nacala port area - High demand of food from Nampula	**<Threats>** **Land cover & land use** Reducing farmland by development of industry and population increase

Table 2.2.2 SWOT Analysis for Zone II (Meconta, Mogovolas, Nampula, and Murrupula)

	Helpful	Harmful
Internal Origin	**<Strengths>** **Socioeconomic** Medium to high human resource potential **Land cover & Land use** - Large cultivated area at present - High farmland accessibility in Mogovolas and Murrupula (much fallow farmland) - Large forest area in Meconta **Balance of staple food production** Surplus of Cassava production **Local special farm products** Cashew, Groundnuts, Paddy, Cotton (Meconta), Sesame (Meconta), **Irrigation** High potential of small pump irrigation **Transportation** Good access to market (Road N1, railway, highest road density) **Market** - High population of Nampula (High demand for food) - High population growth of Mogovolas (High demand for food in future) - High demand of feed for poultry industry	**<Weaknesses>** **Socioeconomic** High socioeconomic vulnerability in Mogovolas and Murrupula **Land cover & land use** - Limited area to be developed for farmland in Murrupula (planned by PDUT) - Very low % of forest area **Irrigation** Many defunct irrigation facilities **Transportation** Not good condition of road between Nampula and Mogovolas **Specific problems** Old cashew trees (need to replace to new trees)
External Origin	**<Opportunities>** **Transportation** Improving access between Nampula and Cuamba (Road N13)	**<Threats>** **Land cover & land use** - PDUT is not stated yet in Meconta and Nampula (Unclear district government initiative to control the land use at present) - Reducing farmland by development of industry and the population increase

Table 2.2.3 SWOT Analysis for Zone III (Ribaue, Lalaua, Malema, and Alto Molocue)

	Helpful	Harmful
Internal Origin	**<Strengths>** **Land cover & land use** - Large cultivated area at present - Large forest area in Malema and Lalaua **Balance of staple food production** Surplus of Maize, Cassava and Sorghum production **Local special farm products** Onion and Garlic (Malema), Cotton (Lalaua and Malema), Tobacco (Ribaue & Malema) **Water resources and irrigation** - High water resource capacity - Many river courses - High potential for small/medium pump irrigation and gravity irrigation - Many irrigation facilities are in operation **Location** - Close to high population area (Nampula) - Close to Cuamba (strategic logistics hub) **Transportation** - Route N1 (To Nampula, To Mocuba) - Railway (Between Nampula and Cuamba through Ribaue, Lalaua and Malema)	**<Weaknesses>** **Socioeconomic** Low to medium human resource potential **Land cover & land use** - Large mining concession area in Lalaua and Alto Molocue - Forest conservation area in Ribaue - Large forest concession and Duat area in Ribaue, Malema, and Lalaua - Land conflict between local farmers and corporate farms in Alto Molocue **Irrigation** Many defunct irrigation facilities **Transportation** Poor rural road condition
External Origin	**<Opportunities>** **Land cover & land use** Large agriculture area is planned in PDUT in Alto Molocue **Transportation** Improving access between Nampula and Cuamba (Road N13)	**<Threats>** **Land cover & land use** PDUT is not stated yet in Ribaue Lalaua and Malema (Unclear district government initiative to control the land use at present)

Table 2.2.4 SWOT Analysis for Zone IV (Gurué excluding Lioma Administrative Post)

	Helpful	Harmful
Internal Origin	**<Strengths>** **Climate** Cool climate and high precipitation **Local special farm products** Tea of Gurué **Water resources** - High water resource capacity - Many river courses **Location** Close to Cuamba (transportation strategic stop) **Transportation** Good road access to Mocuba and southern provinces	**<Weaknesses>** **Landscape** Mountainous area (unsuitable for large scale crop production) **Socioeconomic** Low human resource potential **Land cover & land use** Low farmland accessibility **Location** Long distance to Nampula and Nacala **Transportation** Low rural road density **Specific problems** Necessary to replace old tea trees and old tea processing facilities **Environment consideration** High environment vulnerability (high concentration of rivers) and low firewood availability

External Origin	**<Opportunities>** **Market** High demand of tea from Europe, India, etc.	**<Threats>** **Land cover & land use** PDUT is not stated yet in Gurué (Unclear district government initiative to control the land use at present) **Market** Change of commodity distribution route by improved road N13 between Cuamba and Nampula

Table 2.2.5 SWOT Analysis for Zone V (Lioma Administrative Post in Gurue, Cuamba, Mecanhelas, Mandimba, N'Gauma)

	Helpful	Harmful
Internal Origin	**<Strengths>** **Land cover & land use** - Medium to high farmland accessibility - Large forest area **Balance of crop production** Surplus of Maize and Sorghum production **Local special farm products** Soybean (Lioma plain), Tobacco, Cotton (Cuamba) **Water resource and irrigation** - River water resources from Lurio river and Lugenda river (perennial river) - High potential of pumping irrigation system along Lurio River **Location** Near the border of Malawi **Transportation** Strategic stop (Gateway to Nampula, Gurue, Lichinga, Marupa, Tete, and Malawi by primary roads and/or railway) **Market** Close linkage with Malawi market	**<Weaknesses>** **Socioeconomic** - Low to medium human resource potential - Serious land conflict between local farmers and corporate farms (Lioma administration post and Mandimba), and among local farmers in Cuamba **Land cover & land use** - Large forest Duat area in Mandimba - Large mining concession area in N'Gauma **Irrigation** Small irrigation area
External Origin	**<Opportunities>** **Agricultural Production** High investment to soybean production in Lioma plain **Transportation** Road rehabilitation between Cuamba and Nampula, Cuamba and Lichinga, Cuamba and Gurue through Lioma plain, Cuamba and Pemba (Pemba corridor)	**<Threats>** **Land cover & land use** PDUT is not stated yet in all districts (Unclear district government initiative to control the land use at present) **Other industries** Mining industry in Tete and in Zone VI absorbs human resources **Market** Competition with vegetables and other farm products from Malawi

Table 2.2.6 SWOT Analysis for ZoneVI (Majune, Lichinga and Sanga)

	Helpful	Harmful
Internal Origin	**<Strengths>** **Climate** Cool climate and much precipitation **Land cover and land use** - Large forest area in Majune and Sanga - Medium to high farmland accessibility **Balance of staple food crop production** Surplus of Maize production **Local special farm products** Potato and haricot bean in Lichinga and Sanga, Tobacco **Water resource and irrigation** - Many river courses - High rate of irrigation facilities' utilization **Transportation** - Railway to Cuamba - Gateway to the Pemba corridor **Market** Feed demand for poultry	**<Weaknesses>** **Socioeconomic** Low human resource potential **Land cover and land use** - Large mining concession area in all districts - Large forest concession and Duat area in Majune and Lichinga - Large forest conservation area in all districts - Relatively high % of slope area - Serious land conflict between local farmers and corporate farms in all districts **Irrigation** Small irrigation area **Location** Long distance to major domestic marketing centers **Transportation** - Low rural road density - Low frequency of train transportation between Cuamba and Lichinga **Market** Low population density (small internal demand)
External Origin	**<Opportunities>** **Demand from farmers** Demand for good quality seed potato from the other areas **Transportation** Improvement road to Cuamba and Pemba	**<Threats>** **Land cover & land use** PDUT is not stated yet in Lichinga (Unclear district government initiative to control the land use at present) **Market** Competition with vegetables and other farm products from Malawi **Other industries** Large scale investment to forestry and mining

CHAPTER 3 Review of the Draft Development Plan

3.1 Rearrangement of Proposed Projects in Draft Development Plan

3.1.1 Review of Proposed Project in Draft Development Plan

Thirty-five projects were proposed for the Master Plan component in the Draft Development Plan (Overall Picture). Those projects were reviewed from the viewpoints described below, and contents of some projects were modified as well as new components were added:

i) The contents of activities, major actor and beneficiaries of the component projects as well as major target area were examined carefully from the viewpoint of smooth implementation and generating direct effect conductive to achieving development goals. As a result, some projects were rearranged and integrated into another project.

ii) Due to the characteristic of activity, which is directly connected to national level institutions or organizations, some projects were to be included in the proposal of the institutional framework for the master plan implementation or the Conclusions and Recommendations, instead of formulating the component project.

iii) From the viewpoints of the concept of cluster development, necessary activities were modified and added in order to lead the development of agricultural clusters. Some special projects for promoting the initial stage of certain cluster development were newly formulated, which are so called Pioneer Project or Model Project for Cluster Development.

As a result of these review and rearrangement, 33 component projects in total are proposed for the Master Plan. The result of review and rearrangement is summarized in Table 3.1.1.

Table 3.1.1 Rearrangement of Proposed Project in Draft Development Plan

Project in Draft Development Plan		Modified in This Report		Remarks
Original No.	Project Title	New No.	Project Title	
1	Project for Strengthening of Agricultural Research	6	Project for Strengthening of Agricultural Research	
2	Project for Strengthening of Agricultural Extension Service	7	Project for Strengthening of Agricultural Extension Service	
3	Project for Land Registration of the Small and Medium Scale Farmer	1	Project for Land Registration of the Small and Medium Scale Farmer	This project should focus on those farmers that, although majority in the Corridor, currently lacks the technical and financial resources to acquire DUAT.
4	Project for Establishment of Financial System for Agriculture			Because the financial system itself is to be established in the national level, this project was cancelled and to be described in the Recommendation of the Report.

Project in Draft Development Plan		Modified in This Report		Remarks
Original No.	Project Title	New No.	Project Title	
5	Project for Financial Supporting System for Large Investors	18	*Formulation of the Nacala Corridor agriculture investment fund for large-scale agriculture development project (the Nacala Fund)*	To be filled after confirming the contents of the Nacala Fund.
6	Project for Establishment of Financial Support System for Small and Medium Scale Agribusiness Enterprises and Farmers' Organizations (ProSAVANA Development Initiative Fund)	17	Project for Establishment of Financial Support System for Small And Medium Sized Agribusiness Enterprises, Farmers' Organizations and Individual Farmers	Integrated into one project in order to establish efficient institution for this purpose.
7	Project for Establishment of Financial Support System for Individual Farmers			
8	Project for Capacity Development of Business Development Services	20	Project for Capacity Development of Business Development Services	
9	Irrigation System Rehabilitation Project	14	Irrigation System Rehabilitation Project	Integrated into one project in order to implement efficiently and effectively.
10	Project for Enhancement of Water Users Organization			
11	Project for Improvement of Irrigation Technology and Construction Quality	15	Project for Improvement of Irrigation Technology and Construction Quality	
12	Project for Improvement of Access Road for Agricultural Activities	25	Project for Improvement of Access Road for Agricultural Activities	
13	Project for Establishment of Preferential Credit to Support Agricultural Mechanization Service Provider	13	Project for Promotion of Tractor Hire Services	Changing project title
14	Project for Capacity Building of Seed Growers	12	Project for Promotion of Quality Seed Production at the Regional Level	Changing project title
15	Project for Improvement of Accessibility to Fertilizer	11	Project for Improvement of Accessibility to Fertilizers	
16	Model Villages Project	9	*Model for Development of Leading Farmers in Community*	No.16 was merged into No.17. The concept of new settlement was canceled. Fostering leading farmer is set as a key activity to establish the model of expanding intensive cultivation.
17	Pilot Project for Improvement of small-scale Farmers			
18	Project for Vegetable Production Model	16	Project for Vegetable Production Model	
19	Project for Renewal of Cashew Trees and Improvement of Inter-cropping System			Integrated into Model Project for Cashew Production Cluster Development
20	Tea Industry Revitalization Project	32	Tea Industry Revitalization Project	Included in Cluster Development Project
21	Modern Agriculture Cooperatives Formulation and Development Project	21	Project for Formulation and Development of Modern Agriculture Cooperatives	Changing project title
22	Establishment of a Support Organization for the Investment and Value Chain Development	19	Establishment of a Support Organization for the Investment and Value Chain Development	
23	Project for Land Reserve for Investment and Territorial Planning	2	Project for Planning of Availability of Land for Investment	Changing project title
24	Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement	3	*Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement*	No.24 and No.30 were integrated for efficient and effective implementation of activities.

Project in Draft Development Plan		Modified in This Report		Remarks
Original No.	Project Title	New No.	Project Title	
25	ProSAVANA Agriculture Special Economic Zone Project	26	ProSAVANA Agriculture Special Economic Zone Project	New candidate project sites (Lioma and Majune) are added further to Cuamba and Ribaue.
26	Project for Rehabilitation of Agriculture Storage Facility	24	Project for Rehabilitation of Agriculture Storage Facility	
27	Project for Standardization of Agriculture Products	23	Project for Standardization of Agriculture Products	
28	Market Information Access Improvement Project	22	Market Information Access Improvement Project	
29	Soybean Cluster Development Project			Merged into Pioneer/Model Cluster Development Project
30	Program of Assistance for Elaboration, Dissemination and Enforcement of PDUT (District Land-Use Planning)			Merged into No.24 due to efficient and effective implementation of activities.
31	Basic Study for Water Resource Management	4	Basic Study for Water Resource Management	
32	Project for Training for Distributor of Agricultural Input	10	Project for Training for Distributor of Agricultural Input	
33	ProSAVANA Agricultural Academy (Agricultural Development Centre) Project	8	ProSAVANA Agricultural Academy (Agricultural Development Centre) Project	
34	Project for Human Capacity Development for Farmer's Organization			Merged into No.2
35	Project for Capacity Development of District Governments			The enforcement and capacity development of district government for implementing the M/P is included in the Implementation Plan.
		5	Forest Initiatives Project	Newly proposed.
		27	Pioneer Project for Integrated Grain Cluster Development	In order to promote a development of leading clusters in certain area, some pioneer/model projects for cluster development are proposed.
		28	Model Project for Family Food Production Cluster Development	
		29	Pioneer Project for Grain and Cotton Production Cluster Development	
		30	Model Project for Cashew Production Cluster Development	
		31	Pioneer Project for Integrated Food and Grain Production Cluster Development	
		32	Project for Tea Industry Revitalization	

3.1.2 Components of Agricultural Development Master Plan

(1) Types of Component Project

The Master Plan is composed of 32 component projects, which aim to achieve the zonal goals described in 2.2.2 and to realize the objectives of the Master Plan. The proposed component projects are categorized into 2 types according to characteristics of their activities and expected output, i.e., Platform Project and Pioneer/Model Project for Cluster Development.

Platform Project is considered as base projects of regional agricultural development aiming to develop the environment for activating agricultural production and agribusiness in the region as well as promoting private investment. These projects are mostly cross-zone project which are implemented all over each zone. In addition, some commodity-oriented projects, which aim to promote a specialty agricultural value chain in certain area according to the zonal development strategy, are included in the platform project. Commodity-oriented projects are formulated taking into account full use of regional potential and generating added value to commodity, and it is expected to give impact to the regional economy or farmer's economy in the region.

Pioneer/Model Project for Cluster Development is the project which initiates and leads the development of agricultural cluster which consists of promising crops for the area. An agricultural cluster itself is established and developed by private economic activity fundamentally. The pioneer/model project will prepare initial point of formulating a cluster and lead growth through increasing motivation of private investment. Even though this type of project will be implemented in a certain zone due to its character as an initiation activity, the cluster is expected to grow widely beyond the zone in some cases, and those projects should be characterized as experiences to be absorbed and reproduced.

(2) Agricultural Development Master Plan

The master plan component project and related basic approaches and strategies are listed in Table 3.1.2. The Project Sheets which describe the contents of each project are shown in Table 3.1.5 attached at the close of the chapter.

Table 3.1.2 Projects of Agricultural Development Master Plan in Nacala Corridor

1) Platform Project

Basic Approach	Strategy		No.	Master Plan Project
	Category	Development Strategy		
Sustainable Use of Natural Resources	Strategy for Land Administration	DUAT acquisition among small and medium scale farmers	1	Project for Land Registration (DUAT) of Small and Medium Scale Farmers
		Land reserve for investment	2	Project for Planning of Availability of Land for Investment
	Compliance with PRAI	Land and environmental law enforcement	3	Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement
	Resource Management	Water resources management	4	Basic Study for Water Resource Management
		Forest resources management	5	Forest Initiatives Project
Increase of Agricultural Production	Strategy for Agricultural Production Increase	Improvement of technical supporting service	6	Project for Strengthening of Agricultural Research
			7	Project for Strengthening of Agricultural Extension Service
			8	ProSAVANA Agricultural Academy (Agricultural Development Centre) Project
			9	Model Project for Development of Leading Farmers in Community

			10	Project for Training for Distributors of Agricultural Inputs
		Improvement of access to agricultural inputs	11	Project for Improvement of Accessibility to Fertilizers
			12	Project for Promotion of Quality Seed Production at the Regional Level
			13	Project for Promotion of Tractor Hire Services
	Strategy for Irrigation Development	Development of irrigation infrastructure	14	Irrigation System Rehabilitation Project
			15	Project for Improvement of Irrigation Technology and Construction Quality
			16	Project for Vegetable Production Model
	Strategy for Agricultural Production Increase	Improvement of access to agricultural financing/credit	17	Project for Establishment of Financial Support System for Small And Medium Sized Agribusiness Enterprises, Farmers' Organizations and Individual Farmers
		Partnerships between local farmers and agribusiness	18	Formulation of the Nacala Corridor agriculture investment fund for large-scale agriculture development project (the Nacala Fund)
Development of Agribusiness	Strategy for Promotion of Value Adding Agricultural Products	Support for business development	19	Establishment of a Support Organization for the Investment and Value Chain Development
			20	Project for Capacity Development of Business Development Services
	Strategy for Establishment of Farmers Organization		21	Project for Formulation and Development of Modern Agriculture Cooperatives
	Strategy for Promotion of Value Adding Agricultural Products	Formulation of value chain	22	Market Information Access Improvement Project
			23	Project for Standardization of Agriculture Products
	Strategy for Development of Agricultural Logistic	Improvement of infrastructure of agricultural logistics	24	Project for Rehabilitation of Agriculture Storage Facility
	Strategy for Improvement of Road and Social Infrastructure		25	Project for Improvement of Access Road for Agricultural Activities
	Preparing comprehensive infrastructure for developing agribusiness and clusters		26	ProSAVANA Agriculture Special Economic Zone Project
	Improvement of access to agricultural financing/credit		*17*	*Project for Establishment of Financial Support System for Small And Medium Sized Agribusiness Enterprises, Farmers' Organizations and Individual Farmers*
			18	*Formulation of the Nacala Corridor agriculture investment fund for large-scale agriculture development project (the Nacala Fund)*

2) Pioneer/Model Project for Cluster Development

No	Master Plan Project
27	Pioneer Project for Integrated Grain Cluster Development
28	Model Project for Family Food Production Cluster Development
29	Pioneer Project for Grain and Cotton Production Cluster Development
30	Model Project for Cashew Production Cluster Development
31	Pioneer Project for Integrated Food and Grain Production Cluster Development
32	Project for Tea Industry Revitalization

3.1.3 Prioritization of Project

(1) Definition and Criteria for Selecting Priority Project

Thirty-two component projects of the Master Plan have been summarized in Table 3.1.2 based on project type and related basic approach/development strategy. The priority projects, among the master plan component projects, are defined as the projects to be implemented in the Phase I of the Master Plan. They are expected to achieve the development goals of the Phase I, taking into consideration the development strategy for Phase I - transition to fixed cultivation phase and arising private investment in agricultural sector - as well as the agricultural development strategy of each zone set in Section 2.2.2. Another important premise for a Priority Project is to showcase the development potential of the Corridor and attract investments, of both private and public (donations) natures.

The component projects are evaluated in each zone by conformity with the development strategy of Phase I of the Master Plan, that is in concrete terms the necessity for achieving the Phase I development goals of each zone which is set in Section 2.2.3. Beside the conformity with the development strategy, other specific criteria are also considered in order to evaluate the characteristics of each project type, i.e., "impact on developing clusters" for Pioneer/Model Project for Cluster Development. The Criteria for selecting priority projects are summarized below:

Table 3.1.3 Criteria for Selecting Priority Projects

Project Type	Criteria	Contents of Criteria
Platform Project	Conformity with the development strategy	Necessity or importance for achieving the development goals of Phase I in each zone
Pioneer/Model Project for Cluster Development	Conformity with the development strategy	Necessity or importance for achieving the development goals of Phase I in each zone
	Impact on developing clusters	Importance on initiating the cluster development by private investment

(2) Prioritization of Project

Based on the analysis of contribution of projects to zonal goals, the master plan component projects were evaluated with the criteria mentioned above by zone and by project type. The results of the evaluation are shown in Table 3.1.4. The projects which were evaluated as "A" in any zone are selected to be a priority project of the Master Plan. As a result, 27 priority projects were selected.

Table 3.1.4 Prioritization of Project

1) Prioritization of Platform Project

No.	Master Plan Project	Zone						Priority Project
		I	II	III	IV	V	VI	
1	Project for Land Registration (DUAT) of Small and Medium Scale Farmers	A	A	A	A	A	A	X
2	Project for Planning of Availability of Land for Investment	A	A	A	-	A	A	X
3	Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement	A	A	A	A	A	A	X
4	Basic Study for Water Resource Management	A	A	A	A	A	A	X
5	Forest Initiatives Project	A	A	A	A	A	A	X
6	Project for Strengthening of Agricultural Research	A	A	A	A	A	A	X
7	Project for Strengthening of Agricultural Extension Service	A	A	A	A	A	A	X
8	ProSAVANA Agricultural Academy (Agricultural Development Centre) Project	A	A	A	A	A	A	X
9	Model Project for Development of Leading Farmers in Community	A	A	A	A	A	A	X
10	Project for Training for Distributors of Agricultural Inputs	A	A	A	A	A	A	X
11	Project for Improvement of Accessibility to Fertilizers	A	A	A	A	A	A	X
12	Project for Promotion of Quality Seed Production at the Regional Level	A	A	A	A	A	A	X
13	Project for Promotion of Tractor Hire Services	B	B	B	B	B	B	
14	Irrigation System Rehabilitation Project	B	B	B	-	B	B	
15	Project for Improvement of Irrigation Technology and Construction Quality	B	B	B	-	B	B	
16	Project for Vegetable Production Model	A	A	A	A	-	A	X
17	Project for Establishment of Financial Support System for Small And Medium Sized Agribusiness Enterprises, Farmers' Organizations and Individual Farmers	A	A	A	A	A	A	X
18	Formulation of the Nacala Corridor agriculture investment fund for large-scale agriculture development project (the Nacala Fund)	A	A	A	A	A	A	X
19	Establishment of a Support Organization for the Investment and Value Chain Development	A	A	A	A	A	A	X
20	Project for Capacity Development of Business Development Services	A	A	A	A	A	B	X
21	Project for Formulation and Development of Modern Agriculture Cooperatives	B	B	B	B	B	B	
22	Market Information Access Improvement Project	A	A	A	A	A	A	X
23	Project for Standardization of Agriculture Products	B	B	B	B	B	B	
24	Project for Rehabilitation of Agriculture Storage Facility	B	B	B	B	B	B	
25	Project for Improvement of Access Road for Agricultural Activities	B	A	A	B	A	A	X
26	ProSAVANA Agriculture Special Economic Zone Project	-	-	-	A	A	A	X

(Note) A: Very necessary to achieve the zonal goals of Phase I,
B: Very necessary to achieve the zonal goals of Phase II & III

2) Prioritization of Pioneer/Model Project for Cluster Development

No.	Master Plan Project	Zone						Priority Project
		I	II	III	IV	V	VI	
27	Pioneer Project for Integrated Grain Cluster Development	-	C	C	-	C	A	X
28	Model Project for Family Food Production Cluster Development	-	-	A	C	-	C	X
29	Pioneer Project for Grain and Cotton Production Cluster Development	-	C	B	-	A	-	X
30	Model Project for Cashew Production Cluster Development	A	B	-	C	-	C	X
31	Pioneer Project for Integrated Food and Grain Production Cluster Development	C	C	A	-	B	B	X
32	Project for Tea Industry Revitalization	-	-	-	A	-	-	X

(Note) A: Very necessary to achieve the zonal goals of Phase I / High impact on initiating cluster development,
B: Very necessary to achieve the zonal goals of Phase II & III,
C: Cluster could be developed, but may face several constraints.

3.1.4 Project Implementation Plan (Schedule)

The implementation of the Master Plan component projects is defined with consideration of development stage of phase and allocation of limited resources such as local manpower and budget. The summary of the implementation schedule of 32 component projects of the Master Plan have been summarized in Table 3.1.6 attached at the end of chapter.

3.2 Progress of Pilot Projects under ProSAVANA Development Initiative Fund (PDIF)

3.2.1 Introduction of ProSAVANA Development Initiative Fund (PDIF)

Under the tri-party agreement between the Ministry of Agriculture, JICA and GAPI, the ProSAVANA Development Initiative Fund (PDIF) was launched in September 2012 with an initial capital of 750,000 USD to finance selected agribusinesses in the Nacala Corridor on a piloting basis. The source of the funds was the Ministry of Agriculture's Counterpart Fund formed with the proceeds from the Food Aid ("Kennedy Round") provided by the Japanese Government, in which several million US dollars had been set aside for use in agricultural development.

An official call for proposals was announced in September and October for the 2nd round after the conducting of a public briefing. Fourteen proposals from agribusiness companies were submitted, and an official screening of the proposals was conducted by a joint evaluation team, formed by GAPI, DPA and ProSAVANA-PD, referencing the criteria set by the team with considerations taken in relation to social impacts on small-scale farmers and local communities, the commercial viability of the business and the sustainability of the proposed business model. The Steering Committee selected 5 companies to provide the PDIF, as listed in Table 3.2.1, during meetings held in October and November 2012. Since then, the selected agribusiness companies have been carrying out crop and vegetable production, such

as maize, soybean, beans and sesame, as well as seed multiplication involving small-scale farmers with different contract-farming arrangements. The project sites for each company are illustrated in Figure 3.2.1.

Table 3.2.1 PDIF Project Information of 5 Selected Agribusiness Companies

No.	Name of the Company	Project Site		Project Overview	Products	Amount (MT)
		Prov.	District			
1	Lozane Farm	ZA	Alto Molocue	1) Contract farming providing inputs and intensive training on agriculture practice and organizational management, 2) Involvement of more local women (22% of participants), 3) Production of basic seeds (maize and soybean) and vegetables at its own farm	Seed (maize, soybean), Soybean, Vegetables (tomato, carrot, cabbage, onion)	2,500,000
2	IKURU	NA	Monapo, Mogovolas	Full-package of contract farming with written agreement (including the provision of quality seed, tractor service for land preparation, fertilizer, technical extension)	Sesame (Monapo), Groundnuts (Mogovolas)	2,860,000
3	Oruwera Seed Company	NA	Murrupula, Mogovolas	1) Seed production on contract farming with intensive technical extension services, 2) Basic seed production at the own farm	Seeds: maize, groundnut, sesame	2,800,000
4	Matharia Empreendimentos	NA	Ribaue	1) Seed (soybean) production at its own farm (5 Ha), 2) Promotion of soybean production with smallholders 3) Vegetable production with smallholders providing technical support	Soybean, Vegetables (tomato)	1,640,000
5	Santos Agricola	NA	Meconta	1) Contract farming for vegetable production (10 Ha), 2) Vegetable production at the own farm with irrigation system (20 Ha)	Vegetables (tomato, onion, garlic, cabbage, carrot)	1,680,000

NA: Nampula, ZA: Zambesia

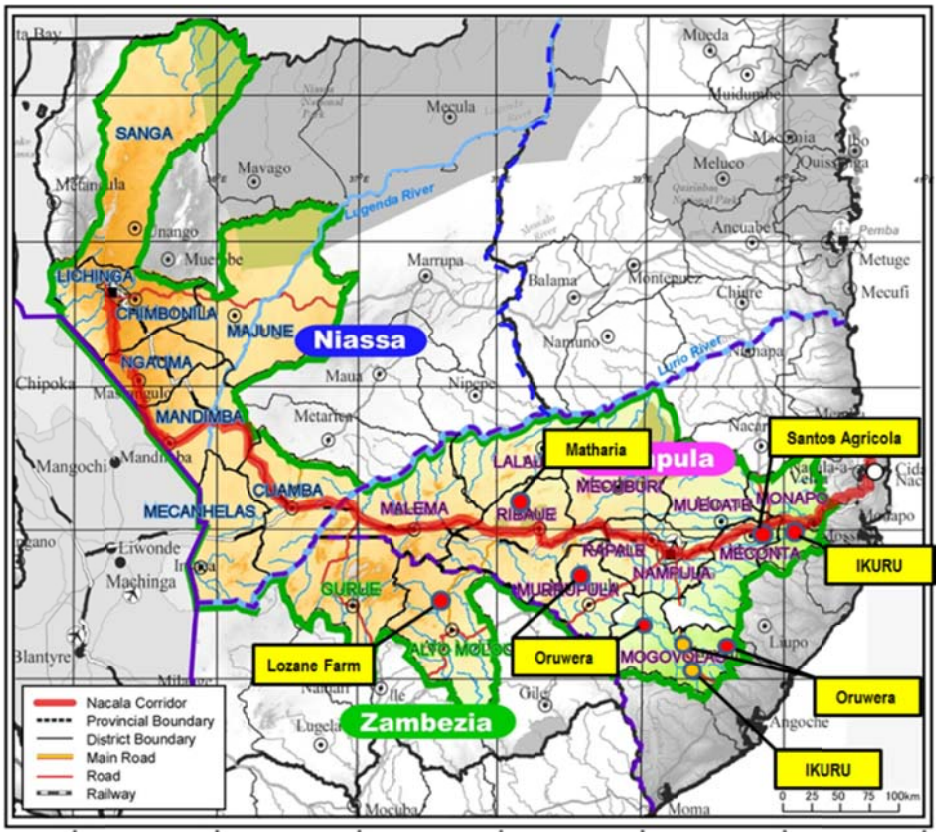


Figure 3.2.1 PDIF Project Sites

3.2.2 Progress in the Implementation of the Pilot Projects

(1) Project management structure

Since the primary goal in implementing the pilot projects is to test different approaches to contract-farming involving both private businesses and small-scale farmers so as to gather information on potential commercial farming arrangements, it is critical that a proper management unit for the pilot projects be established in order to provide monitoring and advisory support to the agribusinesses in the implementing of activities. The Project Operation Unit (POU) comprised of representatives from the GAPI Nampula office, DPA Nampula and ProSAVANA-PD was formed with the specific tasks summarized in Table 3.2.2. POU reports periodically to both GAPI and ProSAVANA Headquarters in Maputo on the progress of project implementation as well as the status of the fund's operations, which are presented to the Steering Committee, as shown in Figure 3.2.2.

Table 3.2.2 Project Operation Unit in Nampula

	GAPI Nampula Office	ProSAVANA-PD	DPA Nampula
	- Branch Manager (1) - Task Manager (1) - Technical Staff (3)	- Task Manager (1) - Technical Staff (2) (work at GAPI Nampula office)	- CEPAGRI (1) - DPA SPER (1)
Overall Tasks	- Identify potential private sector partners (pre-consultation on project ideas) - Support preparation of a loan proposal and project implementation plan as necessary - Conduct screening of proposals for approval - Provide technical support and advisory services during implementation - Conduct regular monitoring and technical backstopping for project implementation - Prepare periodic reports (Quarterly Financial Report, Half-yearly Progress Report)		
Specific Tasks	- Financial management	- Advisory support on technical aspects (production, extension)	

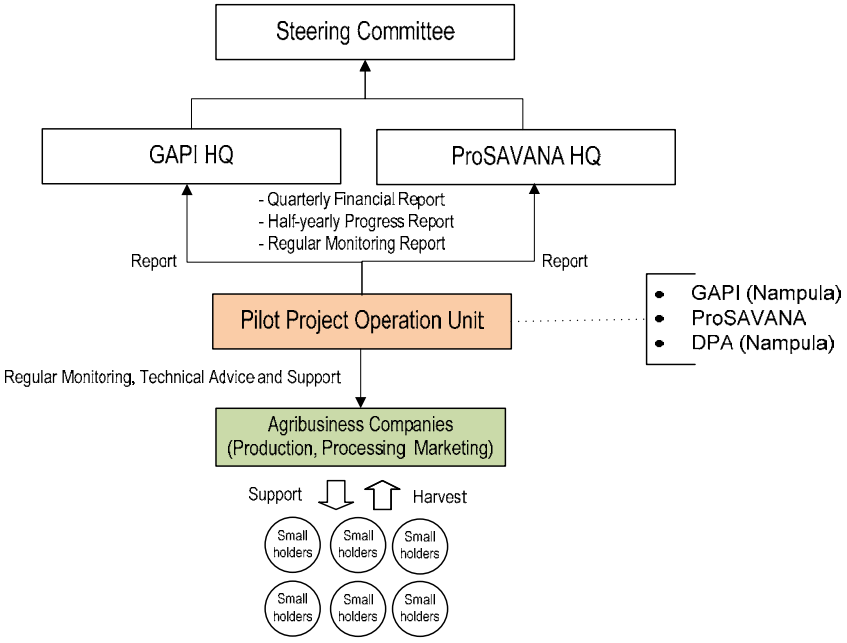


Figure 3.2.2 Management Structure of the ProSAVANA Development Initiative Fund

(2) Baseline data collection

The primary objective in implementing the pilot projects under PDIF is to test the potential arrangements for involving both private sector partners and small-scale farmers in the production of crops through the provision of necessary agriculture inputs and extension services. As such, it is essential to collect baseline data from selected farmers involved in contract farming with the companies in order to measure the impacts/outcomes from the pilot project with a focus on changes in farming methods, productivity and the incomes of farmers involved in the project. Lessons learned from the pilot projects will then be reflected in the Master Plan, making the implementation scheme for the agricultural loan more feasible.

Baseline data collection, using the questionnaire shown on the next page, was conducted in December 2012 targeting 24 out-growers in 4 associations, as listed in Table 3.2.3, working with the Loane Farm for soybean production in Alto Molocue District, Zambezia Province. Another data collection exercise will be conducted on the same 24 out-growers after the harvest in order to obtain production data for this crop season, which will be compared with the baseline data to evaluate the results of the project.

Table 3.2.3 Respondents of the Baseline Survey

	Name of Association	Location		No. of Out-growers	No. of respondents
		Post Administration	Locality		
1	Namilepe	Nauela	Namilepe	37	6
2	Soares	Nauela	Soares	22	6
3	Namicucune	Nauela	Namicucune	40	6
4	Mutxalacone	Molocue	Chapala	31	6

Baseline Questionnaire : Project/Company Name _____

1. Basic Information					
Code-No.	Name	Head of a Family : Yes If No (Relation :)		Age	Gender
District :	Post Administration :	Locality :	Povoacao :	Povoado :	
Association :	Experience in Farming (yrs.) :	Experience in contract-farming (yrs.) :			

2. Information on Farmland		
Total Area of Farmland (Ha) :	Cultivated Area (Ha) :	Fallow (Ha) :
Distance from Main Road (Km or H) :	Distance from Home (Km or H) :	Soil Fertility (Productivity) :

3. Questions to farmers who participated in contract-farming in the previous year		
Farmland used for contract-farming LAST YEAR (Ha) :	Crops : Amount of Harvest (Kg or Bags/50kg) :	Total Income (MT) :
Whether hired labor in production for contract-farming (if Yes, specify)	Farm Activity (seeding, weeding, harvest, etc.)- Number, Days, Cost	
Use of income gained from contract-farming :		
Farmland for contract-farming THIS YEAR (Ha):	Crops :	
Other Information (e.g. requests/opinions to the company or for the arrangement of contract-farming based on the past experience) :		

4. Questions to farmers newly participating in contract-farming this year		
Farmland used for contract-farming THIS YEAR (Ha):	Crops :	
What Crops cultivated on the above farmland LAST YEAR:	Amount of Harvest (Kg or Bags/50kg) :	Gross Income (MT) :
Total cost of the production (if any, specify, such as labor, seeds, fertilizer, chemical, etc.) (MT) :		Net Income (MT) :
Reasons for joining contract-farming :		
Other Information :		

(3) Progress of pilot projects

As shown in Table 3.2.4 on the following page, 932 local farmers have been involved in contract-farming with 5 agribusiness companies producing crops, seed and vegetables. The Project Operation Unit of PDIF has observed that the progresses of the farming activities are going fairly well, except for Santos Agricola, which has recently exchanged its loan contract with GAPI. The current progress of the farming activities are summarized as follows:

Lozane Farm
- The Lozane Farm provided soybean seed and inoculant to the out-growers from mid-December to early January while also holding a series of technical trainings for seeding.
- The growth of soybean plants is fairly good, however, improper seeding methods were observed at some out-grower farms, which could have resulted from insufficient extension services by the company due to a lack of extension staff.
- The expansion of vegetable production at the company's own farm has not been carried out due to shortages in the operating budget due to a delay in disbursements from the fund.

IKURU
- The proposed IKURU business model is to conduct contract-farming with middle-scale farmers who have more than 10 Ha of land by providing extensive services for credit that include high quality seed, mechanized land preparation and planting services, necessary fertilizer and chemical, and regular technical extensions.
- Due to a delay in disbursements from the fund, IKURU could not procure tractors, which were to be ordered by November 2012 for the crop planting period. As a result, the mechanized services to the out-growers have not been provided. As a result, the out-growers contracted with IKURU have started land preparation and seeding for groundnuts and sesame by hiring labor, which will result in a reduction in the production area due to the limited capacity of manual cultivation.

Oruwera
- Seed production with small-scale farmers has been progressing well, especially at the Mabukos Association in Mogovolas District where 41 farmers have conducted maize seed production on 70 Ha of land.
- Oruwera has been facilitating the acquisition of a certificate, issued by the government, for the crop seed produced by the out-growers.

Matharia
- Matharia has worked with 230 small-scale farmers in the production of soybeans and 20 farmers for cultivating tomato. A demo plot has been established, managed by one of the out-growers, to test the different production methods, by applying: i) proper spacing; ii) proper spacing and inoculant; iii) proper spacing, inoculant, and fertilizer; and iv) delayed seeding for 1 month.
- The growth of soybean plants are different from location to location, which could be caused by poor soil conditions at some localities

Santos Agricola
- The proposed vegetable production has not been started due to a delay in the contract process. However, 50 small-scale farmers have already been identified to work as out-growers with Santos Agricola for vegetable production under the contract-farming arrangement.

Table 3.2.4 Details of Pilot Projects

	Name of the Company	Project Site			Target Group (Smallholders)			Products
		Prov.	District	Post Admin.	Organization	No.	Area (Ha)	
1	Lozane Farm	ZA	Alto Molocue	Nauela	Own Farm		50	Seed : Soybean, Maize
					Association (16)	**473**	**389**	Soybean
					Own Farm		5	Vegetable (tomato, onion, cabbage)
					Sub-Total	473	444	
2	IKURU	NA	Monapo	Nacalolo, Netia	Individual farmers	19	200	Sesame
			Mogovolas		ditto	11	110	
			(Moma)		ditto	5	50	
			(Angoche)		ditto	2	40	
					Sub-Total	**37**	**400**	
		NA	Mogovolas	Namitile	Individual farmer	7	70	Groundnuts
				Nhucurio	ditto	2	20	
				Matua	ditto	2	20	
				Calippus	ditto	4	50	
			(Moma)		ditto	6	18.5	
			(Angoche)		ditto	2	15	
					Sub-Total	**23**	**193.5**	
3	Oruwera Seed Company	NA	Mogovolas	Rique	A. Josina Machel	6	6	Groundnuts
				Muatua	A. Murezene	37	30	Groundnuts
				Muatua	A. Naihava	11	46	Groundnuts (28Ha), Cowpea (18Ha)
				Mabukos	A. Mabukos	41	70	Meize
				Calipo	A. Jose Artur Maliha	2	8	Groundnuts
					Sub-Total	**97**	**160**	
		NA	Murrupula		Individual farmer	1	25	Meize
					ditto	1	3	Maize
					Sub-Total	**2**	**28**	
4	Matharia Empreendimentos	NA	Ribaue/Lapala	Matharia	Individual farmers	**230**	**100**	Soybean
					ditto	**20**	**10**	Tomato
					Own Farm	-	5	Soybean seed
					Sub-Total	**250**	**115**	
5	Santos Agricola	NA	Meconta	Namialo	Individual farmers	**50**	**10**	Vegetable
					Own Farm	-	20	Vegetable
					Sub-Total	**50**	**30**	
					Total	**932**	**1370.5**	

(4) Major constraints hampering the smooth implementation of the projects

Although it took around 2 months to complete the loan contract between GAPI and the companies, more time has been spent on the registration of the mortgages at the notary office. No company has completed this process as of yet, except Matharia Enterprise that offered GAPI the term deposit as collateral for the loan. Since submission of a mortgage paper issued by the notary office is required for the disbursement of funds regulated by GAPI, only Matharia Enterprise has received the funds as of the end of February 2013, at which time more than 4 months have already passed since the above companies were selected as recipients of PDIF at the Steering Committee held in October 2012.

IKURU and Lozane Farm have found it necessary to modify their production plans due to the delay in disbursements from the fund as summarized in the previous section. It is critical to find a solution in order to smoothly complete the mortgage registration process at the notary office.

Table 3.1.5 Master Plan Projects

(1) Platform Project

1. Project for Land Registration of the Medium and Small Scale Farmer

Project Title	Project for Land Registration of the Medium and Small Scale Farmer
Background	The lands are treated, from the standpoint of the Strategic Plan for the Development of the Agricultural Sector (PEDSA, 2010/2019), as a natural resource with potential to develop the agricultural sector in Mozambique for long-term. The same PEDSA quantifies that there are 36 million hectares of arable land in the country, of which 10% is currently cultivated. Meanwhile, the National Investment Plan for Agricultural Sector (PNISA) considers that there are 3.9 million hectares in use, with 90% of the area used by the household sector. The PNISA estimates further that exist in the country 3.6 million farms, of which about 98% are small scale farms and 96.9% of the occupied area does not have the title of use and enjoyment of land (DUAT). This means that, nationally, there are 3.4 million farms without DUAT. By bringing these percentages for the area of the Regional Development Plan of the Nacala Corridor is observed that there are approximately 1.06 million small farms without proper title DUAT. This reality, which arises from the legal regime of Mozambican land, (where the request for title for occupations that occur through customary practices and by usufruct is voluntary) added with the increasing demand for land, have contributed to increase the uncertainty about land tenure (since it is not mapped or delineated, even without DUAT) and the increase in land conflicts, especially in some areas called "hotspots". The issue of land titling is understood as a constraint to be addressed before other actions for fixing the farmer and requires long-term actions (during the period up to 2030) and quick impact ones in the short term.
Objectives	To create environment of mitigating confliction of the land use right between neighbors of farmers and between farmers and investors
Project Goals	• Mitigate the insecurity and fragility of small farm (small scale farmer) and ensure the right related to the use of the land and possession of the properties on the land; • Dissemination of intensive cultivation to small scale farmers • Create an environment of cooperation and integration between the small scale farm and new investors; • Facilitate the identification of areas for the promotion of agriculture by large farmers, private companies and medium scale farmers with leading experience (initial phase of the transition to an intensive agriculture).
Expected Output	1: Providing land title (DUAT) to small and medium scale farmers 2: Create an environment of cooperation and integration between the small scale farm and new investors 3: Create basic condition for dissemination of intensive cultivation to small farmers
Main Activities	1: Preparatory Survey (Reviewing the past projects, Coordination with relevant agencies, Preparatory field survey, Making activity plan) 2: Provision of land titles (issue of DUATs) to small scale farms for transition to a fixed agriculture or intensive cultivation - Making inventory and distribution map of farmland users (It is recommended that the target area will be selected around the one of PR2 and PR9) - Community consultations, formation processes and consolidation of each DUAT - Free expense of land registration for small farms (up to 5 ha) 3: Strengthen the implementation bodies (SPGC in each DPA, SDAE of each district) 4: Monitoring of land use by SPGC of each province
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones. The activities in Zone I and Zone V are started implementing firstly.
Implementing Agency/ related organization	DNTF (supervising the progress and technical support), SPGC of each province (Main implementer of this project), MCA projects (Providing their experience in Monapo and Malema)

Relevant plan/ projects	Land Tenure Service Project by Millennium Challenge Account - Mozambique
Remarks	Dissemination of intensive cultivation to small farmers will be covered by Project 9, 11, and 12

2. Project for Planning of Availability of Land for Investment

Project Title	Project for Planning of Availability of Land for Investment
Background	The difficulties for the search of availability of land and after this obtaining DUAT (Right of Land Use and Reclamation) by investors are the main constraints to implementation of agro forestry projects in the country, since it requires a long time (searching and conducting) in a process quite complex to obtain. In the last 5 years (2008-2012) only 20 projects were approved by CEPAGRI and are under implementation. These 5 projects totaling 740,700 hectares, with 60.2% of this area will for reforestation projects, mainly in Niassa. In this context, the provinces, to attract large-scale investments for development, could adopt practical measures to facilitate access to available land, as well as provide information about the potential of these areas through agronomic and socio-environmental zonings. By formation of a bank / stock of land, managed by the respective provinces according to their public policies, and the provision of those areas to investors with basic plans of subdivision already prepared, the provincial governments can become the main protagonists of the development process. This protagonist role in inducing the development and targeting of investments in accordance with provincial policies should be exercised with CEPAGRI through joint work on the formulation of productive projects.
Objectives	Making the provinces main protagonists in the process of investment for agricultural development
Project Goals	Creating government offices in each province for the promotion of investment by management of land availability, formation of database to support the interested investors and direction of investments in accordance with provincial public policies.
Expected Output	Government offices are created in each province Availability of lands for agricultural projects are found in each district Basic plan of subdivision of availability of lands was prepared Government office has database of availability of land
Main Activities	1: Creation of government offices to promote large scale investment in each province; 2: Survey of availability of lands for agricultural projects; 3: Community consultations, formation of processes and consolidation of DUAT for small farmers, whose properties lie within or in border of areas of availability 4: Preparation of basic plan of subdivision and land management based on agronomic and socio-environmental zoning in the provinces; 5: Data bank of available and parceled land, with agrarian, socioeconomics and environmental information; 6: To elaborate criteria based on socioeconomic and environmental characteristics of the area for the selection of projects, among all who request land, ensuring the selection of those capable to generate higher benefits to the region. 7: To monitor the use of required area and the benefits created.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	Zone I, II, III, V and VI
Implementing Agency/ related organization	Provincial government, DPA/SPGC's, CEPAGRI

Relevant plan/ projects	PNDA - Agribusiness National Development Plan
Remarks	

3. Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement

Project Title	Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement
Background	Despite the many well-structured legal instruments to supervise private investment projects in Mozambique, the weak law enforcement is resulting in environmental degradation as well as threatened livelihood of the communities in many cases. Serious lack of budget, equipment and trained staff is the underlying problem. MICOA is promoting the elaboration of PDUT (District Land-Use Plan) since 2008 in view of the current tendency of disordered land-use and unsustainable exploitation of natural resources which threaten the ecosystem and community's livelihood. However, some of the 19 districts do not yet possess PDUT.
Objectives	To harmonize the agribusiness investment and the development of local communities as well as environmental conservation through compliance with the RAI (Responsible Agricultural Investment) principles, large part of which can be achieved by proper enforcement of the existing supervision mechanism. To provide the 19 districts with legal instrument of spatial planning which restricts indiscriminate development activities and keeps equilibrium with environmental conservation, in the earliest stage of M/P implementation.
Project Goals	All the agricultural investment projects in the Nacala Corridor (especially large-scale projects over 1,000ha or of Category A and B) are taking place in conformity with PDUTs under proper supervision and corrective guidance by competent authorities, thus contributing to avoid conflict with local communities and serious negative impacts on the environment.
Expected Output	1: PDUTs are elaborated, ratified and properly revised in the 19 districts; 2: Government officials are trained, equipped and funded to provide improved services of supervision for law enforcement, using partial support by private sector; 3: All the documented information including PDUT is accessible for the general public; 4: Avenues of grievance redress in relation to RAI are understood by local people.
Main Activities	1. Assistance for accelerated elaboration, harmonization and revision of PDUTs - Provision of equipment such as GPS, motorbike, camera, computer and GIS software together with technical training (for the priority districts); - Budget support for contracting engineers and field operation costs (for the priority districts); - Technical meetings to harmonize PDUTs with the agro-ecological zoning results as well as inter-district planning (mainly between DPCA, DPA and neighboring districts); - Assistance for revision of PDUTs after the first 10 years. 2. Training of the Government officials and improvement of the basic conditions - Seminars, OJTs and training courses on the lawful and effective means of supervision of the agricultural investment projects, in accordance with PRAI; - Provision of vehicles and ICT equipment for the exclusive use by inspectors and auditors; - Budget support for field operation costs, either through direct funding by donors or fund canalization from FUNAB; - Partial outsourcing of the supervision services through contracting authorized consultants or promoting certification of the private environmental auditors. 3.Improvement of information disclosure system - Creation of websites or public access points for PDUTs, investment project documents, EIA reports, consultation records and supervision reports; - Distribution of printed PDUTs together with explanation for relevant actors. 4.Dissemination of PRAI among local people

	- A series of dialogue with local people to explain the essence of "ProSAVANA Guidelines on RAI" and raise awareness on their rights of appeal.
Implementation period	Initial Intensive Intervention: 2014 – 2015, Revision of PDUTs: 2022 – 2025 2014 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 2030
Prioritized Area (candidate)	All zones. As for the elaboration of PDUT, priority will be given to: Malema, Gurue, Cuamba, Mandimba and Ngauma districts.
Implementing Agency/ related organization	MICOA = DNAPOT, DNAIA, General Inspection MINAG = DNTF, CEPAGRI Provincial Government = DPA (SPGC, SPFFB), DPCA District Government = SDAE, SDPI Other institutions competent for authorization and supervision = CPI, ARA, etc.
Relevant plan/ projects	Nation-wide Agro-ecological Zoning at 1:250 000 is undertaken by MINAG, and the final report will be published in 2013.
Remarks	The supposed "ProSAVANA Implementing Body" may be able to play a complementary role in this project.

4. Basic Study for Water Resource Management

Project Title	Basic Study for Water Resource Management
Background	Management of the water resources is essential of sustainable use of natural resources and water distribution in an appropriate and fair manner. At present, the development of water resources stays in far lower level than the potential, except for some of rivers running through high population density area. Thus, even an accurate water resource management is not applied, any serious conflict or trouble has not occurred. Considering with the future development of industry and agriculture as well as population increase of the Nacala Corridor area, the establishment of appropriate water resources management is considered primary task.
Objectives	The project aims to contribute to manage natural resources for regional economy and irrigation development through providing the basic condition of well-ordered water resources development and use. Through the activity of the project, the accurate situation of water use and development potential will be grasped and shared among concerned actors of development.
Project Goals	To arrange necessary information for development and management of water resources, and to be shared among concerned actors of development including private investors, To realize well-ordered water use and development in the basins through appropriate water resources management.
Expected Output	1: River observatory network is re-built and hydrological information will be accumulated. Data and assessment result will be built up into database and be share among concerned actors of development including private investors. 2: Well-ordered development and sustainable use of water resources is implemented through enhancing the monitoring of water use and strengthening of water license system. 3: Water management plan is formulated and the order of water use is established in the development concentrated basin.
Main Activities	1. Steady implementation of development and re-construction of river observatory network which is planned by ARA-CN and ARA-N. 2. Building up of database of water resources development potential. 3. Selection of possible dam site 4. Investigation and preparation of inventory of small and medium scale water users and their water use such as irrigation system less than 500ha, who are not included in the current water license system 5. Formulation of water management plan including water distribution plan of the rivers which intensive development is expected such as the Monapo river.
Implementation period	2014 | '15 | '16 | '17 | '18 | '19 | '20 | '21 | '22 | '23 | '24 | '25 | '26 | '27 | '28 | '29 | 2030
Prioritized Area (candidate)	All zones includingbasins of Rio Monapo, Rio Mecuburi, Rio Meluli/Namaita, Rio Ligonha, RioLurio and tributaries, Rio Lugenda and tributaries, Rio Lucheringo, Lago Chiuta

	The Monapo river basin of Zone I and Zone II shall be given the priority for establishing water management and distribution plan.
Implementing Agency/ related organization	ARA-CN and ARA-N in close cooperation with DPA in Nampula, Niassa and Zambezia
Relevant plan/ projects	
Remarks	

5. Forest Initiative Project

Project Title	Forest Initiative Project
Background	The exploitation of forest resources in the Nacala corridor is characterized by a process of extraction and/or removal of native forests, without care and management related to forest replacement, essential to guarantee future supplies. Some regions, such as the Districts that make up the zones I, II and IV, feature high population density compared to the other districts of the Nacala corridor, which combined with the medium or high environmental vulnerability, due to the negative relationship between supply and demand of wood, require attention in relation to the management of natural resources and the availability of woody biomass. The forestry sector has developed in some areas of the corridor, but focusing on forest plantations aimed at industrial consumption, not to the local supply of biomass. It is necessary to stimulate the forest replacement and reforestation initiatives aiming to increase the availability of biomass for energy purposes, thus ensuring the continuous supply of the population and reducing the pressure on the native forest fragments.
Objectives	The project consists of extending the income-generating options for the small and medium producers, through initiatives related to the forest sector. The establishment of forestry nurseries and training for delivery of quality seedlings production comprises a fundamental factor for the implementation of ecological corridors, energy and forestry recovery of degraded areas. The key objective of this project is to create a fund consisting of resources from activities that generate impacts on forest resources (firewood and charcoal consumption, deforestation for alternative use of the soil and others). This fund would be channeled to the development of forest activities, creating public and private forest nurseries (small scale), creation of ecological corridors, implementation of energy forests and other compatible activities, such as training and capacity-building in forest management and exploitation, trainings on efficient use of forest resources, incentives for small business development and related forest.
Project Goals	- Creation of a fund to support Forest Initiatives - Creation of small-scale private forest nurseries at the Administration Post level. - Training of local personnel for industry activities -Incentives for afforestation for conservation purposes and for biomass generation
Expected Products	- Forest nurseries are established. - Reversal in medium-long term wood production deficit in the areas - Improvement of income of small-and medium producer through diversification of economic activities - Diffusion of the use of firewood and charcoal come from planted forests
Main Activities	1. Submission of proposal for obtaining financial support 2. Development of forestry nursery 3. Training for management of nurseries, seed collection and seedling production 4. Survey of distressed areas of recovery and potential for energy forests and ecological corridors 5. Training for the planting and management of reforestation 6. Empowerment of communities benefited by energy forests for community forest management 7. Capacity-building for the collection, processing and storage of wood for energy purposes

	8. Training for use and exploitation of forest residues 9. Monitoring (qualities of seedlings, and evaluation of reforestation and community management)
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Priority area (candidate)	All zones, with priority for the District of Gurué.
Implementing Agency/Related Organizations	-Environmental Fund (FUNAB) and Global Environment Fund (GEF) as important partners for channeling financial resources -Support of NGOs in technical and operational aspect -District Planning and infrastructure Service (SDPI) with operations in regional planning and in promoting activities of maintenance, protection and restoration of the environment. SDAE and administrative posts.
Relevant Projects/Plans	Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement
Comments	- The organization of communities is a factor of importance for implementation of the project Important to consider factors such as genetic diversity of seeds, and the care with the introduction of invasive alien species in ZPP (Zone for Partial Protection), and ecological corridors

6. Project for Strengthening of Agricultural Research

Project Title	Project for Strengthening of Agricultural Research
Background	Transition from shifting cultivation to settled farming is an urgent need, in view of the rapid population growth and limitation in available farmland in the Nacala Corridor. Increase in land productivity through fertilization, improved production techniques of traditional crops, introduction of new crops or cultivars and reactivation of livestock farming is a key to this end. The role of agricultural research is becoming more important than ever to develop adequate technologies to respond to these needs.
Objectives	To enhance the research capacity of IIAM and improve enabling conditions toward advanced technology development on the priority crops, cultivars and livestock species under ProSAVANA, in terms of quantity and quality.
Project Goals	Appropriate agricultural technology is developed and transferred in Nacala Corridor (*same as the project purpose of ProSAVANA-PI)
Expected Output	1:IIAM branch stations in Nacala Corridor are rehabilitated and equipped; 2:IIAM field operators are trained on research support activities; 3:Research programs are expanded to strategic themes for Agricultural Development in Nacala Corridor.
Main Activities	1) Infrastructure rehabilitation of IIAM branch stations - Basic infrastructure and equipment such as electricity, water supply, office and warehouse - Specialized infrastructure and equipment for specific crops and animals of each region 2) Training of IIAM field operators on research support activities - Operation and maintenance of machinery and equipment - Maintenance of experimental fields, crops and animals - Financial support to contract skilled operators 3) Expansion of research programs on strategic themes for Agricultural Development in Nacala Corridor - Utilization of farm inputs for settled farming - Introduction and adaptation of non-traditional crops and cultivars
Implementation period	ProSAVANA-PI: till 2016 Infrastructure rehabilitation and training of field operators: 2017 – 2018 Expansion of research programs: 2019 – 2030 2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area	All zones. Coverage of IIAM Northeast Zonal Center: Nampula, Mapupulo, Namapa, Nacaca, Namialo,

(candidate)	Nassuruma, Nametil, Ribaue Coverage of IIAM Northwest Zonal Center: Lichinga, Mutuali, Gurue, Mutequelesse, Matama
Implementing Agency/ related organization	IIAM (Northeast and Northwest Zonal Centers), INCAJU, IAM Plus, ABC-EMBRAPA and JICA-NTCI/JIRCAS as ProSAVANA-PI actors
Relevant plan/ projects	PEDSA 2011 – 2020 Strategic Plan of IIAM 2011 – 2015 (Headquarter; Northeast Zonal Center; Northwest Zonal Center) ProSAVANA-PI from 2011 to 2016
Remarks	ProSAVANA-PI has the following 5 components: 1. Strengthening of research capacity of IIAM Northeast / Northwest Zonal Centers; 2. Evaluation of natural resources and socio-economic conditions in Nacala Corridor; 3. Development of soil improvement technology for Nacala Corridor; 4. Development of appropriate cultivation technology for Nacala Corridor; 5. Implementation and validation of new agricultural technology in the demonstration units.

7. Project for Strengthening of Agricultural Extension Service

Project Title	Project for Strengthening of Agricultural Extension Service
Background	One of major challenges to the implementation of a competitive market-oriented agriculture in the Project area, as well as the rest of the country, is the transformation of today's farmers shifting cultivation to settled cultivation by introducing intensive farming system. For it to be possible, it is necessary to adopt a series of measures to enable farmers conditions to achieve the transformation, such as, juridical ensuring of land use, access to inputs and especially access to production technology through agile and efficient agricultural extension service. Agricultural extension in Mozambique was historically focused on commercial and export cash crops, such as cotton, tobacco and sugarcane, mainly financed by the corresponding crop sectors before independence. In 1987 when the country's economic system was liberalized, the public agricultural extension system was finally established. The extension services in Mozambique, therefore, are highly dependent on the non-governmental sector, such as NGOs and service providers mainly associated with concession holder groups of specific cash crops. In 2012, only 32.1% of extension agents were of public sector (MINAG/DNEA). The PRONEA (2012-16), as the operational program of the Agricultural Extension Master Plan, is being implemented to consolidate the agricultural extension service involving the private sector in selected 42 districts distributed all provinces in the country. The PRONEA, as a matter of strategy implementation, is going to cover only 11 districts out of 19 districts in the Project area.
Objectives	To enhance productivity and market access of small-scale and emerging farmers in 8 districts which are not covered by the PRONEA
Project Goals	Strengthen the agricultural extension service to expedite the transformation of extensive farming to intensive and market-oriented farming in the Project area
Expected Output	1. Allocation of able extension agents in all target districts in the Project area 2. Empowerment of extension agents and farmers
Main Activities	1. Empowerment of extension agents not only in public sector but also in NGO/private sector through trainings and workshops including equipment supply necessary for the services (1) Public sector reorientation and support (2) NGO/Private sector promotion and support in extension activities 2. Empowerment of individual farmers and farmer organizations through trainings and workshops (1) Grouping and empowerment of farmer organizations (2) Farm enterprise development 3. Provision of better extension service at provincial and district/local-level through public, private and NGO agents (1) Provincial level-service provision (2) District/Local-level service provision 4. Restart of agricultural extension program on radio or TV (1) Provision of farming technology (2) Provision of farm management know-how and marketing information
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030 PRONEA
Prioritized Area (candidate)	All 8 districts which are not covered by the PRONEA , i.e., Mecuburi, Muecate, Mogovolas, Murrupula, Lalaua, Majune, Lichinga and Sanga
Implementing Agency/ related organization	MINAG/DNAE, SPEA, SDAE, NGO's and private companies who provide technical support to farmers
Relevant plan/ projects	• PDEA, PRONEA • Project for Strengthening Agricultural Research (No.6) • ProSAVANA Agricultural Academy (Agricultural Development Centre) Project (No.8)
Remarks	This project aims at strengthening agricultural extension services of all 19 districts in the Project area with complementing actions to PRONEA.

8. ProSAVANA Agricultural Academy (Agricultural Development Centre) Project

Project Title	ProSAVANA Agricultural Academy (Agricultural Development Centre) Project
Background	The government of Mozambique has recognized that empowerment of human resources at grass-roots level becomes a major driving force for the agricultural development. The PRONEA (National Extension Program), which is the operational program of the Agricultural Extension Master Plan in compliant with PEDSA, focuses on small-scale and emerging farmers in order to enhance their productivity and market access. PRONEA, then, has 2 components of human development out of its 3 major components. One is the supply-side development of agricultural extension services (empowerment of extension agents) and the other is the demand-side development of agricultural extension services (empowerment of farmers). Even though the government recognition about the importance of human resources, a small number of leading farmers in communities and able agricultural extension agents is a serious problem for the agricultural development in the Project area. In order to accelerate the development, able human resources on the both sides at district level, the supply-side and the demand-side, should be systematically secured with long-term strategy. There is an existing formal education system in agriculture, i.e. Agricultural Universities, Agricultural Institutes and Agricultural Basic Schools in Mozambique. The system cannot fully respond to the demand for the able human resources dedicating to the agricultural development at grass-roots level. It is recommended that the government pay serious attention to find out capable personnel and to forester them to be grass-roots leaders to bear responsibility of the agricultural development.
Objectives	To promote the agricultural development in the Project area
Project Goals	To foster able personnel who play a leading role in agricultural development in the Project area
Expected Output	1. Number of able and minded farmers for agricultural/rural development is increased in the Project area 2. Number of able and minded public agricultural extension agents for agricultural/rural development is increased in the Project area
Main Activities	<Training of Leading Farmers & Public Agricultural Extension Agents> 1. To train selected capable young personnel (graduated high-schools) who have a strong will to bear responsibility for the development of regional agriculture. The selected 25 personnel/year shall be given 2-years intensive training mainly focusing on farming practice 2. To focus on training subjects regarding farm management, group organizing and management, etc. in addition to the practice, so that the trainees will be able to develop the qualities and skills needed to be a community leader in the future 3. To provide the following 2 options of incentive to the qualified trainees after 2-years (1) DUAT of farmland for about 5 ha and soft-loan to cover initial capital cost to start farming (2) Employment as a public extension agent of intended SDAE 4. To train rookie public extension agents (6 months training at the time of recruitment, except for the graduates of the academy) 5. To train veteran public extension agents for refreshment (1-month training every 5-years of the career of the agents) <Other supplementary trainings> 1. Community leader training (Ad-hoc trainings based on the request from extension side) 2. Agricultural Inputs Suppliers Training (2-weeks training, once a year) 3. Other trainings based on request <Trainers> 1. Full-time instructors 2. Invited specialists/lecturers Professors/instructors of agricultural universities, IIAM researchers, Senior staff of DPA,

	NGOs & Private sector and Foreign experts, such as from Brazil and Japan
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones (candidate place of the Academy: Cuamba)
Implementing Agency/ related organization	MINAG, DPA in Nampula, Niassa and Zambezia, SDAE in 19 districts, IIAM (North East Centre & North West Centre)
Relevant plan/ projects	• Project for Strengthening of Agricultural Extension Service (No.7) • Model Project for Development of Leading Farmers in Community (No.9) • Project for Training for Distributors of Agricultural Inputs (No.10)
Remarks	

9. Model Project for Development of Leading Farmers in Community

Project Title	Model Project for Development of Leading Farmer in Community
Background	Transformation from the prevailing shifting cultivation to settled farming with intensive agricultural technology is crucial to attain increased agricultural production and sustainable use of natural resources in the Project Area. However, many farmers do not have a concrete image of the new farming system and continue the shifting cultivation. Considering farmers’ behavior in general, they will not transfer to a new farming system before they will be able to recognize the actual benefit of the new system by themselves. “A picture is worth a thousand words” is very true to convince farmers of the benefit of new things. Through demonstrating a model of intensive farming in community by emerging leading farmers, it is expected that many farmers in the Project Area will be motivated to convert their farming system. On the other hand, organization is an essential element for development of small scale farmer, and core person or group is required to establish the robust organization. Therefore, the leading farmers should be cultivated in local community and they shall lead to diffusion of new settled farming and cooperative activities among the farmers aiming at the increase of crop production and their income with intensive agricultural technology.
Objectives	To establish the model to develop leading farmer who disseminate the cultivation technology and its effect of intensive farming and elicit to motivation for introducing intensive farming and for entering joint works implemented by association among surrounding small scale farmers.
Project Goals	The leading farmers in community are trained through implementation of several practical intensive farming and modern management method. Their surrounding small scale farmers are organized into a farmer’s organization. Through it, production increase and income generation of small-scale farmers are achieved.
Expected Output	1. Leading farmers (core farmers) are defined in community 2. Individual DUAT is registered in pilot communities. 3. The farming program aiming to generate their income is prepared by farmer and announced in the community. 4. Core farmers increase their capacity of farming. 5. Small-scale farmers around core farmers are organized into a legal group and find good partner in their business. 6. Capacity of extension workers in SDAE is developed.
Main Activities	1. To select project communities based on voluntary initiatives under transparent process. 1) Socialization of pilot projects, explanation to representatives of communities. 2) Selection of pilot community and farmers taking part in the project 3) Selection of capable young farmers to formulate core group to participate the project 2. To survey all farmland of individual farmers in the pilot community and register their

<table>
<tr><td></td><td>DUAT.
3. To prepare farming program of core farmers in consultation with extension workers.
1) Studying present farming methods of each farmer, to identify details of growing crops, varieties, management practice, marketing method, household income etc.
2) Preparation of draft farming program, aiming at income generation based on settled cultivation with the farmers, including farm management, marketing and financial management.
3) Public announcement of the farming program in the community.
4. To support farming of core farmers
1) Supporting their procurement of necessary inputs by introducing reliable inputs dealers/stores and an available loan scheme, if necessary.
2) Providing an intensive technical suggestion and training to core farmers based on the farming plan.
3) Support the establishment of contact between farmers and their market, according to the marketing plan.
4) Monitoring their activities throughout the farming period and evaluated by farmers themselves and the project after selling the major crops. The following year's program is prepared based on the evaluation.
5. To provide training to promote farmers into association and joint activities
1) Providing training and technical support for group activities and marketing to core farmer.
2) Supporting to expand activities such as formulating legal farmer's association and matching with private companies, who look for good partner.
6. Capacity development of SDAE and its extension workers
1) To share the knowledge and experience of the project with local government staff such as extension workers and SDAE.
2) Development model for small-scale farmers is formulated based on the lessons learnt in the last stage of the pilot project, including compiling a project operation manual for extension workers and SDAE staff.</td></tr>
<tr><td>Implementation Period</td><td>2014 | ‘15 | ‘16 | ‘17 | ‘18 | ‘19 | ‘20 | ‘21 | ‘22 | ‘23 | ‘24 | ‘25 | ‘26 | ‘27 | ‘28 | ‘29 | 2030</td></tr>
<tr><td>Prioritized Area (candidate)</td><td>9 communities in Monapo, Rapale (Nampula), Meconta, Mogovolas, Mutuali (Malema), Alto Molocue, Gurue, Cuamba and Lichinga. (high population area highly require transition to settled cultivation)</td></tr>
<tr><td>Implementing Agency/ Related Organization</td><td>Extension Service in MINAG, IIAM, SDAEs, NGOs,</td></tr>
<tr><td>Relevant Plan/ Projects</td><td>• PRONEA
• ProSAVANA Agricultural Academy (Agricultural Development Centre) Project
• Project for Strengthening of Agricultural Extension Service</td></tr>
<tr><td>Remarks</td><td>• The model project is carried out by experienced NGOs or specialists on a contract basis.
• In the future, graduates from ProSAVANA academy, ideally originated from pilot communities, can be assigned as core leading farmers.</td></tr>
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10. Project for Training for Distributor of Agricultural Input

Project Title	Project for Training for Distributors of Agricultural Inputs
Background	It is necessary to promote transition of farming system from shifting cultivation into intensive cultivation. Dissemination of the use of fertilizers, certified seeds and agrochemicals is crucial to promote intensive cultivation. However, public extension service is still weak due to small number of extension workers. Therefore, many channels to transfer knowledge of the intensive agriculture to farmers are required. Here, stores or distributors handling agricultural inputs meet farmers frequently, so that they could be a consultation counter regarding proper agricultural inputs use On the other hand, proper knowledge on fertilizers and agrochemicals like pesticide and herbicide should be understood by farmers for environmental conservation and for their own and people's good health. The distributors or stores handling them should know it and they have to transfer the knowledge to their customer farmers to avoid unexpected accident. If agricultural inputs distributors are motivated to provide the consulting services, farmers will have easy access to basic farming technology at grass-roots level. The weak public agricultural extension services can be compensated by the consultation services. Moreover, the inputs distributors can get a trust of customers (farmers), if they could continue to provide appropriate information about farming technology. The trust must be a priceless treasure for them to run their business in competition with others.
Objectives	Farmers have good access to basic knowledge about proper use of agricultural inputs
Project Goals	Qualified agricultural distributors provide agricultural consultation services on farming technology to farmers as a supplementary service of their business
Expected Output	1. A training course for agricultural inputs distributors or stores is organized regularly (once/year). 2. Number of qualified agricultural distributors is increased at district level 3. Number of entities handling agricultural inputs is increased.
Main Activities	1. To organize a training course regarding major crop management and proper use of agricultural inputs including safety standards of agrochemicals designed for voluntary agricultural inputs distributors or stores (about 20 participants). The certificate is issued for trainees who finished the course. 2. In order to make incentive for distributors to take the training, favorable treatments are given to the certificate holders, such as priority in governmental procurement, tax incentive, priority for low-interest credit, honor system, etc. 3. SDAE and DPA announce the favorable treatment of agricultural inputs distributors or stores.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones.
Implementing Agency/ related organization	MINAG, DPAs, SDAEs
Relevant plan/ projects	• Project for Strengthening of Agricultural Extension Service (No.7) • ProSAVANA Agricultural Academy (Agricultural Development Centre) Project (No.8) • Project for Establishment of Financial Support System for Small and Medium Scale Agribusiness Enterprises and Farmers' Organizations (ProSAVANA Development Initiative Fund) (No.16)
Remarks	

11. Project for Improvement of Accessibility to Fertilizers

Project Title	Project for Improvement of Accessibility to Fertilizers
Background	Most farmers depend on an extensive farming practice and rarely use agricultural inputs, i.e. quality seeds, chemical fertilizers, pesticides and farm mechanization at present. The low use of inputs must be a main reason of low productivity of crops. While reasons of the low use are complicated, high price must be a major subject to be addressed to stimulate farmers' demand for the inputs. Chemical fertilizers are indispensable and the most effective inputs for increasing crop productivity. However, the present market price is too high to use for major crops in Mozambique, especially for maize. Maize is a major staple of the people and is grown by most farmers in Mozambique. The country, however, imports a substantial amount of maize every year. According to a simulation in the Study, farmers can find an economic feasibility for using chemical fertilizers for maize only after the price come to be almost half of the present level, even though they could have a double of the present production per ha. It seems that only market-principle oriented measures to address the high price cannot generate a demand to chemical fertilizers at present. The present situation may allow the government to have a good reason that the government establishes a pump-priming subsidy system for chemical fertilizers for a certain limited period as many neighbor countries do, considering an economic impact of the fertilizers to the national economy and equity. If the farmers' demand is stimulated by the subsidy, the increased demand would pave the way for reducing the costs of the supply chain in the future.
Objectives	To improve agricultural productivity through transformation to intensive farming
Project Goals	To improve accessibility of chemical fertilizers for general farmers
Expected Output	1. Price of chemical fertilizers is decreased at economically feasible level to use for major crops, especially for maize 2. Farmers' demand for chemical fertilizers is firmly stimulated
Main Activities	1. To grant a subsidy to cover 50% of FOB price of imported chemical fertilizers for 5 years to fertilizer traders. Then, the subsidy % shall be gradually reduced by 10%/year for the next 4 years (the upper limit FOB price shall be set and periodically reviewed based on the international market price) 2. To allocate a fund (budget) of US$10 million for the subsidy every year. This amount is the upper limit of the annual subsidy (the amount shall be gradually reduced by 20%/year from the 6th year to the end) 3. To grant the subsidy for only Urea and NPK (12-24-12). They are relatively popular fertilizers among general farmers for using major crops. The subsidized fertilizers must be prohibited to re-export, even after blending by traders/blending companies 4. To introduce a registration system of fertilizer traders, so that only but many registered traders can be granted the subsidy. However, corporate farms to produce crops by themselves or by out-growers, such as tobacco, sugar-cane, cotton, banana, rice etc. or their affiliated companies are not allowed to be a registered trader 5. To establish an independent monitoring system in the government
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	Whole country
Implementing Agency/ related organization	MINAG, MIC
Relevant plan/ projects	Project for Training for Distributors of Agricultural Inputs (No.10)
Remarks	

12. Project for Promotion of Quality Seed Production at the Regional Level

Project Title	Project for Promotion of Quality Seed Production at the Regional Level
Background	Only a few farmers use quality seeds in Mozambique, as well as in the Project area. They usually use their own produced seeds or exchanged/purchased seeds from neighbors. Quality of the seeds is inferior to the standard in general due to lack of proper management during crop growing and post-harvest treatments. Since quality seeds are fundamental inputs to increase productivity of crops, the accessibility of farmers should be improved in order to promote intensive farming system. Basic seeds of major crops produced by USEBA (Basic Seed Production Unit) of IIAM are multiplied to certified seeds by seed growers (companies). There are, however, only 18 companies producing the seeds out of 35 registered seed companies in Mozambique, according to World Bank's report in 2012. In the Project area, there are, however, not a little number of small-scale seed companies newly started their business at province/district level in recent years. While many of them get a financial and/or technical assistance from NGOs or donor agencies, they don't get a systematic support to address the following constraints in a wide and protected manner. (1) Lack of reliable basic seeds (2) Lack of technical staff to manage quality seeds production (3) Lack of fund (capital & operation) In order to improve accessibility of farmers to quality seeds, the government should foster the small-scale local seed companies with necessary assistance, so that the companies will be able to produce and distribute quality seeds of major crops with affordable price to farmers.
Objectives	To improve agricultural productivity through transformation to intensive farming
Project Goals	To improve accessibility of farmers to quality seeds with affordable price at district level.
Expected Output	1. Number of able seed growers is increased in the Project area 2. Production of quality seeds of major crops is increased in the Project area
Main Activities	1. To train technical staff of seed companies and agricultural extension agents how to produce quality seeds (by IIAM). While the target crops in the initial stage shall be maize and beans/pulses, other crops, such as potato and vegetables shall be covered from the mid-stage of the project 2. To provide priority to the seed companies who send their technical staff to the training for receiving breeders seeds (by IIAM) 3. To introduce a capable farmer group to the seed companies as a candidate of out-growers at the request of the companies. Agricultural extension agents shall provide an intensive technical support to the farmer group, if necessary (by SDAE/DPA) 4. To introduce an appropriate financial system to the seed companies at the request of the companies (by SDAE/DPA)
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones
Implementing Agency/ related organization	IIAM (North East Centre & North West Centre), SDAE in 19 districts, DPA in Nampula, Niassa and Zambezia
Relevant plan/ projects	• Project for Strengthening of Agricultural Research (No.6) • Project for Strengthening of Agricultural Extension Service (No.7) • Project for Establishment of Financial Support System for Small and Medium Scale Agribusiness Enterprises and Farmers' Organizations (ProSAVANA Development Initiative Fund) (No.16)
Remarks	

13. Project for Promotion of Tractor Hire Services

Project Title	Project for Promotion of Tractor Hire Services
Background	Most of the farmers cultivate farmland by simple manual tools and it is one of the limiting factors to leave farmer in small scale and low productivity. In order to improve their land preparation practice, so that they can plant crops in well-prepared land on right time, it is necessary to popularize agricultural mechanization, especially mechanized plowing, because animal traction is not common in this region by tradition. The Project area is, unfortunately, not blessed with high potential of cattle breeding. In order to promote mechanized agriculture among small-scale farmers, it is necessary to vitalize agricultural mechanization service with tractor. Because of annual rainfall pattern, the optimum cultivated period is short and not so flexible in the most of the Project area. This condition doesn't allow the mechanization service providers to use their tractors at maximum level. Due to such inefficient tractor operation, the most service providers cannot expect enough profit from the service at the present service fee. It is desirable that the public supportive measures to promote the agricultural mechanization service be taken during the period when the service is still in its infancy.
Objectives	Improvement of agricultural productivity through transforming to intensive farming
Project Goals	To increase number of agricultural mechanization service providers in order to make environment which farmer can use the mechanization service at affordable cost.
Expected Output	1. Tractor price is decreased. 2. Tractor can be purchased in favorable condition. 3. Potential farmers or entities can get idea of agricultural mechanization service through extension workers or tractor dealers. 4. Number of capable tractor operators is increased.
Main Activities	1. To take measures to reduce price of agricultural tractors such as revision of tariff & VAT, simplifying importing procedures, etc. 2. To establish preferential credit system to purchase tractor to create incentive for potential farmers/entrepreneurs to purchase (can consider a tie-up with ProSAVANA Development Initiative Fund) 3. To train extension agents so that they can introduce business model of the agricultural mechanization service to potential farmers/entrepreneurs, including calculation of income and expenditure and maintenance services. The extension agents also introduce potential customers to the service providers. 4. To provide a short-term training to tractor operators of the service providers by the government (DPA/SDAEs) in cooperation of private tractor dealers
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones
Implementing Agency/ related organization	MINAG, DPAs, SDAEs
Relevant plan/ projects	• PNISA - Mechanization Support Program • Plano Estratégico de Mecanização Agrária (PEMA) • Project for Strengthening of Agricultural Extension Service (No.7) • Project for Establishment of Financial Support System for Small and Medium Scale Agribusiness Enterprises and Farmers' Organizations (ProSAVANA Development Initiative Fund) (No.16)
Remarks	

14. Irrigation System Rehabilitation Project

Project Title	Irrigation System Rehabilitation Project
Background	The irrigation development is expected to improve basic condition of agricultural production and to contribute to the increase of agricultural production and the revitalization of the regional economy. More than 55% of irrigation land once developed and equipped the irrigation system is not in-use due to damage and malfunctioning of the system. Above defunct irrigation area has a potential of recovery of irrigation farming by rehabilitation of facilities. In order to increase effectiveness and efficiency of irrigation system, it is necessary to re-arrange the plot and re-construct systematic canal system as well as rehabilitation of the system.
Objectives	To increase actual irrigation area and agricultural production through rehabilitation of existing irrigation system.
Project Goals	Malfunctioned and damaged irrigation systems are recovered their function and the systems are used appropriately and effectively. Good practice of construction of irrigation facility, management of irrigation system, irrigation technology in the field and farm management of irrigation farming will be demonstrated in the pilot area.
Expected Output	1: Existing irrigation system is rehabilitated and the function is recovered. 2: Pilot irrigation area is established and utilized for technical extension of irrigation development. 3: The organizational operation of irrigation users is enhanced in managing irrigation system, managing water fee, and managing member's labor/material contribution for O/M work. 4: The skill and technology of members of water user's organization are improved and appropriate operation and maintenance of the system is implemented by users.
Main Activities	1. Rehabilitation of irrigation system 1-1 Investigation of irrigation development potential, improving inventory of irrigation systems, building and maintaining the database 1-2 Formulating rehabilitation and development plan of irrigation systems 1-3 Implementation of rehabilitation work of the irrigation system, re-construction of canal network and re-arrangement of irrigation land through land consolidation 2. Establishing pilot area of irrigation development 2-1 Selection of pilot area of irrigation development 2-2 Establishing pilot area of irrigation development 2-3 Preferential implementation of rehabilitation/construction work, improvement of user's capability of operation and maintenance, improvement of irrigation technology of farmers 2-4 Utilizing pilot area for extension activity through demonstrating good practice of irrigation development 3. Enhancement of water user's organization 3-1 Organizing water users group into legalized farmer's association, in order to strengthening financial status 3-2 Organizing water users association which will be set up among associations in case of the system covers multiple associations 3-3 Enhancement of activity of association including collection of water/membership fee, account control and arrangement of member's participation to O/M 3-4 Training of farmer's group on construction and repair of simple structures 3-5 Enhancement of technical guidance and inspection on operation and maintenance of the system of SDAE extension officers 3-6 Sensitization of community members and users on necessity of appropriate operation and maintenance
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones. Priority of rehabilitation of irrigation system is given to Zone II, Zone III, and the second priority is given to Zone I, Zone V and Lichinga of Zone VI. Priority of establishing pilot area of irrigation development is tentatively given to Malema of Zone III, and afterward pilot area will be established in each district of above priority Zones of rehabilitation.

	Target area of rehabilitation

Zone	I	II	III	V	VI	Total
No. of systems	14	27	22	13	11	87
Target area (ha)	778	1,290	1,697	305	152	4,222
Of which in operation (ha)	148	255	672	162	69	1,306

Implementing Agency/ related organization	DPA in Nampula, Niassa and Zambezia、SDAEs, MINAG and INIR
Relevant plan/ projects	Provincial Strategic Plan Nampula '2010-2020', Niassa '2017', Zambezia '2011-2020'
Remarks	

15. Project for Improvement of Irrigation Technology and Construction Quality

Project Title	Project for Improvement of Irrigation Technology and Construction Quality
Background	In order to full use of the effect of introducing irrigation, it is essential to adopt appropriate technology of irrigation farming such as irrigation management and crop management in the field as well as water management among users in the system. On the other hand, one of the major reasons of malfunctioning of hydraulic structure is given to the lack of adequate skill and technology for construction and repairing work in each level, i.e., administrative level, local construction company, and local community and famers. It is required to bring up the skill and technology of above actors in each level.
Objectives	To strengthen the technical extension service of SDAE on irrigation farming in order to enable farmers appropriate irrigation farming with effective and efficient water use. To increase capability of construction company as well as enhancing technical management of DPA, in order to improve the quality of irrigation facility.
Project Goals	Farmer's skill and technology on irrigation farming and water management are improved. The quality of construction work of irrigation facility is improved and the function of facility enables to be maintained in long term.
Expected Output	1:Farmers implement appropriate water management and irrigation technology in the field and the productivity increases. 2: Skill and technology of construction company is improved and the quality of construction work is improved.
Main Activities	1. Improvement of irrigation technology of famers 1-1 Enhancing technical extension to small scale irrigation farmers on water management, irrigation and cultivation technology of irrigation crop Technical extension will be implemented by SDAE extension officers through water user's organization such as farmer's association. 1-2 Sensitization of community and users on necessity of land and water management 2. Improvement of skill and technology of construction company 2-1 Introducing qualification system into procurement of construction of hydraulic structure 2-2 Enhancement of technical guidance and inspection of DPA 2-3 Enhancement of technical support of MINAG to DPA through developing technical guideline and standard design of hydraulic structure, preferential setting up of regional branch of INIR

Implementation period	2014	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	2030

Prioritized Area (candidate)	All zones.
Implementing Agency/ related organization	DPA in Nampula, Niassa and Zambezia、SDAEs, MINAG and INIR
Relevant plan/ projects	Provincial Strategic Plan Nampula '2010-2020', Niassa '2017', Zambezia '2011-2020'
Remarks	

16. Project for Vegetable Production Model

Project Title	Project for Vegetable Production Model
Background	The demand of vegetable is expected to increase due to increase of labors working at urban area such as Nampula and SEZ of Nacala as well as planned fertilizer factory in Monapo. Vegetable is considered to be a promising product both for vitalization of special local products in the area which has a good access to the market as well as generating cash income for small and medium scale farmers. Vegetable is produced by small farmers along rivers, streams and reservoirs with manual conveying and applying of irrigation water. Huge manpower required for irrigation practice is limiting factor for farmers to carry out and expand irrigation plot. Thus, introduction of small pump or simple irrigation system is anticipated to expand irrigation of vegetable. Because irrigation farming of vegetable crop requires initial and running cost for pump equipment, fuel, seed, fertilizer, etc. as well as appropriate technology, it is necessary to develop proper support system for expanding.
Objectives	To promote vegetable production by small pump and simple irrigation system for aiming cash income of small and medium scale farmers
Project Goals	- To increase irrigation area and production of vegetable crops - To increase farmers income through producing vegetable crops by irrigation in consideration of market demand - To organize small scale vegetable farmers into association and to implement procurement and development of irrigation equipment, improvement of irrigation and cultivation technique and development of market and sales channel by association - To bring up leading farmers in small and medium scale in the area through production of vegetable crops
Expected Output	1: Farmers who intend to irrigation farming obtain necessary pump equipment and/or simple irrigation systems. 2: Farmer who intend to irrigating farming are organized into association and start procurement of equipment, construction of facility as well as developing marketing by association. 3: Cultivation and irrigation technique of vegetable farmers is improved by receiving adequate technical extension service. 4: Farmer's group/association will develop market and sales channel by receiving necessary support of marketing activity.
Main Activities	1. Establishment of a support system for introducing small pump and developing simple irrigation system by farmers and/or farmer's group 1-1 Support for introducing small pump (for individual small farmers) • Preparation, selection of model group • Providing preferential loan for individual farmer for procuring pump equipment or Lending pump equipment through farmer's association 1-2 Support for developing simple irrigation system (for farmer's group or mid-scale farmer) • Preparation, selection of model group • Providing preferential loan for farmer's association for constructing simple hydraulic structure, canal system and farm pond as well as procuring pump equipment and storage tank • Technical support for planning and designing and training of member of association on construction of simple hydraulic stricture 1-3 Preparing preferential budget in FDA of SDAE and FDD of District for procurement of pump equipment and development of simple irrigation system 2. Enhancement of farmer's group 2-1 Organizing small scale irrigation farmers into group and promoting to formulate farmer's association as well as legalization 2-2 Application of loan for irrigation equipment and facility development by association 2-3 Operation and management of irrigation equipment and facility by association 2-4 Enhancement of activity of association on irrigation management including collection of water/membership fee, account control and arrangement of member's participation to O/M

	3. Establishing technical extension system of vegetable cultivation with irrigation 3-1 Preferential implementation of technical extension by SDAE extension officers and NGOs on water management, irrigation practice and cultivation of vegetable crops 3-2 Steady supply of seed, which shall be linked with the Capacity Building of Seed Grower Project of the Master Plan 4. Development of market and sales channel of vegetable 4-1 Support to develop collection and handling facility of vegetable which will be operated by association or forum of associations 4-2 Support of farmer's association and medium scale farmers to connect sales channel to large scale consumer
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	Priority of vegetable production with small pump irrigation is given to Zone I , II, III, V and VI, while priority of developing simple irrigation system is given to Zone III and V. .
Implementing Agency/ related organization	DPA in Nampula, Niassa and Zambezia、SDAE、District Governor's Office
Relevant plan/ projects	Provincial Strategic Plan Nampula ‘2010-2020’, Niassa ‘2017’, Zambezia ‘2011-2020’
Remarks	

17. Establishment of an agricultural loans for small and medium sized agribusiness enterprises, farmers' organizations (cooperatives and associations), and individual farmers

Project Title	Establishment of an agricultural loans for small and medium sized agribusiness enterprises, farmers' organizations (cooperatives and associations), and individual farmers.
Background	The ProSAVANA Development Initiative Fund (PDIF) was launched in September 2012 as a pilot project, aiming to involve small-scale farmers in the commercial agriculture value chain through contract farming with agribusiness companies, which would result in increased productivity and better market access for small-scale farmers. A soft loan scheme, with an annual interest rate of 10%, has been introduced to support the efforts of small-medium sized agribusiness enterprises to expand their businesses, and which can be used to acquire necessary machinery or facilities as well as purchase crops from farmers. 1) Agricultural loan for small-medium sized agribusiness enterprises Reflecting the lessons from the PDIF pilot projects, PDIF will be transformed into a formal funding scheme to support local agribusinesses/agro-industries in promoting contract farming, involving small-scale farmers in commercial agriculture as well as accelerating investment in agro-processing industries. In order to formalize PDIF, the capital amount should be increased by mobilizing the Counterpart Fund[1] managed by the Ministry of Agriculture or grant assistance from donors. 2) Agricultural loan for farmers' organization Concerning the impacts in improved agriculture productivity as well as transitioning to intensive fixed cultivation across wider areas in the Nacala Corridor, it is recommended that modality be created under an agricultural loan scheme to allow farmers' organization (farmers' associations or cooperatives) to access low-interest loans with reasonable conditions. Using the soft loans, farmers' organizations will invest in small-scale irrigation systems, agricultural machinery, and processing facilities so as to introduce improved agriculture production systems. The soft loan will also ease the financial burdens on farmers' organization of purchasing crops from group members during the harvest. 3) Agricultural loan for individual farmers Concerning the current agriculture practices by small-scale farmers, promoting the

[1] A part of the payment from the sale of agriculture machinery or inputs granted by the Government of Japan through Food Assistance and Food Production Grants is accumulated in an account for the recipient country (the Ministry of Agriculture).

	transformation of the current cultivation system from extensive shifting cultivation to intensive fixed cultivation is the key strategy proposed in the Master Plan for the improvement of agriculture production through the introduction of improved farming techniques together with agriculture inputs and services. However, it has been observed that the critical barrier limiting access to such inputs and services is a lack of affordable and accessible credit facilities for individual farmers. Therefore, the project proposes the introduction of a short-term soft loan with conditions adapted to the agricultural production cycle in order for individual farmers to access financial services necessary to improve agriculture productivity. Soft loans will also be utilized to promote small-scale agribusiness activities by individual farmers in their efforts to start businesses.
Objectives	1) To formalize the PDIF mechanism for small-medium sized agribusiness enterprises to promote agribusiness investments involving small-scale farmers. 2) To establish an affordable financial mechanism for farmers' organizations that allows them to invest in improving the production system. 3) To establish an affordable and accessible financing mechanism for individual farmers that allows them to invest in agriculture services so as to improve the production system.
Project Goals	1) Agribusiness initiatives/investments through the involvement of groups of small-scale farmers in commercial production are expanded via the efforts of agribusiness enterprises. 2) Capacity of farmers' organizations to improve agriculture productivity and marketing is strengthened by accessing to the affordable finance system. 3) Agriculture productivity and household income of individual farmers is improved through the introduction of agriculture inputs and services in production, which in turn results in the promotion of the fixed cultivation system.
Expected Output	Output 1: PDIF is transformed into a formal financial system for agriculture development in the Nacala Corridor. Output 2: A modality to support farmers' organizations is established under PDIF and is operational. Output 3: A financial mechanism (soft loan scheme) to support individual farmers is established and operational.
Main Activities	1. Establish the structure of the financial support system (accessible agriculture loans) for the agriculture development in the Nacala Corridor. 2. Mobilize additional capital for an agricultural loan. 3. Select potential financial institutions that would operate the agricultural loan. 4. Develop criteria and conditions for the agriculture loan specific agribusiness enterprises, farmers' organizations, and individual farmers (e.g. the criteria to be applicable for the loan, the maximum amount of the loan, the interest rates, and the conditions for the provision of collateral). 5. Begin operations of the agriculture loan. 6. Conduct regular monitoring and evaluation for the fund's operations.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones. This should be further discussed with the concerned government authorities regarding the coverage of areas (whether the coverage could be extended to other districts along the Nacala Corridor), and the source and amount of funds available for PDIF.
Implementing Agency/ related organization	MINAG, DPA in Nampula, Niassa and Zambezia, Private financial institutions, ProSAVANA Development Initiative Fund Operation Unit, ABC, JICA, Donors
Relevant plan/ projects	PNISA
Remarks	

18. Formulation of the Nacala Corridor agriculture investment fund for large-scale agriculture development project (the Nacala Fund)

The project sheet will be completed after confirming the situation of the Nacala Fund.

19. Establishment of a Support Organization for the Investment and Value Chain Development

Project Title	Establishment of a Support Organization for the Investment and Value Chain Development
Background	Information on agriculture/agribusiness investment, as well as the export and import of agriculture products, has been separately dealt with by different organizations established under each of the ministries concerned, such as CEPAGRI (the Ministry of Agriculture), CPI and GAZEDA (the Ministry of Planning and Development), and IPEX (the Ministry of Commerce and Industry). As a result, investors have faced difficulties in acquiring necessary information on investment promotion and market opportunities in a timely manner. In addition to this, the agricultural value chain remains underdeveloped in the Nacala Corridor due to limited information sharing mechanisms between large consumers and producers, which has resulted in mismatching in the agriculture product market. In order to improve these issues, it is essential to establish a consolidated platform for providing necessary information on investment and marketing in the agriculture sector through a collaborative effort by all of the different agencies. The established support organization will also provide advisory and consulting services to potential investors and local entrepreneurs for business planning and marketing.
Objectives	1) To establish a support organization for promoting agriculture/agribusiness investment and value chain development in the Nacala Corridor
Project Goals	The business environment for promoting agriculture/agribusiness investments and agriculture value chain development is improved through the establishment of a comprehensive platform for providing investment and marketing information.
Expected Output	1: A support organization for investment and value chain development is established and functional. 2: Business and investment opportunities in the agriculture sector are expanded as a result of enhanced information provision service.
Main Activities	1: Form a consultative committee comprised of CEPAGRI/DPA, CPI, GAZEDA, IPEX, Chambers of Commerce, and other related agencies and donors in order to develop a plan for establishing the support organization for investment and value chain development. 2: Set up a support organization based on the plan. 3: Provide information on investment promotion and consulting services to potential investors. 4: Accumulate information on potential demand by major costumers and product volumes of producer groups in order to facilitate matching services. 5: Provide advisory services (support in preparing business plans, introduction of available financial schemes for agriculture investment, etc.) to small-medium enterprises for business start-ups.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones. The main office will be located in Nampula, while also establishing branch offices in core areas (e.g. Cuamba, Lichinga, etc.).
Implementing Agency/ related organization	CEPAGRI, CPI, GAZEDA, IPEX, IPEME, MINAG/DPA, ProSAVANA Coordination Office, Donors
Relevant plan/ projects	
Remarks	From viewpoints of both efficiency of business operation in this organization and easy accessibility to advisory service for customers, quality and quantity of advisory service staff,

	who will intermediate between this organization and customers are quite important for smooth implementation of investment project. They are required to know well about their operation schemes, to support business start-up, and to advise operation management to their customers, through knowledge and experience of business administration. Since donors and NGO already have developed capacity of business development service provider in this area, refreshment and utilization of these human resource should be considered for establish of quality advisory service. IPEME (Institute of Promotion of Small and Medium Enterprises) as a trainer of training is suitable for providing technical service on capacity building of business development service. IPEME plans to establish their branch office in this year.

20. Project for Capacity Development of Business Development Service

Project Title	Capacity Development of Business Development Service
Background	Performance of small and medium enterprises (SMEs) is a driving force for value chain development in rural area. In order to facilitate entering business and scaling up of existing business, various credit lines are provided. However, lack of business planning capacity and business management skills make access to credit services difficult, as well as high interest rate. Business support services, called Business Development Service (BDS), which provides advices on business planning, company finance, and business management to private company, are necessary as both a public and a private service. Institute of Promotion of Small and Medium Enterprise (IPEME) is an institution under the Ministry of Industry and Trade, has a role to advise for entrepreneurs how to materialize a specific business from business ideas, and for existing SMEs how to improve their business management. But, since IPEME has limited human resources, nationwide service deployment cannot be expected in short period. Therefore, quality BDS involving private sector human resources has to be developed utilizing IPEME as a trainer of potential service providers. Functions of BDS are, to advise on business planning and management, to analyze financial status, to provide business related information, to introduce credit source for individual company, to organize business related seminars and trainings, and to provide information to value chain support organization for matching stakeholders in supply chain.
Objectives	To contribute to rural and regional socioeconomic development through the fosterage of small and medium enterprises.
Project Goals	Quality business development service for SME is provided by private service providers.
Expected Output	1: Capacity of staff in business development service of IPEME as a trainer of training on business development service is strengthen. 2: Quality business development service is provided by numbers of private service providers. 3: Related organizations/ institutions for business development are well functioned in coordination with each other.
Main Activities	1-1 To prepare a training plan for potential trainers on business administration and ProSAVANA support schemes for SMEs. 1-2 To prepare training material and equipment. 1-3 To conduct a series of trainings. 2-1 To prepare training plan for private business development service providers on business administration and ProSAVANA support schemes for SMEs. 2-2 To prepare training material and equipment. 2-3 To recruit and select potential participants for the training. 2-4 To conduct a series of trainings. 3-1 To facilitate Chamber of Commerce (CoC) in three provinces for enhancement of their functions. 3-2 To conduct a series of business seminar for member of CoC and other business people. 3-3 To facilitate related organization/ institution, such as BDS, CEPAGRI, CPI, GAPI, IPEX, and provincial CoC.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area	All zones

Implementing Agency/ related organization	IPEME, CEPAGRI, CPI, GAPI, IPEX, and provincial CoC
Relevant plan/ projects	One village one product project (JICA)
Remarks	Trained BDS providers can be hired by ProSAVANA coordinating organization for facilitation of small and medium business development.

21. Project for Formulation and Development of Modern Agriculture Cooperatives

Project Title	Project for Formulation and Development of Modern Agriculture Cooperatives
Background	Promoting the establishment of agricultural cooperatives based on the General Law of Modern Cooperatives (Law 23/2009) which aims to market-oriented and business linkage. Although it is an important issue of development of individual and group small-scale farmers, the new law is not well known in the rural areas, and the number of cooperatives registered under the new legislation is still very limited. Therefore, in the Nacala Corridor area, for organizations of small-scale farmers, establishment of the modern agricultural cooperatives and an efficient and effective system of business-like management and operation based on the new cooperative law is required to achieve competitiveness and sustainability of farmers' organizations. MINAG/DNEA has emphasized the concept of agricultural cooperatives as a development of farmers' organizations based on the new law. However, currently they are focusing on the organization of farmers by PRONEA. Therefore, this project is effective to carry out in the next step after the results of PRONEA will be achieved.
Objectives	Bargaining powers of farmers' groups will be strengthened by sustainable management of modern agricultural cooperatives. Small-scale farmers' income would be increased and their living standards would be improved.
Project Goals	Through the activities of the modern agricultural cooperatives, the management of farmers' organizations will be improved.
Expected Output	1. New cooperative law and various support programs related to rural business incubation are widely recognized. 2. As a model project new agricultural cooperatives will be established. 3. The model agricultural cooperatives will be managed sustainably. 4. Including the transformation from the existing farmers' associations, the formation of new agricultural cooperatives to expand extensively in the Pro-SAVANA area. 5. Management and business skills of the new agricultural cooperatives will be improved.
Main Activities	1-1 To conduct seminars to acquaint the new cooperative law for relevant organizations and stakeholders involved in the formation of agricultural cooperatives as well as to acquaint the information of support program related to rural business incubation. 2-1 To select the farmers' organizations who could form an agricultural cooperative. 2-2 To support the formation of the new agricultural cooperative including business incubation seminars. 3-1 To support the model cooperatives with soft loans through the financing system. 3-2 To conduct training on institutional strengthening of agricultural cooperatives for cooperative members. 3-3 To conduct monitoring and evaluation for the cooperative operation. 4-1 To select the farmers' organizations that wish to form an agricultural cooperative. 4-2 To train an institutional strengthening of agricultural cooperatives for farmers' organizations including business incubation seminars. 4-3 To develop a business plan with farmers' organizations. 4-4 To support the formation of the new agricultural cooperative. 5-1 To support the new cooperatives with soft loans through the financing system. 5-2 To conduct training on institutional strengthening of new agricultural cooperatives for cooperative members. 5-3 To conduct monitoring and evaluation for the cooperative operation.

Implementation	2014	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	2030

Period	
Prioritized Area (candidate)	All zones
Implementing Agency/ Related Organization	DNEA, DPAs, AMPCM, NGOs
Relevant Plans/Projects	In Nampula and Niassa provinces, the cooperative development is actively supported by CLUSA.
Remarks	AMPCM is taking a lead role in implementing the new law through promoting and developing modern cooperatives as a sustainable form of wealth generation to target the multiple sectors.

22. Market Information Access Improvement Project

Project Title	Market Information Access Improvement Project
Background	It is important to collect and disseminate market information nationwide for actors in value chain to access market opportunities. SIMA (Agriculture Market Information System) of MINAG plays a significant role about this issue. Nationwide market information is collected and updated every week on their WEB site. But, small-scale farmer can hardly access to the information through internet service. Meanwhile, new challenge, provision of on demand market information by SMS system was launched in Mozambique. Not only farmers, but also other actors in private sector can make a decision for investment in facility and equipment of storage, processing and transportation, using market information. Suitable information source of should be verified and taken into consideration for stakeholders under various living and working condition.
Objectives	To create a fairly competitive environment of agriculture product trade, and improve market efficiency
Project Goals	Producers and agribusiness operators have better access to market information
Expected Output	1: To collect lessons learnt from present or past efforts on market information system 2: To improve access to market information for farmers and agribusiness operators 3: To utilize market information for business management
Main Activities	1-1To collect and review past projects on improvement of market information network. 1-2 To elaborate a work plan for improvement information dissemination system. 2-1 To prepare materials and equipment. 2-2 To conduct training for staff. 2-3 To announce initiation of information dissemination service at pilot area. 2-4 To expand service area in the project area. 3-1 To instruct farmers group and small-scale business operators on how to utilize information for their business management.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones. Priority will be given by the basic design study.
Implementing Agency/ related organization	MINAG, SIMA, DPA (Nampula, Niassa and Zambezia), DPIC (Provincial Department of Industry and Commerce)
Relevant plan/ projects	Information texting service for farmers and small business, IFC
Remarks	

23. Project for Standardization of Agriculture Products

Project Title	Project for Standardization of Agriculture Products
Background	No clear standard of agriculture products are used for trade or contract of products in Mozambique. Capacity, called "tin", is dominant for measuring unit of product volume in rural area, but unit of capacity is varied place to place. Measuring unit is changed to weight (kg) at assembling point when putting it in a sack. Regarding to quality, for instance, moisture content of grain is not condition for price determination. This results in quality deterioration in storage process led by mixture of high moisture content grain. Traders determine a buying price of product regardless a level of moisture content considering a risk of losses. If price is determined based on agriculture product standard, a risk of losses for traders can be minimized. On the other hand, it can motivate farmers to produce quality products. Both a seller and a buyer are satisfied of pricing. Thus, agriculture product standard is necessary for transparent transaction, decrease of transaction cost and increase of quality product.
Objectives	To strengthen price competitiveness of Mozambican agriculture products by decreasing transaction cost and increasing quality of product
Project Goals	Trade price and contract price of products are fairly decided by the standard
Expected Output	1: Standard for agriculture products is officially issued. 2: The standard is used nationwide.
Main Activities	1-1 To study agriculture product standard, which is currently used in the country and the neighboring countries. 1-2 To make a plan for standard determination by product 1-3 To select members of working forum for agriculture products standardization (ex. concerned officials, farmer organization, private sector and academic institution). 1-4 To discuss agriculture products standard in the forum product by product. 1-5 To publicize agriculture products standard countrywide. 2-1 To promote to use agriculture product standard 2-2 To maintain standard depending on needs of market
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	Whole country
Implementing Agency/ related organization	MINAG, MIC, representatives of stakeholder group involved in agriculture product production, trading, processing, and retailing, research institutes including universities
Relevant plan/ projects	
Remarks	

24. Project for Rehabilitation of Agriculture Storage Facility

Project Title	Project for Rehabilitation of Agriculture Storage Facility
Background	In the study area, there are more than one public warehouse, which was built in Portuguese colonial era in each district. These warehouses are currently managed by ICM (Institute of Cereal Mozambique). Storage volume of these warehouses are varied from 200 tons to 5000 tons. Of which, almost are rented out to private sector for logistic of agriculture product . Since it took more than 50 years after their construction, these warehouses are very old and need rehabilitation. In order to improve efficiency of supply chain and quality control of agriculture produce, and present public storage network should be rehabilitated. As they are currently doing, these public storage facilities will be utilized by private sector in PPP. Among them, priority is given to small to medium volume customers, especially farmer group, who cannot afford to invest in own commercial scale warehouse, in order to improve their access to commercial scale storage facility. One storage facility should be consisted of small capacity warehouses, about 100 tons each, so that many small groups, individuals, and companies can utilize it. Meanwhile, medium to large-scale storage facilities including grain silo, will be invested by private sector. Post-harvest technology, especially appropriate storage technique for quality control of product has to be guided to stakeholders involved in supply chain of agriculture product.
Objectives	To improve efficiency of supply chain, quality control of agriculture produce, and present public storage network
Project Goals	Private sector can access to public storage facility to manage selling timing and under storage loss controlled condition
Expected Output	1: Strategic storage rehabilitation plan in Nacala corridor for agriculture development is prepared. 2: Public storage facility is rehabilitated. 3: Storage facility is properly utilized, and storage loss is decreased.
Main Activities	1-1 To clarify necessary type and capacity of storage facility in each district. 1-2 To identify present condition of storage facility in each district. 1-3 To prepare storage facility rehabilitation plan (schedule, priority, phasing, cost estimation, FS). 2-1 To conduct detailed design work in accordance with FS. 2-2 To implement rehabilitation work. 3-1 To train ICM staff on O&M of facility (rent management, loss control, periodical maintenance) 3-2 To train stakeholders on storage technology (postharvest loss by insect, rodent, and fungi) 3-3 To set and apply temporary agriculture product standard cooperating with stakeholders. (This is pilot activity for efficient trading practice with certain grain standard.)
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones. Priority will be given by current condition and logistically importance of location.
Implementing Agency/ related organization	MIC, Institute of cereal Mozambique, MINAG, DPA (Nampula, Niassa and Zambezia), IIAM
Relevant plan/ projects	Installation of Grain silo in central and northern region, Portugese Government
Remarks	

25. Project for Improvement of Access Road for Agricultural Activities

Project Title	Project for Improvement of Access Road for Agricultural Activities
Background	Rural roads are not developed well in the Study Area. Therefore, many farms face difficulty in transportation in rainy season because of lack of bridge on seasonal river or slither down in muddy high slope road. Moreover, rural road is maintained by ANE and district government supported by road fund. However, it is carried out according to local demands and there is not strategy for its development. Therefore, for example, roads over districts or province are difficult to be improved, and paving road between vegetable production site and market to mitigate transportation loss can not give priority in decision of district. In order to improve distribution and efficiency of the production, it is necessary to prepare strategic plan for road improvement based viewpoint of agriculture development and also its smooth implementation.
Objectives	To rehabilitate or improve roads which used for agricultural activities as distribution, connection between production area and market.
Project Goals	To agriculture roads are maintained to tie agricultural production places, markets, processing or a storehouse in each district or over between districts and some production area become accessible all-the year.
Expected Output	1: Strategic road improvement plan for agriculture development is prepared. 2: Rural roads are improved
Main Activities	1: To formulate agricultural road improvement committee in each province consist of DPA, DPTC, ANE, SDAEs and SDPIs in each province. 2: To prepare a strategic plan for agricultural road development in committee based on idea from each SDAE cooperate with SDPI. SDAE examines own plan from viewpoint of agriculture promotion in district and show it in the committee. 3: To Improve rehabilitation works according to the plan.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	All zones, Priority will be given in the committee.
Implementing Agency/ related organization	DPA in Nampula, Niassa and Zambezia, ANE in Nampula, Niassa and Zambezia/ MPD, MTC, MPOH
Relevant plan/ projects	Provincial Strategic Plan Nampula ‘2010-2020’, Niassa ‘2017’, Zambezia ‘2011-2020’ PROMER – road component
Remarks	

26. ProSAVANA Agriculture Special Economic Zone Project

Project Title	ProSAVANA Agriculture Special Economic Zone Project
Background	In order to develop the agricultural cluster, it needs to invite private sector by several method, for example, preferential tax system for investment. More, it also needs social infrastructure like electricity, water supply, telecommunication, etc. Establishment of SEZ or IFZ confined to agribusiness sector is one method to develop it with limited budget, because it allows to apply favorable treatment for limited area and to concentrate works for infrastructure. The Government of Mozambique has mechanisms (GAZEDA) to establish SEZ (Special Economic Zones) and IFZ (Industrial Free Zone) in specific places and thus create the preferable environment including efficient value chain operation for each crop, increased productivity, for industries related to the production, processing, storage, distribution, into a single complex and attract investment.
Objectives	To create special areas of economic activity, geographically delimited and regulated by a special customs regime. The basis of which, all commodities entering there, meet, circulate, become industrially or leaving the country are totally exempted from any customs charges, tax and for tax-enjoy, additionally, a free exchange rate regime and operations "off-shore" (ZEE); To create the area, unit or series of units of industrial activity, geographically delimited and regulated by a specific customs regime on the basis of which the goods contained therein or circulated, for the production of export items are exempt from all customs charges, tax, to tax-benefit schemes of exchange, fiscal and labor specially set (ZFI).
Project Goals	To create special economic zone (500 ha) for "*cluster*" with incentives (tax, financing, technical assistance, etc.).
Expected Output	1: Zones economically favorable to the implementation of the strategy of "Clusters" and Infrastructure; 2: Control and regulation of transactions; 3: Creation of a center offering services and infrastructure for agricultural development in a strategic location within the Nacala Corridor; 4: Processing Center and processing of agricultural products with great competitive advantages; 5: Competitive agricultural products, both for exports and for import substitution; 6: New employment is generated;
Main Activities	1. To conduct zoning of areas (special economic zone) for each "*cluster*" of agricultural products; 2. To inform and start negotiation with the Government (GAZEDA) on the need to establish special areas of agriculture; 3. To prepare the Draft Constitution for the ZEE and ZFI in the Council of Ministers. 4. To offers for investment from private sector related to the supply of agricultural inputs, production, processing and distribution; 5. To prepare basic infrastructure with the provision of electricity, water supply, roads and communication by government institution (including railway access); 6. To conduct monitoring services for private companies.
Implementation period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
Prioritized Area (candidate)	Areas zoned for ProSavana for "*cluster*" and potentially Infrastructure: Cuamba Ribaue, Majune and Lioma (Gurue).
Implementing Agency/ related organization	The Ministry of Planning and Development has to GAZEDA (Office for Accelerated Development Economic Zones) Nacala Corridor Development Agency
Relevant plan/ projects	PNDA - National Plan for Development of Agribusiness.
Remarks	

(2) Pioneer and Model Project for Cluster Development

27 Pioneer Project for Integrated Grain Cluster Development

Project Title:	Pioneer Project for Integrated Grain Cluster
Project Site	The proposed site for the installation of the cluster is Majune district and can be expanded to N'Gauma, besides the installation of a poultry industrial complex.
Target Group/ Beneficiaries	- Local population. - Interested Investors. - Local poultry production sectors. - District Government.
Project Summary	- The installation of the cluster in the region referred to above aims to boost the local economy with the cultivation of large areas of grains, especially soybeans, maize and sunflower, besides a processing unit to produce oils, meal and corn starch. - The region indicated for the cluster has low environmental and social vulnerability, and presents excellent soil and climate conditions for the total expression of the production potential of the crops, with good temperature and precipitation conditions. - The region is still strategically positioned near the Districts of Cuamba and Lichinga, where there is great potential for the installation of poultry industries and where there is a huge logistical potential. - It is foreseen investments in poultry production in the project aimed at adding value to meal products. The chain will have a huge competitive advantage over the cost of production, because, since the feed will be produced domestically, the costs will be much lower, since most of the costs of operating a farm is linked to the feed.- Investments and management of agricultural activities and industrial grain processing will be the responsibility of a single legal entity. - Such entity will be responsible to supply the feed for a chicken industry, whose investment may be from the entity itself or from other investors. - Feasibility indicators, at a discount rate of 10%, show that the project has a high profitability and the IRR was calculated at 20.3% and the payback is 9 years. - The projects of industrial poultry farming will have a separate cash flow as it is a venture of a different nature. The project presents a good economic profitability due to the low production costs. The estimated production of 1 million chickens per year should generate an IRR of 19.9%, to be deployed on 1000 chickens' modules each. Thus, the speed of implementation of the poultry complex should follow the infrastructure availability and market demand. - It is expected that the project presents a high profitability, in addition to produce taxes and jobs opportunities. - There will be strategies to incorporate family farmers in the business through promotion, contracts, including hand labor and the establishment of production villages in case when resettlement is needed.
Agricultural Technological Package	- The agricultural and industrial project recommended will follow a certain pace. The 45 thousand hectares will be divided into 5 modules, and the first planting will be divided within the 5 first years after installation of the project. - It is estimated that for the effective production in 45 thousand ha, about 60 thousand hectares are needed. This surplus is due to the efficiency index of land use adopted for this region of Mozambique, in addition to the presence of non-cultivable areas inside the properties. - The productive areas are rotated with crops of maize, soybeans and sunflower. In the year prior to planting it will be required opening operations and preparation of new areas. - Each module should have 9 thousand hectares and operate as an independent farm from the others, with a management team, employees and own machinery. The areas for planting soybeans, sunflower and maize will be divided equally, and every year the planting should be rotated. - The processing industries of soybeans and sunflower, and the maize industry will start to operate from the 5th year, when 80% of the proposed are for the cultivation will be occupied. The beginning of the processing operations, before the agricultural production in the total area, will be important so that the industry will have more time for necessary adjustments and training required before operating with its maximum installed capacity

	- Industrial poultry farming will also start its operations after the beginning of operation of the grain processing industry, because its main raw material, the feed, depend on the processing of these grains. - The estimated production for the chicken industry is approximately one million birds per year, but each module will have the capacity of 1000 birds per year. - Each production module should have a storage complex for at least 600 thousand bags of grain, to guarantee that the industry is never under supplied. The Division of the complexes is recommended in order to reduce costs of the logistics of transportation.
Justification	- The Pioneer Project proposed should begin developing an Integrated Cluster of grain production in Majune, with potential for interaction with other districts in the Zone and with other Zones. - The aim of this cluster is to boost the economy and the region's development. - The pioneer project aims to establish a grain production chain interconnected with chicken production, creating a synergy in the process of transferring resources and adding value. - The implementation of the cluster will bring development to the region and will improve the living conditions of the local population, and will also accelerate the development, dissemination and adoption of new and modern agricultural practices. - The stabilization of the cluster in the region will increase tax collections of local governments, and will promote job creation.
Targets for phase I (2014-2020)	- Establishment of areas and start the production of soybeans, maize and sunflower. - Deployment and start of production of biomass from elephant grass - Setting the industry and start processing grains - Implementation and start-up the poultry production facility
Targets for phase II (2021-2025)	- To increase grain production - Development of the processing chain and marketing of grain - Integration of the grain processing industry and poultry industry - Increase in the number of poultry production modules - Development of local production of biomass and electric power
Targets for phase III (2026-2030)	- The grain production will be established - Stabilization of grain processing industry - Chicken production will have reached a level of at least 1 million chicken/ year in the Cluster. - The production chain will have incorporated other sectors, such as production of cattle, goats, dairy and food products. - The process of producing chickens will have reached high level of quality and traceability, with potential access to special markets (Halal, Kosher and European Union)
Implementation Structure	It is necessary for the development of the cluster: - Acquisition of seeds with quality to be produced in Cluster Nº 5, or seeds with quality from other agents approved by the Mozambican institutions. - Access to equipment, machinery, supplies and services (technical, financial and other) required for the proposed agro-industrial activities. - Legal and regulatory support for the investments feasibility, including incentives for investment, import of inputs, equipment and machinery, identification of land for investment, support in the process to dialogue with local communities involved, among others.
Main Products or Services	- Production of oil and soybean meal, - Production of oil and sunflower meal, - Production of starch and corn meal - Poultry production - Generating jobs - Food production - Generation of taxes
Project Activities	1. Identification of the area for investment 2. Begin manpower training for agricultural activities 3. Start activities related to agricultural production 4. Begin the rehabilitation, expansion and installation of storage and logistics infrastructure as well as social and productive infrastructure (housing, energy, water, sanitation, basic health) 5. Begin the training of industrial manpower and poultry production 6. Begin the installation of industrial plants and poultry production

<table>
<tr><td></td><td colspan="16">7. Integration of industrial production with the poultry production and processing
8. Marketing of processed products and by-products.</td></tr>
<tr><td rowspan="2">Implementation Period</td><td>2014</td><td>‘15</td><td>‘16</td><td>‘17</td><td>‘18</td><td>‘19</td><td>‘20</td><td>‘21</td><td>‘22</td><td>‘23</td><td>‘24</td><td>‘25</td><td>‘26</td><td>‘27</td><td>‘28</td><td>‘29</td><td>2030</td></tr>
<tr><td colspan="16"></td></tr>
<tr><td>1) Expected Impacts or Benefits
2) indicators</td><td colspan="16">- Expected impacts:
- Accelerated development of the local economy
- Increase tax collection
- Generation of direct and indirect jobs, with different levels of professional qualification
- Increase in the volume of exports and reduction of food imports
- Synergistic integration between districts and zones
- Improvements in social and economic infrastructure of the region
- Local food production for food security
- Adding value and creating opportunities for the development of other value chains in the medium and long terms.
- Indicators:
- Increase of indicators of production, productivity and the sowed area
- Increase in public revenue
- Creating jobs
- Increase family income per capita
- Increase the local supply of food protein
- Improvement of the country's trade balance</td></tr>
<tr><td>Environmental and Social Considerations</td><td colspan="16">- Development of the project in accordance with the principles of Responsible Agricultural Investments
- Carry out prior environmental assessment with a view to mitigate environmental impacts, with particular attention to deforestation, soil conservation and pollution of water resources.
- To mitigate possible impacts on full and partial protection areas (protected area in Majune).
- Encourage community participation through public consultations
- Mitigate environmental impacts of the grain, poultry processing and thermal power plant, with special attention to the generation of liquid and gaseous effluents.</td></tr>
<tr><td>Other Information</td><td colspan="16">- Each module should operate as an independent farm from the other modules, with its own management team, employees and machinery.
- The areas for soybeans, sunflower and maize crops will be divided equally, with an annual crop rotation.
- It is foreseen the construction of a sea port in Nacala, which should be ready for partial operation in 2016 and full operation in 2017. The Nacala port will be the main route of the cluster's production flow.
- Grain processing industries should be installed over the first five years of the project, therefore, while the industries are not ready for operation, the grains will be exported.
- Procedures for obtaining the investment license and DUAT will be carried out in 2014.
- A SEZ will be set in Majune for the investments in infrastructure feasibility.
- Priority of implementation will be given to projects recommended by the Master Plan in areas identified as Clusters of Development, according to identified needs.</td></tr>
</table>

28 Model Project for Family Food Production Cluster Development

Project title:	Model Project for Family Food Production Cluster
Project Site	- Malema district. Areas located close to Cuamba city - Total crop production area: 5,000 ha. - Total area of cassava production: 2,000 ha. - Area of industrial facilities: 20 ha. - In each association about 200 families will be gathered. The goal is to establish 5 associations
Target Group/ Beneficiaries	- Direct beneficiaries: Family farmers, small rural communities and local population organized into associations of producers, centers, collectives and other associative forms. - Indirect beneficiaries: Families in situation of food and nutritional insecurity
Project Summary	- In order to improve the living conditions in the District of Malema and promote the development of the region, improvements will be proposed on the conditions of local agricultural activities, with the consequent increase of production and income. The associations that produce food based on family farming will be strengthened and a cassava processing agroindustry will be built that will create jobs and will absorb local manpower and add value to production. In order to achieve that, it will be necessary investors interested to finance the setting of the industry. The Internal Rate of Return is 33.61% and a nine years Payback, if the investor uses 100% of its own capital. - Each producing association should be address about 200 families. - Total crop production area: 5,000 ha. - Area of industrial facilities: 20 ha - The region is located near the town of Cuamba, which offers logistical advantages regarding the distribution of the production and transportation. - The region presents low social and environmental vulnerability, and has excellent conditions to receive a pioneer project which will require the opening of areas. It was verified that the District has good hydric conditions and soil types for the development of irrigated agriculture. - The first year, the Association number 1, is expected to be composed of 50 families, doubling that number in the second year and filling it out completely in the third year. The other associations will be included in the cluster one at a time in the subsequent years. - This initial model considers a work directly with communities of rural family farmers; however it can also benefit resettled families or farmers in search of better opportunities and living conditions. - It will be encouraged the establishment of associations and the registration of producer organizations by means of technical assistance, monitoring and contractual link with companies of the region. - The establishment and strengthening of agricultural associations formed by small farmers increases the bargaining power, access to inputs, machinery and rural credits, enabling the socioeconomic development of those involved through the establishment of a management structure for the development of small-scale agricultural activity. - The relationship between the processing of cassava industry and agricultural producers will be through contract farming, preferably through one or more legal entities (associations).
Agricultural technological package	- Each family will be responsible for the cultivation of 5 ha, where cassava should be planted to supply the industry. - For the dwelling and common areas of the community, a 2,800 square meters area should be established per family, plus 0.5 ha for cultivation and other independent 0.5 ha of forest. So, each family will be responsible for an area of approximately 6.28 ha, to be assigned via DUAT. The communal areas should receive priority for social infrastructure, such as access to water and sanitary services. - The independent area of 0.5 ha could be used by the producers to cultivate crops of their choice, cash crop or staple food. - The plan for the first year is to plant cassava inter-cropped with maize, between the rows, and in the subsequent years, other crops should be planted in the rows, while

	maintaining the cassava; in the second year maize will be substituted by groundnuts, and in the third year the rotation culture would be cotton. - Areas likely to receive irrigation will be intended for the cultivation of vegetables more adapted to the region.
Justification	- The objective of the cluster establishment is in accordance with the Initiative to improve the productivity of Familiar Agriculture (Smallholder Agriculture) and Associations of Producers. - Projects of the cluster deployment are part of the Strategies to Extinguish the Shifting Agriculture - The project enables the creation of model associations - The cluster will bring development to the region and improve the living conditions of the local population - To combat poverty and promote socio-economic development of small scale farmers through the strengthening of family agriculture, encouraging the formation and structure of associations and ensure food and nutritional security. - To increase security and legal representation of associations
Targets for phase I (2014-2020)	- Promote the Association of producers and start the cultivation of crops recommended - Start the installation and expansion of cassava agro-processing - Increase cotton production and improve the quality of the product offered - Increase the production of vegetables to be sold in the Zones
Targets for phase II (2021-2025)	- The production center of cash crops and staple food will be developed - Better development and increase the production of crops - Increase the trade of cash crops
Targets for phase III (2026-2030)	- The supply of raw materials for the industry and the industrial processing of cassava will be established - Crop production will be stabilized - The Cluster will have its first chain of values developed.
Implementation Structure	- The cluster's development will depend on a series of actions of the public and private sectors, as well as the partnerships between both: ➢ Private investors for the industry building and establishment of purchase contracts of cassava. ➢ Financial institutions to provide financing for acquisition of machinery and equipment. - Arrangements between public institutions (IIAM, SDAE and others), private and NGOs to provide and/or facilitate the access to inputs (seeds, fertilizers, cuttings and others). - Arrangements between public institutions (IIAM, SDAE and others), private and NGOs to provide extension services and promotion of training of local producers. - Arrangements between public institutions for the provision of basic social infrastructure services.
Main Products or Services	- Production of flour and cassava starch. - Job creation and increased family income. - Production of foods such as groundnuts, maize and vegetables - Cotton production - Establishment of producer´s associations and strengthening of existing ones - Facilitation of the local production flow
Project Activities	1) organizational System: a) Identification and evaluation of existing associations; b) Identification of priority producers to lead the process of forming new associations and/or participation in existing associations; c) Definition of practical actions for the strengthening of associations and development of management tools. d) To promote the Association of producing families. e) Training of registered producers for the management of agricultural production; f) Strengthening public systems of rural extension to support in the deployment and development of management structures in the associations, as well as on the dissemination and adoption of agricultural production management systems; g) involvement of the private sector for the acquisition of cash crop and surplus of produced food. h) Feasibility of model contracts for purchase and sale of products that include the

	supply of private extension services and inputs. -Implementation a) The Project must be executed via an institution regularly registered to operate in Mozambique, with experience and proven ability, in partnership with the public assistance systems in order to transfer knowledge; b) The hiring will be in accordance with the rules of the Mozambican Government and any partners involved 2) Processing and Marketing: a) To provide training for the industry's manpower. b) Providing inputs for cassava´s ´producers c) Establishment of cassava processing industry
Implementation Period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
1) Expected Impacts or Benefits 2) indicators	1) Expected impacts: - Combating the practice of shifting agriculture, increase household income, job creation. - Bring development to the region and improve the living conditions of the local population. - Food production for food security - Start the development of the Familiar Production Cluster in Malema - Develop a food producer center in the Nacala region - Through associative systems, improve social relations between families. 2) Indicators: - Increase the production of cassava flour and starch production. - Increase the production of cotton, groundnuts, maize and vegetables. - Increase family income - Increase number and level of development of associations of agricultural producers
Environmental and Social Considerations	- Avoid interferences in traditional social dynamics and ensure the strengthening of community ties through participation and consultation to farmers. - Perform preliminary environmental assessment with a view to mitigate environmental impacts, such as deforestation, soil erosion and exhaustion. Pollution of water resources deserves special attention, due mostly to the toxicity of the effluent resulting from the processing of cassava; - Encourage the adoption of good agricultural practices - Encourage the attendance to RAI
Other Information	- The machines will be acquired by the producers ' associations and all are responsible for the maintenance and care of the equipment. - Each organization registered in the program shall be responsible for organizing their associated farmers with and control the quantity and quality of products to be marketed. - The cultivation within the areas will be the responsibility of each family and the remuneration will occur according to the volume of the production delivered. - Cassava processing industry should be able to operate as soon as the first roots start to be collected in the field, 12 months after the first planting. - Monitoring and evaluation of the program shall be carried out by extension workers of the District Services of Economic Activities (SDAE) to ensure its smooth progress and effectiveness. - Models of contracts should be developed, to be used as a commitment between farmers and the Associations' managers, as well as the elaboration of incentives for members to remain in the program, such as: Awards for productivity increase, depending on the accuracy of the production delivery and the correct use of inputs; Periodical surveys as a way to control and observe the income and quality of the production of each Member; Elaboration of rules related to the use of inputs and farm management practices, as well as rules about product and ways of marketing, as well as rules of coexistence among involved members; Organization of courses and field day to improve cultivation techniques;

29 Pioneer Project for Grain and Cotton Production Cluster Development

Project Title:	Pioneer Project for Grain and Cotton Cluster Development
Project Site	- Administrative post of Lioma, but with a close integration to the area of the QIP "Special Economic Zone Project for Agricultural Development in Cuamba"
Target Group/ Beneficiaries	- Small and medium-sized producers already settled in the region - Communities affected by resettlements in the region of Lioma. - Local population. - Companies already established in the region. - Government of provinces, districts and administrative posts involved.
Project Summary	- The installation of the cluster in the referred region above aims to boost the local economy by strengthening the agriculture and local farmers, consolidating the structures already present in the plain region of Lioma. - The region suitable for the cluster installation is now in the process to start a modern agriculture production of grains, mainly with regard to soy bean, maize and cotton. The region also offers good environmental conditions for the development of these crops. - A number of initiatives will be structured in order to attract investments to the region, focused on the development of potentials and the overcoming of current limitations. - It is foreseen assistance and support to planning and implementing resettlement projects that have been implemented in the region. - The family farmers will be included in the project through corporate development and the incorporation of hand labor in the production process, with technical training. - Initiatives will be carried out as per forest compensation, regarding areas where the land has been changed and the forest resources have been taken. - The project foresees the production and distribution of forest seedlings for biomass production to be used for energy consumption. - With the possibility of public-private partnerships, organizations that will invest in the structuring of the region will have guaranteed direct advantages and potentials, by means of incentives such as tax, trade and logistics, promoting environmental and social initiatives. - There will be strategies to incorporate the family farmers in business through promotion, contracts, inclusion of hand labor and the formation of productive villages to resettled people. - Opening and maintaining roads that facilitate and improve logistics in the region will be carried out by means of public-private partnerships, improving the flow of local production. - The provision and facilitation of access to technology and inputs will be ensured, resulting in a gain in productivity and better efficiency in land use. - The investment in poultry production aimed at adding value to bran product. The chain will have a huge competitive advantage over the cost of production, because, since the ration will be produced domestically, their costs will be much lower, since most of the costs of operating a farm are linked to feed. - The projects of industrial poultry farming will have a separate cash flow due to the nature of the activity. Aviculture presents good economic profitability as a function of low production costs. The estimated production of 1 million chickens per year should generate an IRR of 19.9%, however to be deployed on 1000 chickens modules each. Thus, the speed of implementation of poultry business should follow the infrastructure availability and market demand. - It is expected that the project has a high profitability, in addition to the generation of taxes and jobs.
Agricultural technological package	- For the scale of the agricultural project it will be used the entire structure of the companies already present in the region, and will incorporated new producers through business developments and incorporation of hand labor in the production process with the technical training. - Initiatives will be undertaken to improve the process of commercialization through the systematization of local marketing, vehicle financing and adoption of shared freight to local producers. The Government will be involved through partnerships and tax incentives. - A modern and sustainable system of production will be stimulated, with adoption of conservation practices such as crop rotation, tillage and other. - Currently, approximately 13 thousand ha have been cultivated in the region with the participation of about 8 thousand and 500 families. - It is foreseen an annual growth of 7% as per the opening of new areas, and for the indexes of crop yields.

	- The new areas will be granted to local producers resettled and inserted in the production chain through the promotion of corporate businesses and areas already opened by companies located in the region. An effort will be made for the identification and registration of areas currently occupied for DUAT, as well as the identification of areas available for expansion and new investments. - The fertilizer will be based and calculated from information taken of soil analyses and followed by specialized technicians. - Access to inputs and pesticides to farmers will be encouraged and facilitated, even through the adoption of new technologies such as Inoculants for soybean production. - Initiatives such as consortium freight should be adopted for the improvement in the marketing conditions of products. - It should be facilitated the integration of productive chains with the easiness to be implemented on the Special Economic Zone for Agricultural Development in Cuamba.
Justification	- The aim of this cluster will be to increase the economy and development of the region - Support for the development of agricultural activities in this region aims to combine the activities already carried out in the region with great potential as per marketing and soil and climate identified for the region through the analyses carried out in the Master Plan. - The implementation of pioneer projects aims to structure a grain production chain connected with chicken production, creating a synergy in the process of transferring resources between the districts. - The objective of cluster deployment is in accordance with the project for the Land Registry (DUAT) of small and medium-sized producers - Cluster deployment is in accordance with the Establishment of a Support Organization to Investment and Development of Value Chains in the Nacala Corridor - The projects of the cluster deployment are part of the Project to Strength and Empower Local Government Institutions - The project is in accordance with the project of Rehabilitation of Agricultural Storage Facilities - The project is in line with the projects for the improvement of agricultural logistics. - The cluster will bring development for the region and improve the living conditions of the local population - The stabilization of the cluster in the region will increase tax collections to local governments. - Gurue district has very specific characteristics, because its territory is home to both areas of great potential for intensive agricultural development and areas subject to great environmental vulnerability. The initiative to support the development of a sustainable model of production shall assist in combining such ambiguities.
Targets for phase I (2014-2020)	- Encourage the development of model contracts and agricultural relations between the different scales of producers based on a proper technological platform, socially, economically and environmentally. - Encourage the adoption of an integrated planning and management of agricultural development for the region, gathering information on management of natural resources (soil, water and forests), production, storage, transportation, processing and marketing and production of necessary inputs. - Integrate the local production to the processing initiatives and the processing being developed and to be carried out in the Corridor, especially in Zones III, V and VI. - Implementation and start-up of production of chickens - Evaluation of the current system of concessions for the exploitation of agricultural crops, with a view to developing a Plan of Activities for strengthening the productive chains of cotton and tobacco in the region through new productive arrangements, improved agricultural practices, improved access and use of inputs, in addition to the creation and strengthening of financial services. - Establishment of public-private partnerships to accelerate works of rehabilitation, expansion and creation of necessary infrastructure, especially the logistics and storage, as well as basic social infrastructure. - Incorporation of local hand labor through technical training in partnership with local investors.
Targets for phase II (2021-2025)	- Strengthen the creation of Modern producer Cooperatives, both to strengthen its involvement in agricultural production and to participate in the expansion of poultry production. - Consolidation and expansion of local processing units of agricultural products, especially

	those aimed to the production of feed and supplements for animal production. - Strengthening the necessary infrastructure for the creation of a cold chain, dedicated to the processing and marketing of chickens in integration with the Special Economic Zone for the Agricultural Development in Cuamba - Incorporation of lines for production of cotton and tobacco in the Cluster`s development actions.
Targets for phase III (2026-2030)	- Consolidation of the integration of local production with the interregional trade and export of primary agricultural products and processed products. - Consolidation of Poultry Complex Production and its integration to the chain of distribution and export, with a minimum annual production of 1 million chickens. - Process of producing chickens will have reached high level of quality and traceability, with potential access to special markets (Halal, Kosher and European Union) - Consolidating the development of productive chains of cotton and tobacco.
Implementation Structure	It is necessary for the development of the project: - Tax incentive mechanisms and attracting investors - Development of basic infrastructures to consolidate clusters and value chains - Deployment of a nursery responsible for producing and providing forest seedlings of quality and on an ideal quantity to meet the local demand. - Involvement of the administrative post of Lioma for planning, execution, monitoring and control of the actions proposed. - Public private partnership with initiatives that promote the improvement of local logistics. - Local institutions (IIAM and SDAE) and private institutions that provide and facilitate the access to fertilizers, seeds and inputs. - Regulatory and controlling agencies of the projects and the agreements settled. - Local institutions (IIAM and SDAE) providing extension services and promoting training of local producers. - The Council of Ministers and other necessary institutions to the process of evaluating the current system of concessions for the cotton and tobacco crops.
Main products or Services	- Production of tobacco, cotton, maize and soybeans. - Development of an integrated chain of production, logistics and trade. - Facilitation of investment in agricultural production through land property regularization and standardization of the process of establishing contracts. - Support to the process of resettlement of families, when necessary. - Wider integration and involvement of local people in the development of agriculture. - Reducing the dependence on native biomass to obtain direct forest resources, especially biomass for energy purposes. - Development of chicken production and by-products. - Development of a platform for management of agricultural development, generating indicators for the market for producers and for the Government.
Project activities	1. Survey and registration of agricultural activities currently carried out in the region, with identification of actors and institutions involved, and other information. 1.1. To develop an Integrated System of Intelligence of the local Agriculture, which update, monitoring and implementation system be technically simplified in order to be adopted by public institutions on a fast and broad way. 1.2. Development of Standards, Models and Indicators for Agricultural Contracts, including contract farming models, funding schemes, contracts for permanent and temporary farm workers, contracts for agricultural services outsourced, among others. 1.3. Adaptation of RAI principles of the master plan for the reality observed in the region of the project. 1.4. Integrate the information generated with extension activities, training and technical assistance from the public service, as well as establish partnerships with the private sector to adoption these information in private actions of promotion, training and technical assistance. 1.5. Formulation of a Complementary Plan of Incentives for the adoption of agricultural and socio-environmental management practices recommended, with special attention to the establishment of public-private partnerships 2. Integration of efforts for registration and issuance of DUAT for small and medium-sized local farmers, as well as search for areas available to start the productive activities

<table>
<tr><td></td><td>expansion.
3. To begin the rehabilitation, expansion and implementation of storage and logistics infrastructure as well as social and productive infrastructure (housing, energy, water, sanitation, basic health)
4.To begin the training of agricultural hand labor and training actions for chicken production
4.1. Beginning the installation of chicken production facilities
5. Structuring a public nursery for forestry seedling production
5.1. Training and capacity building of local associations for implementation of local forests to generate energy
5.2. Distribution of forest seedlings and planting inputs for associations.
6. Hiring a consulting service for the evaluation of the current system of concessions for agricultural crops, and the development of a plan review, reformulation or extinction of the system.</td></tr>
<tr><td>Implementation Period</td><td>2014 | ‘15 | ‘16 | ‘17 | ‘18 | ‘19 | ‘20 | ‘21 | ‘22 | ‘23 | ‘24 | ‘25 | ‘26 | ‘27 | ‘28 | ‘29 | 2030</td></tr>
<tr><td>1) Expected Impacts or Benefits
2) indicators</td><td>- Expected impacts:
- Development a production chain and logistics in the region.
- Increased availability of grains to be traded.
- Strengthening communities and producing families
- Consolidation of companies operating in the region.
- Reduction of deforestation by forest compensation.
- Improvement of the social and productive infrastructures available.
- Indicators:
- Increase in the volume of grain produced in the region.
- Increase in the processing capacity and storage of grain.
- Increasing family income and improvement of marketing and logistics systems of household production.
- Quality and quantity of agricultural products marketed</td></tr>
<tr><td>Environmental and Social Considerations (Summary of pre-screening EIA)</td><td>- Compensation for environmental damage by means of shared planting of forest for energy purpose.
- Pressure reduction of agricultural expansion on the territory
- Training of family producers to produce a low-impact agriculture
- Development of soil conservation practices, training organizations and producers to the characteristics of soil of the region.
- Development of the project in accordance with the principles of Responsible Agricultural Investments</td></tr>
<tr><td>Other Information (Preconditions such as public infrastructure required, etc.)</td><td>- Monitoring and evaluation of the program by extension workers of the District Services of Economic Activities to ensure its smooth progress and effectiveness.
- It is foreseeing the settlement of Nacala sea port facilities, which should be ready for partial operation in 2016 and full operation in 2017l. The port of Nacala will be the main route of the cluster`s products flow.
- Priority of implementation will be given to projects recommended by the Master Plan in areas identified as Clusters of Development, according to identified needs.</td></tr>
</table>

30 Model Project for Cashew Production Cluster Development

Project Title:	Model Project for Cashew Production Cluster
Project Site	- Initial suggestions are the districts of Muecate, Meconta Monapo and Mogovolas
Target Group/ Beneficiaries	- Local producers of cashew nuts. - Local population. - Interested investors. - District government.
Project Summary	- The region already has many producers who use cashew nuts as a source of income and although currently the production is below its potential, the familiarity of the producers with the crop is an advantage. - During the field visits it was possible to notice that existence of a corporate production area pre-structured, but working well below its capacity. There is also a nursery for seedling production that belongs to the Government. - The volume of cashew production in the region has been reduced, mainly because of the age of the existing cashew trees and the phytosanitary vulnerabilities. – Another advantage is its proximity to Nampula city, a great consumer center, and to Nacala port. – In the proposed model 50% of the area, of each family, will be planted with cashew trees, and the other 50% will be planted with food staple and cash crop. The project foresees the support to activities related to the renovation of trees, as well as technical and financial support to access necessary inputs to strength the cultivation of the others agriculture crops. - The cashew producers, in the form of associations or groups, should supply nuts to industrial processing units that are already located in the region. - The stimulus to the production of cashew will emphasize the development of rural communities through a more effective production technique and by strengthening organizations of solidarity economy, based on a participative methodology, aiming the sustainable production chain of cashew tree. - The structure aims to promote the increase of production, productivity, quality, profitability and income of all family farmers involved in the cluster, based on the adoption of innovative technologies of cultivation, production, processing, marketing, organization and management of the sector. - The project's priority is to encourage the planting of cashew tree intercropping with other crops, besides encouraging the organization of associations between small family farmers to interact with agents of various segments of the rural sector. - It will also be also encouraged the planting of eucalyptus in common areas as a source of biomass supply to produce energy to the involved communities, promoting activities related to the forest sector.
Agricultural Technological Package	- The family unit will be up to 2 ha, to guarantee the food supply of farmers involved and to increase the family income. The project foresees the maintenance of 50% of the land of each family for the production of staple food and cash crops. - It is expected the participation of 600 families in the project, totaling up to 1,200 ha cultivated, being 600 ha for cashew production and 600 ha for other crops. - The module of 1,200 ha can be set in one or more districts among those suggested, according to the arrangements for the implementation of suggested project. - In order not to jeopardize part of the income of the producers, the renovation of the cashew trees will be divided into two stages. So when the first half of the cashew trees' production stabilizes (three years after the completion of this operation) the renewal of the remaining 50% will be done. - In the first year, 50 families will be involved, this number will be doubled year after year, until the fourth year of the project, reaching a total of 400 families. By adding the 200 families of the fifth year, the project will involve 600 families. - Year after year, new cashew areas will be planted, and during the first years, the lines between the trees will be planted with annual crops, until the cashew trees reach a size that prevent the entry of light between the lines. - Cashew production will start three years after planting, during that time the processing industry will be reactivated, modernized, and manpower will receive training. - Cashew trees will be pruned periodically. The heating power of the wood from the pruning will be used as power supply to the nuts' processing process.

	- A study to identify and explore the economic potential of cashew pulp shall be carried out, in parallel to the stabilization of the cashew production. - Upon the results of such study, a business model related to the processing and marketing of cashew pulp shall be presented to associations and groups of producers. Planning tolls and training, should be provided, besides the financing services to the ventures.
Justification	- The goal of this project is to structure the cashew production chain through the formalization of trade, increase productivity of nut and adding value to the product and the establishment of public and private initiatives to encourage production, and thus strengthening the local economy and improving the quality of life of family farmers in the region. - The project is expected to create a suitable model for the development of the Cluster of Cashew Nuts Production in Zones I and II of the Nacala corridor. - The objective of the implementation of the project is in compliance with the project for the Renovation of the cashew trees and improvement of the intercropping system. - The objective of the implementation of the project is in compliance with the Initiative for the Improvement of the Productivity of Family Agriculture and Association of Producers. - The project is part of the Strategies to Eradicate the Shifting Agriculture - To development of the Cluster will bring development to the region and will improve the living conditions of the local population through modern agricultural activities. - Encouraging diversification of agricultural activities should reduce economic risks for producers, as well as reduce risks related to food insecurity.
Targets for phase I (2014-2020)	- Assist and stimulate the renewal of cashew trees - Encourage the diversification of agricultural crops as well as the intensification of production in place of shifting agriculture - Increase the availability and quality of cashew nuts, with a view to strengthen the local processing chain - Identification of the local economic potential of the cashew pulp and begin the organization of this value chain. - Encourage the diffusion of fast-growing forest crops as sustainable source of biomass for energy purposes, substituting the exploitation of natural forest resources.
Targets for phase II (2021-2025)	- Increased production of cashew - Development and increase in crop yields – Increase the marketing and export of cashews – Development of the cashew pulp value chain - Replacement of native forest biomass utilization in agricultural and agro-industrial projects by planted biomass - Improvement in marketing networks
Targets for phase III (2026-2030)	- The supply of cashew to the industry and industrial processing of cashew nuts will be established. - Processing units of cashew pulp will be integrated to the production chain. - Consolidation of a diversified agricultural production system. - New economic activities linked to agriculture should be initiated due to the benefits arising out of the Cluster. - Export and marketing of a substantial amount of products to other regions - Shifting agriculture and conflicts over natural resources will have been eliminated or reduced considerably
Implementation Structure	- Economic agents linked to cashew chain should be involved so as to ensure that there will be purchase of production offered by the project, and that the quality standards to be developed is in accordance with the market demand. - Local institutions (INCAJU, IIAM and SDAE) providing and facilitating the access of producers to inputs. - Local institutions (INCAJU, IIAM and SDAE) providing extension services and promoting training of local producers. - Structuring of the local forest nursery for the suitable supply of eucalyptus seedlings (SDAE)
Main products or	- Increase in the supply and quality of cashew production.

<table>
<tr><td>Services</td><td>- Job creation and increase in family income.
- Production of foods such as ground nuts, maize, beans, cassava and vegetables.
- Production of cotton and sesame
- Forest biomass production for energy purposes.</td></tr>
<tr><td>Project Activities</td><td>- Executive planning, selecting areas for the project implementation and potential producers to be part of the first groups.
- Promote the organization of associations that will receive training activities and capacity building to manage cashew trees; integrated agriculture production; and planting and harvesting of forest essences
- Distribution of inputs, such as cashew seedlings, fertilizers and agricultural seeds of good quality.
- Identification of agents of the cashew value chain interested in buying the production and in establishing partnerships
- Identification of technical constraints related to the cashew handling after harvesting and storage, in order to organize trainings
- Identification and use of strategies to promote the food production flow, with the participation of public and private institutions.
- Structuring of public nursery for the production of forestry seedlings.
- Distribution of forest seedlings and inputs for associations
- Feasibility study to use the cashew pulp through associative processing units
- Elaborate a Business Plan for the cashew pulp value chain.
- Implementation of a model plant to process cashew pulp.
- Introduce incentives and technical and finance support services to initiatives to introduce and expand cashew pulp processing facilities.</td></tr>
<tr><td>Implementation Period</td><td>2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030</td></tr>
<tr><td>1) Expected Impacts or Benefits
2) indicators</td><td>- <u>Expected impacts</u>:
- Reduction of shifting agriculture practices
- Increase in the production, productivity and quality of the cashew production
- Increase in diversity, productivity and production of staple food crops
- Strengthening and expansion of cashew processing industry in the region
- Reduce the exploitation of forest for energy purposes
- <u>Indicators:</u>
- Increase the production and productivity of cashew.
- Increase the production of cashew nuts and other value-added products from the cashew activity.
- Increase the production and productivity of promoted agricultural crops
- Reduction in the rates of deforestation
- Increase the family income per capita</td></tr>
<tr><td>Environmental and Social Considerations</td><td>- Development of the project in accordance with the principles of Responsible Agricultural Investments
- Carry out prior environmental assessment with a view to mitigate environmental impacts, with particular attention to deforestation, soil conservation and pollution of water resources.
- To mitigate possible impacts on full and partial protection areas (protected area in Eastern Mozambique).
- Encourage community participation through public consultations
- Mitigate environmental impacts of processing units, with special attention to the production of waste.</td></tr>
<tr><td>Other Information</td><td>- The machines will be acquired by the producers' associations and all are responsible for the maintenance and care of the equipment.
– The cultivation within the areas will be the responsibility of each family and the remuneration shall be established in accordance with contracts to be signed with agents of the chain.

- Contracts should be designed with a view to creating incentives for members to remain in the program as:
➢ A wards due to productivity increase, depending on the accuracy of the production delivery and the correct use of inputs;</td></tr>
</table>

	➢ Periodical visits as a way to control and analyze the income and quality of the production of each Member; ➢ Elaboration of rules related to the use of inputs and farm management practices, as well as rules about the product and marketing options, and rules of coexistence among members involved; ➢ Organization of courses and field day to improve cultivation techniques;

31 Pioneer Project for Integrated Food and Grain Production Cluster Development

Project Title:	Pioneer Project for Integrated Food and Grain Production Cluster Development
Project Site	- Ribáuè district.
Target Group/ Beneficiaries	- Small and medium-sized producers. - Local population. - Investors interested. - District Government.
Project Summary	- It will be proposed the integrated production of cash crops and staple food crops, such as soybeans, corn, cotton, sunflower, ground nuts, cowpea and sesame in family and corporate scale. - It is proposed installation of a Seed Processing Unit (UBS) for the commercial production of seeds of soybeans, sunflower and cotton. And the establishment of contracts involving the promotion and supply of raw materials, inputs and technical assistance connected to the compulsory purchase of production, with agricultural family farmers, and the production of improved seeds of maize and other crops. - The goal of the cluster is the supply of seeds of quality that provide greater productivity and consequently a higher income for farmers and corporations operating in the Nacala Corridor. The seed produced in Ribáuè can supply recommended productive. - With these actions, the goal is to include 1000 families of small farmers in the production chain, enabling the transfer of technology to them and a significant increase in productivity and, consequently, the household income. - For this business model it will be generated contracts that will help, in medium term, the strengthening of producer`s associations present in the region, as well as the development of other associations that will strengthen the activities carried out by small-scale farmers. - Each farmer will receive aid for the production of 1 ha of improved seeds of maize, beans, ground nuts and sesame enabling those involved to cultivate staple food their own consumption and other cash crops of preference. - The chain will be develop through the interaction between various actors, and may generate a great synergy in the transference of processes. - It is hoped the establishment of a partnership with the local government, through tax incentives to new businesses that will be part of the cluster. - It is expected that the project presents a high profitability, besides generating taxes and jobs.
Agricultural technological package	- The region chosen to house the project has excellent productive potential soils, water availability and is near to a major distributor and consumer center. - The Seed Processing Unit (UBS) was conceived to process and store 20 thousand tons of seeds per year. To guarantee the supply of at least half of the unit`s processing capacity, it is recommended that the unit itself has an area of 10 thousand hectares for agriculture. - Of these, 8,000 ha are intended for the production of improved soybean seeds, 1.33 thousand ha destined for cotton, 100 ha for sunflower and 667 ha for maize. - It is foreseen the use of full irrigation to produce out of the rainy season. Due to high solar incidence throughout the year, it is expected to be possible to carry out at least two harvests in one year, with the help of irrigation. In order to dilute the costs of investments in machinery and equipment for the cultivation of soybean seeds, as well as to empower the seed producers, it is recommended that the implementation of the 8 thousand hectares are divided in the first 4 years, and in each year a new module of 2,000 ha be cultivated with the crop. - Soybean is highly responsive to photoperiod, presenting, thus, a lower seed productivity per hectare, and due to its high demand, soybean will be cultivated in the rain period.

	Meanwhile cotton and sunflower have a higher seed production per area and, because they present a lower demand, they will be cultivated as a second crop, under full irrigation. - In the end, an area of 8,000 ha will be necessary for the production of soybean seeds in rain-fed conditions, 1,400 ha for cotton and 100 ha of irrigated sunflower for a corporate agriculture. - It is expected that the improved seed produced will be sufficient for the 180,000 ha of soybean planting, 15,000 ha of cotton, 15,000 ha of sunflower and 40,000 ha of maize. - If the seed supply is higher than the Mozambique demand, the product can be exported or processed as grains. However, the main objective is to supply the domestic market. - The sunflower produced can be fully employed in the development of greenfield for the proposed grain production in Majune. - It is also foreseen the production, in an associative way, of 48 ha of seeds of beans, 10 ha for sesame and 109 ha for ground nuts - The soybean and the other seeds can also supply other productive clusters using the improved infrastructure and market flow planned for the cluster of logistics development of Cuamba.
Justification	- The aim of this cluster is to increase the economy and development of the region - The objective of this cluster is in accordance with the project for the Entrepreneurial Training and Business Development - The installation of the cluster is in accordance with the project for the Rehabilitation of the Irrigation System - The installation of the cluster is in accordance with the project for the Improvement of Agricultural Logistics - The installation of the cluster is in accordance with the project for the Improvement of productivity in the Familiar agriculture and Association of Producers - Project initiatives are in accordance with the Project of Rehabilitation of Agricultural Storage Facilities - Project initiatives are in accordance with the Project of Standardization of Agricultural Products - Project initiatives are in accordance with the Project of Improving access to Market Information. - Project initiatives are in accordance with the Project to Prioritize the Infrastructure and Supply of Energy - The installation of the cluster is in accordance with the Agricultural Academy Project ProSAVANA (Agricultural Development Center). - The Project initiatives are in accordance with the Establishment of Financial Support System for Small and Medium Scale Agribusiness Companies and Farmers ' Organizations (6) - The installation of the cluster is in accordance with the Establishment of Preferential Credit to Support Agricultural Mechanization Service Providers (13). - The installation of the cluster is in accordance with the Project for the strengthening of Agricultural Extension and Model Farm - Project initiatives are in line with the Establishment of a Support Organization for Investments and for the Development of Value Chains in Nacala Corridor - The projects of the cluster implementation are part of the Project for the Strengthening and Training of Local Government institutions - The cluster implementation will promote the development of the region and improve the living conditions of the local population
Targets for phase I (2014-2020)	- Establishment of areas and start the production of seeds of soybean, maize and cotton. - Construction of the Seed Processing Unit (UBS) - Promote the installation or rehabilitation of irrigation systems. - Promote the association of local producers and start the cultivation of crops such as ground nuts, beans and sesame. - Financing and supply of inputs and technologies to local producers
Targets for phase II (2021-2025)	- Increase the area and the seed production - The production and marketing chains of seeds are developed - Start to export the surplus production of seeds
Targets for phase III (2026-2030)	- The production of seeds will be established - Stabilization of the Seed Processing Unit (UBS).

	- Consolidation of seed exports
Implementation Structure	It is necessary for the development of the cluster: - Investors interested to finance the implementation of the Seed Processing Unit (UBS). - Financing agricultural machinery, inputs and technology to local producers. - Local institutions (IIAM and SDAE) providing and facilitating the access of producers to inputs. - Local institutions (IIAM and SDAE) providing extension services and promoting training to local producers. - Public-private partnership between IIAM and investor, for the joint development of commercial varieties adapted locally.
Main products or services	- Seed production - Generating jobs. - Generating taxes
Project activities	- Promote the seed producers association - Provide access of inputs and technology to producers - Recommend training programs and training of farmers and technical assistance on issues of interest to productive arrangements and other activities developed in the region; - Promoting interaction between the seed production chain and consumer centers
Implementation Period	2014 ‘15 ‘16 ‘17 ‘18 ‘19 ‘20 ‘21 ‘22 ‘23 ‘24 ‘25 ‘26 ‘27 ‘28 ‘29 2030
1) Expected Impacts or Benefits 2) indicators	- Expected impacts: - Improve the local economy - Increase tax collections - Generating jobs - Increase the volume of exports of seeds - Generate a synergy between the seed producer center and consumers’ Districts - Generate development for the region and improve the living conditions of the local population. - Generate development in the region of the cluster - Generate a seed producer polo for the Nacala region - Through associative systems, improve the social relations between families. - Indicators: - Increase in the production of soy beans, maize, cotton and sunflower. - Increase the volume of exports - Increase the family income in relation to the minimum wage paid in Mozambique for the sector of agriculture, livestock and forestry activities.
Environmental and Social Considerations (Summary of pre-screening EIA)	- Development of the project in accordance with the principles of *Responsible Agricultural Investments* - To mitigate possible impacts on full and partial protection zones (protected areas in Ribaue) - Carry out prior environmental assessment with a view to mitigate environmental impacts, with particular attention to deforestation, soil conservation and pollution of water resources. - Encourage the development of forest for energy and ecological corridors as a counterpart to the environmental impacts of the activities - Encourage community participation through public consultations - Mitigate environmental impacts of the seed processing unit, with special attention to waste generation.
Other Information (Preconditions such as public infrastructure required, etc.)	- For the associative model proposed it should be elaborated model contracts to be signed the commitment of family farmers with their leaderships, that could be a representative of the association of producers, as well as incentives for members to remain in the program, such as: ・Awards for productivity increase, depending on the accuracy of production delivery and the correct use of inputs; ・Periodical visits as a mean to control and observe the income and quality of the production of each Member; ・Elaborate rules related to using inputs and agriculture management practices, as well as rules on product and marketing forms, besides the rules of coexistence among involved members;

	・ Organization of courses and field day to improve cultivation techniques; ・ REDD +: carbon credits as an alternative means of income;

32 Project for Tea Industry Revitalization

Project Title: Project for Tea Industry Revitalization	
Project Site	- Gurue, Zambezia Province (Zone IV)
Target Group and Beneficiaries	- Tea Producer's Association in Gurue (consists of 5 private tea companies) - Out-growers (small-scale farmers) in Gurue
Project Summary	- There are over 8,000 Ha of potential tea garden land in Gurue District, but only 65% is operational due to destruction during the civil war, insufficient replanting of trees older than 70 years old, and declining government support after the privatization of the state plantations. In order to revitalize the tea industry in Gurue, this project aims to increase productivity and the production area through the promotion of an out-grower scheme involving more local farmers in tea production. The Tea Producer's Association in Gurue will take a leading role in facilitating the promotion of the out-grower scheme. - In order to accelerate the replanting of old tea trees, an improved variety of tea seedlings will be imported from Malawi, which will then be planted in a new production area allocated within a corporate farm as a trial with out-growers taking responsibility for the management of the new tea garden. Cuttings taken from improved tea trees will then be used for the propagation of seedlings at the company's nursery.
Justification	- Tea production and processing is a unique and important local industry found only in the highlands of Zambezia Province, amounting to 7,000 tons per year and creating 4,000 jobs in Gurue District alone. - Gurue tea, "*Cha de Gurue,*" is an established brand name, and around 85% of the total production is exported to the international market. - The revitalization and promotion of the tea industry is one of the priority areas Zambesia Province referred to in its development plan.
Main Products or Services	- An out-grower model for the tea production is established. - Technical know-how on the management of tea farms is transferred to out-growers. - Seedlings of the improved variety of a tea tree are produced for the replacement of old trees.
Project Goals	Tea industry around Gurue district is gaining higher competitiveness in national and international markets, without accelerating environmental degradation or enlarging socio-economic disparity.
Expected Output	1: Accessible financing mechanism is established; 2: Aged tea trees are being replaced by quality seedlings; 3: Tea out-grower scheme is operational and expanding;
Main Activities	1) Establishment of an accessible financing mechanism for tea companies - Application of "ProSAVANA Development Initiative Fund" - Provision of fiscal incentives for investment in processing facilities 2) Support for tea replanting - Introduction of improved foreign varieties (as seed ,seedling or clone) through collective purchase - Financial support for replanting costs (either subsidy or loan) 3) Promotion of tea out-grower scheme - Initial trial using part of the abandoned tea gardens of the companies - Development of contract farming supported by technical assistance and provision of seedling and inputs by the companies -

Implementation Period	2014	'15	'16	'17	'18	'19	'20	'21	'22	'23	'24	'25	'26	'27	'28	'29	2030
Required Infrastructure	- Major infrastructure is not required for implementing the project. - The company owns a tea processing factory and storage.																
Economic and Social Impacts to Local Community	- It will increase the incomes of small-scale farmers engaged in tea production as out-growers as well as the profitability of the company, which would contribute to the growth of the regional economy in Gurue. - It will contribute to the revitalizing of the tea industry, which has declined over the years.																
Environmental and Social Consideration																	
Other Information	- As the tea industry needs a large amount of wood for the drying process of green leaves, it is necessary to carefully monitor for illegal logging. - Tea Research Foundation in Malawi is expected to provide high quality tea seedlings.																

Table 3.1.6 Implementation Schedule of Master Plan Projects

(1) Platform Project

1. Project for Land Registration of Medium and Small Scale Farmers

		Phase-1: Transitional phase of fixed cultivation							Phase-2: Growth phase of agricultural					Phase-3: Expansion phase of agribusiness				
	Priority Site	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Preparatory Survey and planning																		
2. Provision of land titles (issue of DUATs) for transition to a fixed agriculture or intensive cultivation																		
2-1. Making inventory and distributoins of farmland 2-2. Community consultations, formation processes and consolidation of each DUAT 2-3. Support for application of DUAT by farmers	Nampula: Zone I								2-1 and 2-2 are implemented by SDAE									
	Nampula: Zone II								2-1 and 2-2 are implemented by SDAE									
	Nampula: Zone III								2-1 and 2-3 are implemented by SDAE									
	Zambezia: Zone III																	
	Zambezia: Zone IV																	
	Niassa: Zone V																	
	Niassa: Zone VI								2-1 and 2-3 are implemented by SDAE									
3. To support farmers in the target area in order to the transition to intensive cultivation																		
4. Monitoring of land use by SPGC of each province																		

2. Project for Planning of Availability of Land for Investment

	Phase-1: Transitional phase of fixed cultivation							Phase-2: Growth phase of agricultural					Phase-3: Expansion phase of agribusiness				
Priority Site	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Planning the delimitation of availability of land, observing overlapping demarcation of reserves, forestry, DUATs and other;																	
2. To perform soil studies (classification and definition of the agrarian use);																	
3. Elaboration of the Basic Project Planning of occupation of availability of land																	
4. Create a Land and Information Data Bank to support interested investors.																	
5. Selection of investiment capable to generate higher benefits to the region.																	
6. To monitor the use of required area and the benefits created.																	

3. Project for Strengthening of Supervision Mechanism on Land and Environment Law Enforcement

		Phase-1: Transitional phase of fixed cultivation							Phase-2: Growth phase of agricultural					Phase-3: Expansion phase of agribusiness				
	Priority Site	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1. Assistance for accelerated elaboration, harmonization and revision of PDUTs	Malema, Gurue, Cuamba, Mandimba, Ngauma																	
2. Training of the Government officials and improvement of the basic conditions																		
3. Improvement of information disclosure system																		
4. Dissemination of PRAI among local people																		

4. Basic Study for Water Resource Management

	Phase-1: Transitional phase of fixed cultivation							Phase-2: Growth phase of agricultural					Phase-3: Expansion phase of agribusiness				
Priority Site	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
Basic Study for Water Resource Management	Preparation of budget																

5. Forest Initiative Project

		Phase-1: Transitional phase of fixed cultivation							Phase-2: Growth phase of agricultural					Phase-3: Expansion phase of agribusiness				
	Priority Site	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030
1.Proposal presentation for obtaining of financial support	Gurue																	
2. Establishment of Nursery of Forest Seedling	Gurue																	
3. Rising of lacking areas of recovery and potentials for formation of energy forests and ecological corridors	Gurue																	
4. Training for the planting and handling of the reforestations	Gurue																	
5. The communities' training for the community forest handling of the energy forests	Gurue																	
6. Monitoring	Gurue																	
7. Service to other areas	Ribaue and Malema priorly																	

6. Project for Strengthening of Agricultural Research

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Empowerment of IIAM research centers in Northeast and Northwest	Nampula and Lichinga zonal center	ProSAVANA-PI		
	Branch stations			
2. Developing an appropriate farming technologies and system Selection of varieties				
Group1 (First priority crops): Maize and Soy bean			Monitoring	
Group 2 (Second priority crops): Northwest: Cowpea, Groundnut, vegetables, cashew, and sesame			Repeating the activities done for Group 1	
Group 3 (Third priority crops) : Northwest: Cotton, Northwest: tobacco and tea				Repeating the activities
3. Demonstration of newly developed farming technologies and system				
Group 1			Monitoring	
Group 2			Repeating the activities done for Group 1	
Group 3				Repeating the activities

7. Project for Strengthen of Agricultural Extension Services

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1 Continuing PRONEA Plan in the selected 11 districts	11 districts	Continue of Agricultural Service		
2. Implementation in the remained districts	8 districts not covered by PRONEA		Continue of Extension Service	
3 Broadcasting program of agricultural extension on radio or TV in 3 target provinces			Continue of Program	

8. ProSAVANA Agricultural Academy (Agricultural Development Centre) Project

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1 Formulating a total implementation plan				
2 Facility development				
3 Training		Continous Training		

9. Model Project for Development of Leading Farmers in Community

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. To establish the project design and formulation of its implementation structure	establish office in Nampula, Lichinga and			
2. To select pilot project communities based on voluntary initiatives under transparent process.	1st term: 9 communities, 2nd term	1st Group 2nd Grou		
3. To survey all farmland of individual farmers in the pilot community and register their DUAT.				
4. To prepare farming program of core farmers in consultation with extension workers	1st group			
	2nd group			
5. To support farming of core farmers	1st group			
	2nd group			
6. To provide training to promote farmers into association and joint activities	1st group			
	2nd group			
7. Capacity development of SDAE and its extension workers		1st group 2nd group		

10. Project for Training for Distributors of Agricultural Inputs

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1 Formulating a total implementation plan				
2 Training distributors (short-term)				
3 Incentives to trained distributors				

11. Project for Improvement of Accessibility to Fertilizers

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1 Formulating the fertilizer subsidy scheme	Whole Country			
2 Legal and financial arrangements for the implementation				
3 Registration of fertilizer traders				
4 Implementation of the fertilizer subsidy scheme			Phasedown from 2020	
5 Monitoring the disbursement of subsidy				

12. Project for Promotion of Quality Seed Production at Regional Level

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1 Formulating a total implementation plan				
2. Training seed growers and agricultural extension agents	IIAM Nampula, Lichinga	Training on maize and beans/pulses	Training on potato and vegetables	
3 Priority distribution of basic seeds to trained seed growers				
4 Promotion of seed out-growers (farmer groups)				
5 Introducing an appropriate financial system to seed growers				

13. Project for Promotion of Tractor Hire Services

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1 Formulating the total implementation plan				
2 Preferential loan arrangement				
3 Supporting arrangements				

14. Irrigation System Rehabilitation Project

		Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Rehabilitation of irrigation system			Maintenance of DB and monitoring activity will be continued as a regular work of DPA.		
Implementation of rehabilitation work	Zone I			11 System 650 ha	
	Zone II			27 System 1,290 ha	
	Zone III			20 System 1,577 ha	
	Zone V			10 System 239 ha	
	Zone VI			11 System 117 ha	
2. Establishing pilot area of irrigation development					
implementation of rehabilitation/construction work	Zone I		2 Sites Monapo, Muecate		
	Zone II		4 Sites Meconta, Mogovolas, Nampula, Murrupula		
	Zone III		3 Sites Ribaue, Malema, A. Molocue		
	Zone V		2 Sites Cuamba, Gurue-Lioma Plain		
	Zone VI		1 Sites Lichinga		
3. Enhancement of water user's organization			Continued in rehabilitation project sites		

15. Project for Improvement of Irrigation Technology and Construction Quality

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Improvement of irrigation technology of famers		Together with setting-up of Pilot Irrigation Site (PR9 AC2)		
2. Improvement of skill and technology of construction company				

16. Project for Vegetable Production Model

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Establishment of a support system for introducing small pump and developing simple irrigation system by farmers and/or farmer'	I, II, III, V, VI			
1-1 Support for introducing small pump (for individual small farmers)	I, II, III, V, VI			
1-2 Support for developing simple irrigation system (for farmer's group or mid-scale farmer)				
1-3 Preparing preferential budget in FDA of SDAE and FDD of District for procurement of pump equipment and		Arrangement by related agencies		
2. Enhancement of farmer's group				
3. Establishing technical extension system of vegetable cultivation with irrigation				
4. Development of market and sales channel of vegetable				

17. Project for Establishment of Financial Support System for Small And Medium Sized Agribusiness Enterprises, Farmers' Organizations and Individual Farmers

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
0. Implementation of the pilot projects (2nd round of PDIF)	All Districts	(PDIF (pilot fund) will be formalized as a permanent financing scheme for the ProSAVANA agriculture development)		
1. Establish the structure of the financial support system				
2. Mobilize additional capital for an agricultural loan.				
3. Select potential financial institutions that would operate the agricultural loan.				
4. Develop criteria and conditions for the agriculture loan specific agribusiness enterprises, farmers' organizations, and individual				
5. Begin operations of the agriculture loan				
6. Conduct regular monitoring and evaluation for the fund's operations.				

18. Formulation of the Nacala Corridor Agriculture Investment Fund for Large-scale Agriculture Development Project (the Nacala Fund)

19. Establishment of a Support Organization for the Investment and Value Chain Development

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1.Establishment of a Support Organization in Nampula	Nampula			
2.Establishment of a Support Organization in Niassa (Cuamba)	Niassa (Cuamba)			

20. Project for Capacity Development of Business Development Service

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1: Capacity of IPEME staff as a trainer of training on business development service is strengthen.				
2: Quality business development service is provided by numbers of private service providers.				
3: Related organizations/ institutions for business development are well functioned in coordination with each other.				

21. Project for Formulation and Development of Modern Agriculture Cooperatives

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. New law is widely recognized.				
2. As a model projects new agricultural cooperatives will be established.				
3. The model agricultural cooperatives will be managed sustainably.		Implement in Model project.		
4. Including the transformation from the existing farmers' associations, the formation of new agricultural cooperatives to			Expand in other districts.	
5. Management and business skills of the new agricultural cooperatives will be improved.			Expand in other districts.	

22. Market Information Access Improvement Project

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1: Lessons learnt from past efforts on market information system establishment.				
2: Access to market information for farmers and agribusiness operators is improved.				
3: Market information is utilized for production and business management.				

23. Project for Standardization of Agriculture Products

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1: Standard for agriculture products is officially established and publicized.				
2: Agriculture products standard is used nationwide.				

24. Project for Rehabilitation of Agriculture Storage Facility

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1: Strategic storage rehabilitation plan in Nacala corridor for agriculture development is prepared.				
2: Storage facilities in Nacala corridor are rehabilitated.		Phase I	Phase II	
3: Rehabilitated storage facilities are properly utilized, and storage loss is decreased.				

25. Project for Improvement of Access Roads for Agricultural Activities

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. To formulate agricultural road improvement committee				
2. To prepare a 5 year strategic plan for agricultural road development by the committee				
3: To improve rehabilitation works according to the plan.				

26. ProSAVANA Agriculture Special Economic Zone Project

	Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Formulating a plan of implantation zones				
2. Support the Gazette in Preparation of the Project of Constitution of ZEE or ZFI				
3. Formalize the creation of the ZEE or ZFI (Decree of creation)				

2) Prioritization of Pioneer/Model Project for Cluster Development

27. Pioneer Project for Integrated Grain Cluster Development

Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1.Identification and settlement of the investment			
2.Training of manpower for agricultural activities			
3.Installation of agricultural production activities			
4.Rehabilitation, expansion and installation of storage and logistics infrastructure as well as social and productive infrastructure (housing, energy, water, sanitation, basic health)			
5.Training of industrial manpower and poultry production			
6.Installation of industrial plants and poultry production			
7.Integration of industrial production with the production and processing			
8.Marketing of processed products and by-products			

28. Model Project for Family Food Production Cluster Development

Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Organization Phase			
2. Installation of Agricbusiness -Processing			
3. Processing			
4. Implantation of the town 1			
5. Implantation of the town 2			
6. Implantation of the town 3			
7. Implantation of the town 4			
8. Implantation of the town 5			

29. Pioneer Project for Grain and Cotton Production Cluster Development

Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Study for extention activities and formulate supplementary plan, socio-environmental management practices recommended, with special attention to the establishment of public-private partnerships			
2. Integration of efforts for registration of the DUAT			
3. The rehabilitation and installation of storage and logistics infrastructure, as well as social infrastructure			
4. Training and implementation of chicken production			
5. Training and planting forest seedlings for local energy forests.			
6. Evaluation of the system, reformulation or extinction of the system.			

30. Model Project for Cashew Production Cluster Development

Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1. Executive planning, selecting areas to implement the project and potential producers to be part of the first groups.			
2. Promote the establishment of associations to receive training activities and capacity building on management of cashew trees, integrated agricultural production and planting and harvesting of forest essences.			
3. Distribution of inputs, such as cashew seedlings, fertilizers and agricultural seeds of quality			
4. Identification of agents from the cashew value chain interested in buying the production and establishing partnerships			
5. Identification of technical constraints related to the cashew handling after harvesting and storage, in order to organize trainings			
6. Identification and use of strategies to promote the food production flow, with the participation of public and private institutions.			
7. Structuring of public nursery for the production of forestry seedlings.			
8. Distribution of forest seedlings and inputs for associations			
9. Feasibility study to use the cashew pulp through associative processing units			
10. Elaborate a Business Plan for the cashew pulp value chain.			
11. Implementation of a model plant to process cashew pulp.			
12. Introduce incentives and technical and finance support services to initiatives to introduce and expand cashew pulp processing facilities.			

31. Pioneer Project for Integrated Food and Grain Production Cluster Development

Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1.Installation of UBS			
2. Seed production			
3. Identification of producers and establishment of contracts			
4. Support to local producers			

32. Project for Tea Industry Revitalization

Priority Site	Phase-1: Transitional phase of fixed cultivation 2014 2015 2016 2017 2018 2019 2020	Phase-2: Growth phase of agricultural 2021 2022 2023 2024 2025	Phase-3: Expansion phase of agribusiness 2026 2027 2028 2029 2030
1: Accessible financing mechanism is established. Gurue			
2: Aged tea trees are being replaced by quality seedlings.			
3: Tea out-grower scheme is operational and expanding.			
4: Research results and extension services are available for out-growers.			