CHAPTER 2 AGRICULTURE AND AGRICULTURAL DEVELOPMENT IN MOZAMBIQUE

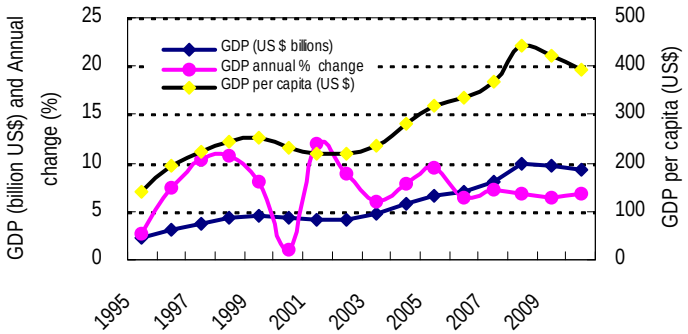
2.1. Mozambique in Brief

2.1.1. Natural Conditions

Mozambique is located in southeastern Africa, facing the Indian Ocean, with 799,380 km^2 of total territorial area, 786,380 km^2 of which is land area. The topography consists of coastal lowlands, uplands in the center, high plateaus in the northwest and mountains in the west. Major rivers such as the Rovuma, Zambezi, Save and Limpopo flow into the Indian Ocean. The climate is mostly tropical to subtropical with a rainy season extending from October to April. Annual rainfall varies from below 400 mm to over 2,000 mm, and the mean annual temperature is in the range of below 18ºC to over 26ºC. Mozambique's land cover includes 51% forest and 19% other woody cover. The most common vegetation type is savanna woodland called 'miombo' and 'mopane.' Protected areas occupy 19% of the national territory. The number of flora and fauna species reported is 5,500 (of which 4,800 are higher plants) and 4,271 (insects, birds, mammals, reptiles and amphibians), respectively. Mozambique is endowed with mineral resources such as coal, titanium, natural gas, tantalum and graphite. Soils of relatively low fertility such as arenosols and lixisols are widely distributed in the country, followed by acrisols, ferralsols, fluvisols and luvisols. As natural phenomena, and partly due to climate change, Mozambique is prone to cyclones, floods and droughts.

2.1.2. Social and Economic Conditions

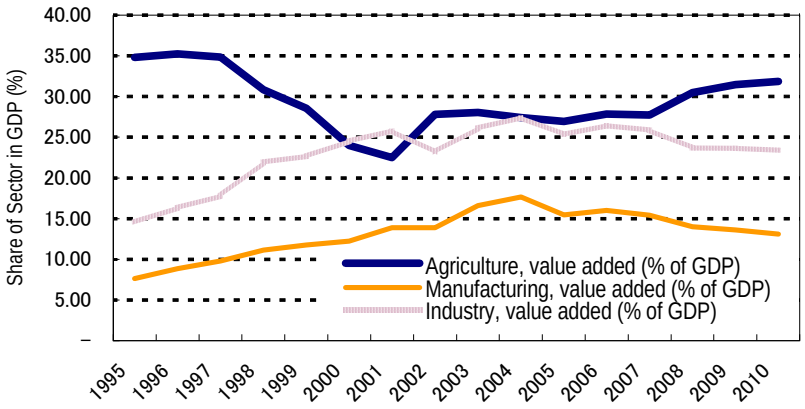
Mozambique started its full-fledged democratization process in 1995 following the first presidential election held in 1994 after the end of the civil war. Starting in 1995, its real gross domestic product (GDP) growth rate continued to post a rate higher than 8% until the mid-2000s, and during the past five years (2006 through 2010), it maintained a high growth rate of 6.7% per annum. Also the GDP per capita increased to 444 US$ in 2008 fron



Source: World Bank Database

Figure 2.1.1 Growing GDP after 1995

Of the GDP, share of the agriculture sector is the highest at more than 30%, followed by the industry and manufacturing sectors as shown Figure 2.1.2..



Source: World Bank Database

Figure 2.1.2 Change of GDP Share by Sub-Sector

The population of 15.9 million in 1995 increased to 23.4 million in 2010 (average annual growth at 2.6%). The share of the rural population decreased from 74.8% in 1995 to 62.4% in 2010 however, the average annual population growth of rural areas increased by 1.4% in same period. The urban population increased 5.2% annually.

Major social indicators are shown in Table 2.1.1.

Table 2.1.1 Social Indicators

Literacy rate (%)	50.4
Life expectancy at birth (years)	52.1
Birth rate (per 1000)	41.6
Death rate (per 1000)	13.7
Infant mortality rate (per 1000)	88.0

Source: INE Statistic Yearbook 2010

2.1.3. Law and Regulation System

Issues that affect the country's agrarian development, such as water, energy, forestry and wildlife, oil, mining, archaeological heritage, and tourism zones, are covered by specific laws. There are also legal instruments to implement necessary actions for development, establishing needed structures and definitions, such as functions and competencies of the Ministry of Agriculture and the organic statute of provincial and district governments.

The legal framework on the access and use of land is **Law 19/97** of October 1997, which reviews the first Land Law issued after the country's independence, Law 6/79 of July 3rd, and is based on the National Land Policy and Agrarian Policy, both adopted in 1995. The regulation of Land Law 19/97 occurred in 1998 and necessary amendments have been made since then. The last one occurred in June 15th, through the Ministerial Diploma no. 158/2011, which presents rules regarding local communities' public consultation in obtaining a Land Use Right title (DUAT).

The following table presents the legal framework that guides land use in Mozambique.

Table 2.1.2 Legal Framework on Land Use

Main Legal Instruments	Approved by
Land Law 1. Law no. 19/97 of October 1 (Land Law)	Assembly of the Republic and Presidency of the Republic
Policies under the Land Law 2. Resolution no. 10/9 of October 17 (Approves the National Land Policy) 3. Resolution no. 11/95 of October 31 (Approves Agrarian Policy) 4. Resolution no. 4/2010 of April 13 (Approves the Government Five Year Plan for 2010 - 2014)	Council of Ministers and Ministry of Agriculture - MINAG
First Legislation on Lands - Post-Independence 5. Law no. 6/79 of July 3rd (1st Law of Land) 6. Decree no. 16/87 of July 15 (Regulation of the first Land Law)	Popular Assembly and Presidency of the Republic
Complementary Legislation 7. Decree no. 66/98 of December 8 (Approves the Regulation of Land Law) 8. Decree no. 1/2003 of February 18 (Changes Articles 20º and 30º of the Regulation of Land Law) 9. Decree no. 60/2006 of December 26 (Regulates the regime in areas of cities and villages) 10. Decree no. 5/2007 of October 16 (Changes Article 35º of the Regulation of Land Law) 11. Decree no. 43/2010 of October 29 (Changes no. 2 of Article 27 of the Regulation of Land Law) 12. Ministerial Diploma no. 29 - A/2000 of March 17 (Technical Annex to the Regulation of Land Law)	Presidency of the Republic and Council of Ministers
Competent Governing Institutions 13. Presidential Decree no. 24/2005 of April 27 (Define the roles and competencies of the Ministry of Agriculture) 14. Resolution.no. 17/2009 of July 8 (Publishes the Organic Statute of the Ministry of Agriculture) 15. Law no. 2/97 of February 18 (Approves the legal framework for the implementation of Government Agencies) 16. Law no. 8/2003 of May 19 (Establishes the principles and rules of organization of local state institutions at the levels of province, district, administrative post and locality) 17. Decree no. 11/2005 of June 10 (Approves the Regulation of the Law on Local State Institutions) 18. Decree no. 6/2006 of 12 April (Approves the Structure and the Organic Statute of the District Government)	Presidency of the Republic and Council of Ministers
Community Authorities 19. Decree no. 15/2000 of June 20 (Approves the forms of articulation between local state authorities and community authorities) 20. Ministerial Diploma no. 107 - A/2000 of August 25 (Approves the Regulation of Decree no. 15/2000) 21. Ministerial Diploma no. 80/2004 of May 14 (Approves the Regulation of Articulation of Local Authorities and Agencies with Community Authorities)	Council of Ministers and Ministry of State Administration - MAE
Territorial Planning 22. Law no. 19/2007 of June 18 (Territorial Planning Law) 23. Decree no. 23/2008 of July 1 (Approves the Regulation of the Territorial Planning Law) 24. Ministerial Diploma no. 181/2010 of November 3 (Approves the Guidelines on the Expropriation Process for the purpose of Territorial Planning	Council of Ministers, Ministry for Coordination of Environmental Action - MICOA and Ministry of Finance and Justice
Public Participation 25. Decree no. 42/2010 of October 22 (Creates the National Land Forum) 26. Joint Order of the Ministry of State Administration and Planning and Finance of October 13 (Approves the Guidelines for Community Participation and	Council of Ministers, Ministry of Agriculture - MINAG, Ministry of State Administration – MAE and

Consultation on the District Planning) 27. Ministerial Diploma no. 158/2011 of June 15 (Rules for consults with local communities on the issuance of titles of land use rights)	Ministry of Finance - MF
Taxes 28. Ministerial Diploma no. 76/99 of June 16 (Regarding taxes) 29. Decree no. 77/99 of October 15 (Relating to taxes) 30. Ministerial Order no. 144/2010 of August 24 (Updates the value of taxes approved by Decree no. 77/99, June 16)	Ministry of Agriculture - MINAG, and Ministry of Finance - MF.
Co-participation in the Forest and Wildlife Taxes 31. Ministerial Diploma no. 93/2005 of May 4 (Approves the mechanisms of channeling and use of twenty per cent of forest and wildlife taxes) 32. Ministerial Diploma no. 66/2010 of March 31 (Creates mechanisms of channeling the revenue collected in the National Parks of the Tourism Sector) 33. Ministerial Diploma no. 63/2003 of June 18 (Regarding revenues in areas under the jurisdiction of Tchuma Tchato Program, including the percentage to be allocated to local communities)	Ministry of Agriculture – MINAG, Ministry of Tourism, Ministry of Finance and Justice.
Investments 34. Law no. 3/93 of July 24 (Investment Law) 35. Decree no. 14/93 of July 21 (Approves the Regulation of the Investment Law) 36. Decree no. 43/2009 of August 21 (Approves the adjustment Regulation of the Investment Law) 37. Resolution no. 70/2008 of December 30 (Defines additional criteria to guide the process of evaluating investments, when the implementation requires large areas of land)	Assembly of the Republic, Presidency of the Republic and Council of Ministers
Tourism 38. Law no. 4/2004, of June 17 (Law of Tourism). 39. Decree no 88/2009, of December 31 (Approves the Regulation of Ecotourism).	Assembly of the Republic, Presidency of the Republic and Council of Ministers
Protection Zones 40. Law no. 16/91, of August 3 (Law of Waters) 41. Law no. 21/97, of October 1 (Law of Electric Power) 42. Law no. 10/99, of July 7 (Law of Forestry and Wildlife) 43. Law no. 3/2001, of February 21 (Law of Petroleum) 44. Law no. 14/2002, of June 6 (Law of Mines) 45. Decree no. 27/94, of July 20 (Approves the Regulation for the Protection of Archaeological Heritage) 46. Decree no. 77/2009, of December 15 (Approves the Regulation of Tourism Interest Zones).	Assembly of the Republic, Presidency of the Republic and Council of Ministers

Source: Collection of Land Laws - 4th Edition – 2011 - Carlos Manuel Serra - Center for Legal and Judicial Training - Ministry of Justice

2.1.4. Socio-economic Development Policy of the Government

After the acceptance of the Structural Adjustment of IMF, national economic and social development under the market economization progressed. But 60% of the populations is under the poverty line (1.25 US$/day) and the GNI (gross national income) per capita remains at 440 US$. The Government of Mozambique set poverty reduction as the first priority through promoting the various economic and social programs. The “Action Plan for Poverty Reduction (PARP)(2011 to 2014)” was approved by the government, and in order to achieve “poverty reduction and improvement of labor forces through the integrated economic development.” the poverty ratio is targeted to be reduced to 42% by 2014.

Economic and social development policies of the Government of Mozambique are compiled as the National Development Plan (Programa de Governo or Government

Five-Year Plan) as the top rank, and the Action Program for Reduction of Absolute Poverty (Programa de Ação para Redução de Pobreza Absoluta: PARPA) and sectorial development plans continue under this plan.

2.1.5. Decentralization of Government Administration

The administration of local governments in Mozambique is regulated by the Law on Local Organs of State (Lei dos Órğas Locais do Estado: LOLE). 2003 that establishes the system of provincial and district government. According to this law, in matters of development, the basic administrative unit in Mozambique is represented by the district and its development plans and budget would be the basis of the national development plans and budget. Development plans are prepared by district governments and municipal councils are conducted for the purpose of implementing and monitoring projects, thus structuring a system that allows direct participation of local people.

The Action Plan for the Reduction of Absolute Poverty II (PARAPA II) has been promoting decentralization by focusing on district-based development. One of the three pillars of PARAPA II is the governance pillar, in which public sector reform on decentralization and district-based development is to be promoted. Districts are key units as district development plans are formulated. It is expected that districts will become the centers of planning and implementation. However, the provincial directorates of sector ministries are currently in control of funds allocated from the central ministries.

In order to mitigate this situation, in 2006, the government launched a scheme of directly providing districts with annual discretionary development funds (District Development Fund - FDD). This scheme is called “7 million” because the amount of fund made available to each district is about 7 million MT. The money is lent to individuals or groups with viable projects that will create jobs and boost food production. The borrowers are required to repay the loan so that FDD can become a revolving fund, lending out money to new applicants without the need for replenishment over and over again from the state budget. But in reality the majority of people across the country who have received money from the fund have yet to repay any of it.

2.2. Agricultural Sector in National Economy and Development Direction

2.2.1. Trend of Agricultural Production and its Socioeconomic Contribution

Agriculture is the largest economic sector in Mozambique, generating 29.4% of the GDP in 2009 (INE), while accounting for about one quarter in the mid 2000s. It is estimated that the sector absorbs about 80% of the total labor force.

According to the Agriculture Census in 2009-2010 carried out by INE, the number of total farm-households (agriculture & livestock) in Mozambique is 3,827,797, while their total cultivated area is only 5,633,850 ha. The farm-households are predominated by small-scale farmers, and their average cultivated area is only 1.47 ha as shown in Table 2.2.1. The percentage of medium-scale and large-scale farmers are relatively high in Tete, Gaza and Maputo provinces, while the percentage is very limited in the northern provinces, which is the production centre in the country.

Table 2.2.1 Number of Farm-households and their Cultivated Area in Mozambique

	Small	Medium	Large	Total
Farm-households	3,801,259	25,654	884	3,827,797
(%)	(99.3)	(0.7)	(0.0)	(100.0)
Cultivated area (ha)	5,428,571	130,651	74,628	5,633,850
(%)	(96.4)	(2.3)	(1.3)	(100.0)
Average cultivated area (ha/household)	1.43	5.09	84.4	1.47

Source: Agriculture Census in 2009-2010, INE

There are a substantial number of women-headed farm-households, accounting for 27.5% of the total (small and medium-scale) as shown in Table 2.2.2.

Table 2.2.2 Number of Farm-households (Small & Medium) Heads by Sex

	Women	Men	Total
Farm-households	1,051,679	2,775,234	3,826,913*
(%)	(27.5)	(72,5)	(100.0)

Source: Agriculture Census in 2009-2010, INE
Note: * Only small and medium farm-households were counted.

Comparing the cultivated area of farm-households, the women-headed households manage relatively smaller land as shown in Table 2.2.3.

Table 2.2.3 Distribution of Farm-households (Small & Medium) by Farming Sizes

Unit: %

	< 0.5ha	0.5 – < 1.0ha	1.0 - < 5.0ha	5.0 - < 10.0ha	Over 10.0ha	Not specified
Woman-headed	14.59	30.75	51.95	2.28	0.03	0.40
Man-headed	8.77	21.49	62.67	6.65	0.17	0.24
Total	10.37	24.03	59.73	5.45	0.14	0.28

Source: Agriculture Census in 2009-2010, INE

2.2.2. Food Security

(1) General View

Food security conditions in Mozambique have been stable in recent years, even though some areas are affected by dry spells and localized flooding. The poor and urban households, especially in the southern region, a constant food deficit area, are vulnerable. However, the deficit has been complemented by the surplus provinces in the central and northern regions, as well as imported foods including supply through international food aid.

Table 2.2.4 shows FAO food supply (kcal/capita/day) data of the country from 1998 to 2007. It implies that the food supply, even at a minimal level, was stable and has shown a positive trend in recent years. In August 2009, the Technical Secretariat for Food Security and Nutrition (SETSAN) stated that the food security situation in Mozambique showed signs of improvement, as seen by a decrease in the number of people facing famine. According to the SETSAN National Coordinator, this trend is due to the government's investments in agriculture, particularly in food production.

Table 2.2.4 Food Supply (kcal/capita/day) of Mozambique in 1998 to 2007

Food item	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007
Maize	444.35	499.68	506.97	503.43	486.00	464.85	443.96	428.34	414.70	404.33
Cassava	708.64	685.78	671.71	679.74	694.49	682.11	659.38	678.61	668.28	627.64
Rice	93.04	75.38	90.88	86.71	91.28	113.66	127.46	137.53	172.08	197.84
Wheat	55.19	78.17	93.25	91.78	95.66	121.18	147.09	166.27	178.29	187.98
Sorghum	109.32	105.99	79.63	64.11	60.77	68.35	66.53	61.93	76.54	57.95
Millet	18.57	17.21	13.36	8.23	6.68	8.21	6.82	7.04	7.86	9.17
Pulses	71.01	42.98	44.07	44.97	44.04	46.19	41.77	37.81	55.46	56.10
Peanuts	23.80	24.04	19.70	16.53	15.30	11.32	11.71	12.64	10.10	12.15
Vegetable Oils	170.89	171.78	164.18	159.14	174.97	170.47	191.04	194.12	194.74	190.26
Vegetables	5.52	5.52	3.63	3.56	3.89	3.71	3.57	3.20	3.61	3.51
Fruits	23.19	22.79	17.76	17.89	19.98	20.65	19.78	18.75	17.76	17.35
Meat	89.18	87.41	86.48	81.66	79.21	66.01	70.34	74.98	56.18	62.15
Fish, Seafood	2.79	2.48	3.32	2.32	2.93	3.88	3.53	4.29	4.18	4.08
Others	113.99	159.63	163.63	179.19	175.99	217.57	225.66	229.40	231.03	236.08
Total	**1,929.48**	**1,978.84**	**1,958.57**	**1,939.26**	**1,951.19**	**1,998.16**	**2,018.64**	**2,054.91**	**2,090.81**	**2,066.59**

Source: FAOSTAT

Table 2.2.4 also implies that people are still in need of increased calorie intake rather than considering a balanced diet. At the national level, it is estimated that 34% of the population is still facing chronic hunger (WFP, 2010). It may take some time before the Mozambican people start actual diversification in food consumption.

Table 2.2.5 shows production and trade of major food crops in Mozambique. It indicates that Mozambique has nearly achieved self-sufficiency of major food crops except for wheat and rice. Domestic consumption for both crops has been increasing, despite the decreasing consumption of traditional food crops, i.e. maize, sorghum and millet (see Table 2.2.4). Considering the potential for increased food production

in the country, rice development might be a considerable subject to be addressed to improve national food security.

Table 2.2.5 Production and Trade of Major Food Crops (Ave. 2005 to 07)

(Unit: 1,000 ton)

Food Crop	Production (a)	Import (b)	Export (c)	a+b-c
Maize	1,170.7	148.7	41.3	1,278.0
Cassava	6,066.0	0.0	0.0	6,066.0
Wheat	2.3	486.3	1.0	487.7
Rice (milled equivalent)	59.7	365.0	0.0	424.7
Sorghum	163.3	8.7	1.0	171.0

Source: FAOSTAT

At the meeting of the Council of Ministers in June 2011, it was decided that the Mozambican Cereal Institute (ICM) should take up the role of “buyer of last resort” of all grain produced in Mozambique, which private traders fail to buy. ICM has already started its procurement at the district level.

(2) Supply and Consumption of Major Food Crops

1) Maize

Maize is the most important staple food along with cassava in Mozambique. The production has been almost equal to the domestic food consumption, though it does not fulfill the total domestic demand (consumption + seed + reserve stock). Per capita consumption of maize has been decreasing since 2000 probably due to the increased consumption of wheat and rice. The decrease contributes to stabilization of the total amount of consumption despite the increased population.

2) Cassava

Cassava is a popular food item and a safe crop (low risks cum less inputs) for many farmers in Mozambique. Cassava production has constantly been higher than the total domestic food consumption. The per capita consumption is stable in spite of the decreased consumption of traditional cereals.

3) Wheat

Almost all of the wheat demand is fulfilled by imports since domestic production is minimal in Mozambique. Due to the rapid increase of per capita consumption since the early 2000s, the total domestic consumption is simultaneously increasing.

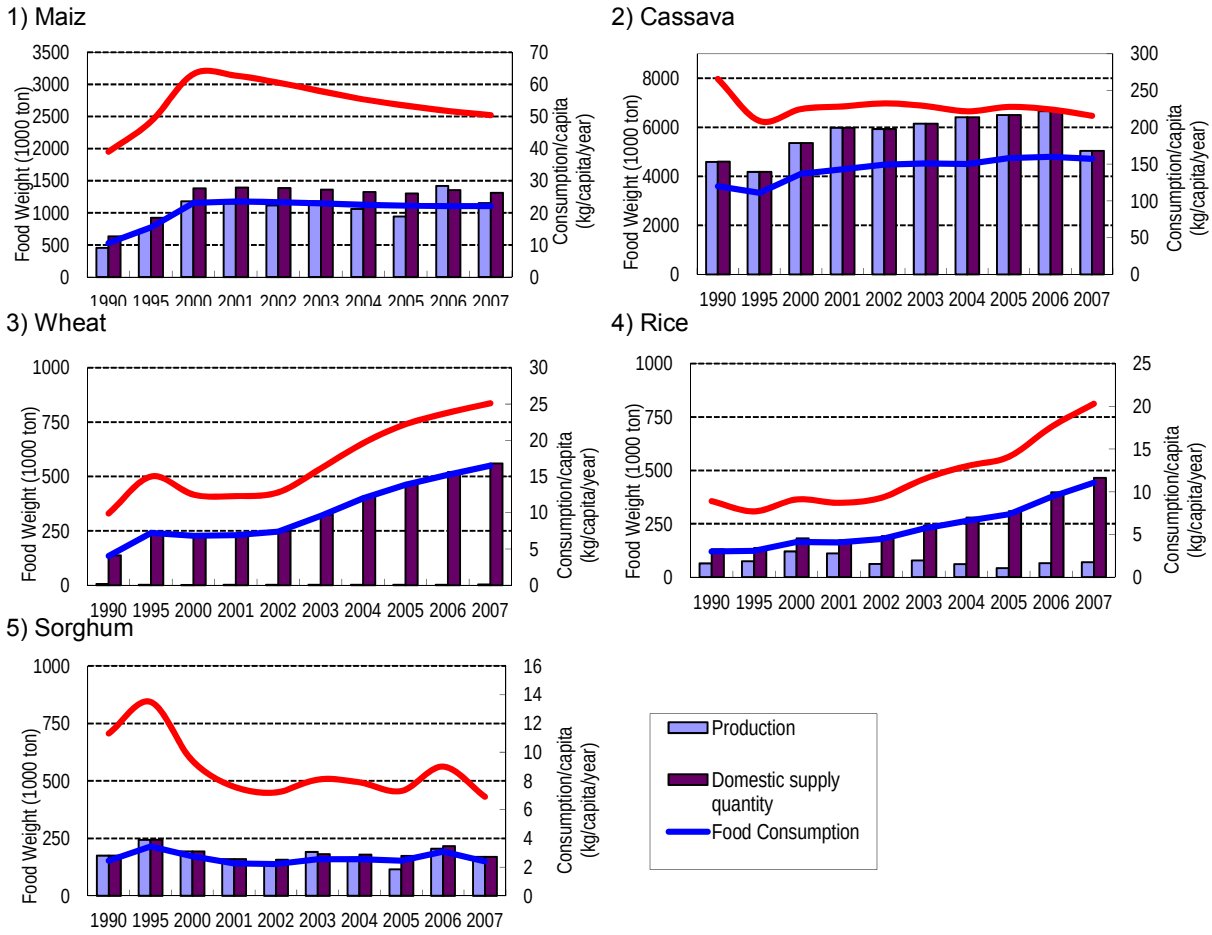
4) Rice

Like wheat, per capita consumption of rice and total consumption are increasing in Mozambique. Though there is some domestic production of rice, the amount

produced does not meet the increased demand. Furthermore, the production has decreased since the early 2000s.

5) Sorghum

Sorghum was a traditionally important food crop after maize and cassava. However, the per capita consumption has been less than wheat and rice in recent years. The production has been almost equal to the total domestic demand. Like maize, the decreased per capita consumption contributes to stabilization of the total amount of consumption despite the increased population.



Source: FAOSTAT

Figure 2.2.1 Supply and Consumption of Food Crops

2.2.3. Strategic Plan of Agriculture Development (PEDSA)

Agro-agriculture production is practiced by about 3.6 million small and medium-sized explorations, of which 99% are smallholders, many of whom have farms smaller than two hectares (CAP, 2010). Small explorations do not use modern technology (they use hoes and small modern inputs such as certified seeds, and fertilizers among

others). As a consequence, the agriculture sector faces challenges to increase agriculture productivity and competitiveness. The Government of Mozambique, in collaboration with partners has been designing and implementing policies, strategies, programs and projects aimed at improving the performance of the agriculture sector. For instance, in the past 10 years, the government has implemented the National Program for Agriculture Development (PROAGRI I and II) that resulted in the creation of tools for planning and management and coordination mechanisms of activities.

The government approved the Strategic Plan for Development of Agriculture Sector (PEDSA, 2011 - 2019) on 3 May 2011. PEDSA emerges as a guiding framework, synergies driver and harmonizing tool to promote agriculture development with a target of achieving an average annual agriculture growth of 7%. PEDSA is consistent with Comprehensive African Agriculture Development Program (CAADP) pillars and principles.

In PEDSA, the agricultural development vision is set as "**an integrated, prosperous, and sustainable agriculture sector**" and the mission is to "**contribute towards the food security and income of agricultural producers in a competitive and sustainable way, guaranteeing social and gender equity.**" The strategic objectives (pillars) are as follows:

- Increase productivity and production, competitiveness and its contribution to food security and nutrition
- Improve guiding framework and services for more market access
- Sustainable use of resources land, water, forests and fauna
- Strengthen institutions and organizations for agriculture development

The expected results of each pillar are shown in Table 2.2.6

PEDSA will be operationalized in five-year and annual plans :

- The Five-Year Program 2010 to 2014 harmonizes sectoral activities to introduce significant improvements in land, water and forest use, with the objective of achieving the Millennium Development Goals. The Food Production Action Plan (PAPA) for 2008 to 2011 forms part of PEDSA during the first five years.
- The Five-Year Program 2015 to 2019 consolidates food security and widens access to domestic, regional and global markets. The operational basis for this period will be established in the light of lessons learned during implementation in the first five years.

Table 2.2.6 Summary of PEDSA

Vision	A prosperous, competitive and sustainable agriculture sector, capable of providing sustainable responses to food security and nutrition challenges and targets agriculture markets globally
Mission	Contribute to food security and income of agriculture producers in a sustainable and competitive manner ensuring social and gender equity

Pillar 1 **Increase productivity and production, competitiveness and its contribution to food security and nutrition**	**Pillar 2** **Improve guiding framework and services for more market access**	**Pillar 3** **Sustainable use of resources land, water, forests and fauna**	**Pillar 4** **Strengthen institutions and organizations for agriculture development**
1.1 Adopt improved technologies by farmers for increased agricultural productivity and animal production	2.1 Improve rural infrastructure (network of roads, storage facilities, markets)	3.1 Improve usage practices and techniques of natural resources – land, water, forests and fauna	4.1 Strengthening farmers ' organizations
1.2 Increase the capacity of extension services to provide advanced technologies and practices effectively and to draw appropriate programs for food security	2.2 Improve regulatory capacity and compliance with standards and quality assurance of agricultural products and animals	3.2 Improve capacity to formulate policies and programs related to land, water, forests and climate change	4.2 Develop Human Capital
1.3 Strengthen the system of research to develop or adapt and provide technologies and advanced agricultural practices	2.3 Added value to agricultural products, livestock and forestry	3.3 Improve administration and management of the land	4.3 Strengthen coordination of agricultural institutions and food safety
1.4 Improve the availability and management of water for agricultural production	2.4 Improve post-harvest management and strategic food reserve	3.4 Forest resources are used sustainably	
1.5 Improve soil fertility	2.5 Improve the ability of players throughout the value chain (farmers, processors of agricultural products, merchants) to participate in domestic and international markets	3.5 Increase the capacity of rural communities to prevent and control forest fires	
1.6 Improve control of pests and diseases of crops and livestock	2.6 Strengthen the capacity of the private sector to provide agricultural inputs (seeds, fertilizers, agrochemicals, drugs and medicinal products for veterinary use, tools and equipment)	3.6 Improve the ability of rural communities and wildlife professionals for sustainable management of these resources and reduction of human-wildlife conflict	
1.7 Increas the agrarian mechanization and the use of efficient technologies	2.7 Policies consistent with the objectives of the sector	3.7 Improve responsiveness to the effects of climate change	
1.8 Encourage the participation of enterprises in market-oriented crop production in food production	2.8 Strengthen land information system		
	2.9 Strengthen policies to support markets for inputs		

2.2.4. Relevant Institutes and Organization of the Agriculture

Among the institutions concerned with agricultural activities in Mozambique, the Ministry of Agriculture (MINAG) centralizes and coordinates actions at the national level, having the function to formulate, plan and implement its policies and strategies for agricultural development of the country. Among its duties are the administration, and regulation of the use, management, protection and conservation of essential resources to farming activities, such as land, water, forests and native wildlife. MINAG promotes activities to foster the production, agro-industrial processing and marketing of inputs and agricultural products, as well as agricultural research and technical assistance and rural extension. Among other roles and duties, MINAG also highlights the following:

- To ensure the animal and plant sanitary protection
- To implement programs of agricultural research and dissemination of results
- To promote basic infrastructure and services to the activities of economic agents in the agricultural sector
- To register land use right and manage cadastral.

In research and development activities, MINAG has three subordinate institutes, namely:

- IIAM - Mozambican Agricultural Research Institute - IIAM function is to generate knowledge and technological solutions for sustainable development of agribusiness and the food and nutritional security.
- IAM - Mozambican Cotton Institute - The institution aims to promote the activity in cotton, with the function to supervise, guide and regulate the production, marketing and export of the product, as well as cooperate with IIAM for research.
- INCAJU - Cashew Promotion Institute - The institution aims to promote programs that foster the planting and production of cashew and industrial processing.

MINAG has another subordinate institution, the Center for Agricultural Promotion (CEPAGRI), which aims to attract investment in agriculture.

The CEPAGRI acts in a coordinated manner with the Investment Promotion Center - CPI, which is responsible for promotion to attract national and foreign direct investment in all activities.

Concerning the land system, the National Land and Forests Directorate (DNTF) is established for land surveying, registration and demarcation of land as a subordinate to MINAG. The DNTF gathers information and enables government authorities to manage land appropriately.

In the provinces the implementation of strategic policies for agricultural development is the responsibility of the respective Provincial Directorates of Agriculture (DPAs),

which coordinates activities at the District Economic Activities Services (SDAE) at the district level.

Figure 2.2.2 shows the administrative structure of the agricultural activities of the three levels of government in Mozambique:

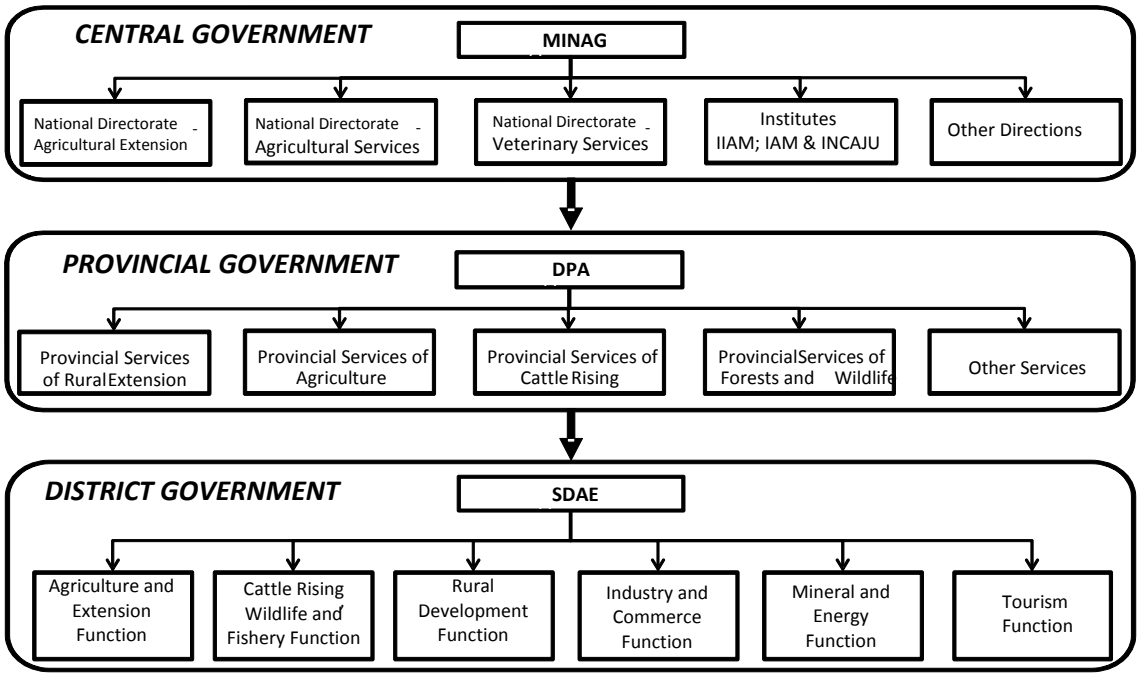


Figure 2.2.2 Administrative Structure of the Agricultural Activities of the Three Stairs of Government in Mozambique

2.3. Agriculture Production

2.3.1. Land Use and Cultivated Area

Out of the total land area of 79.9 million ha (FAOSTAT) in Mozambique, an agricultural land accounts for 15% or 12 million ha as shown in Table 2.3.1, while the cultivated area as calculated by the Agriculture Census in 2009 to 2010 is 5.6 million ha as shown in Table 2.3.2.

Table 2.3.1 Land Use (2005 to 2007) of Mozambique

Land Use	(%)	Calculated Area* (1000ha)
Forest	51	40,768
Other wood cover	19	15,188
Grass lands	12	9,593
Agricultural land	15	11,991
Other	3	2,398
Total	100	79,938

Source: Mozambique Biodiversity and Tropical Forests 118/119 Assessment, USAID, Sep. 2008
Note: *JICA Study Team's calculation based on the percentage

Table 2.3.2 Distribution of Cultivated Area and Farm-households by Districts

Province	Cultivated Area		Farm-households		Average Farming Size (ha)
	(ha)	(%)	(number)	(%)	
Niassa	409,473	7.3	225,151	5.9	1.82
Cabo Delgado	491,151	8.7	339,816	8.9	1.45
Nampula	1,037,748	18.4	829,642	21.7	1.25
Zambezia	1,071,170	19.0	828,801	21.7	1.29
Tete	623,014	11.1	376,150	9.8	1.66
Manica	555,900	9.9	265,486	6.9	2.09
Sofala	473,548	8.4	271,249	7.1	1.75
Inhambane	414,841	7.4	269,310	7.0	1.54
Gaza	364,367	6.5	216,771	5.7	1.60
Maputo	161,352	2.9	150,706	3.9	1.07
Cidade de Maputo	31,286	0.6	54,715	1.4	0.57
Mozambique	**5,633,850**	**100.0**	**3,827,797**	**100.0**	**1.47**

Source: Agriculture Census in 2009-2010, INE

The values shown in Table 2.3.1 may include a certain amount of fallow land for the agricultural land because extensive farming practices (slash and burning cum shifting cultivation) prevail in most of the country. It is assumed that a substantial part of other land use in the table could also be abandoned land for fallowing after cultivation. Though many relevant sources conclude that there is about 36 million ha of arable land in Mozambique, they report various data on farmland area. For example, the PEDSA says that only 10% of the arable land is in use at present, while the PROAGRI II (2004) estimated that about 9 million ha were under cultivation. Farmers actually need several times more fallow land than the present amount of cultivated area to continue extensive farming practices on a sustainable basis. Such farming practices make it difficult to assess the precise amount of farmland area in use, which should include the fallow land under shifting cultivation.

2.3.2. Major Crop Production

(1) Basic Food Crops

Maize, cassava, sorghum and millet are major traditional food crops cultivated by subsistence farmers, while paddy is grown by large-scale farms, and individual farmers. Wheat production is negligible though it is a major food crop.

Pulses and groundnut are also important food crops for the people besides cereals and cassava. Several kinds of pulses, i.e. haricot beans, cowpeas, mung beans and pigeon peas, are grown mainly by subsistence farmers in accordance with their cultivation conditions. The pulses are usually grown mixed with cereals and cassava in the same field.

Comparing cereals, cassava and pulses, the production of vegetables and fruits are limited but the production of vegetables has shown a positive trend in recent years.

Vegetables are usually grown by relatively wealthy farmers or farmers groups supported by the government in areas where water resources for irrigation are available.

The production of major crops has remarkably increased since 2009, perhaps due to government campaigns for increased food production, e.g. PAPA, etc. However, the production increase has mainly been achieved by an increase in planted area, not an increase in productivity (ton/ha).

Table 2.3.3 Basic Food Crops Production in Mozambique (2006 to 2010)

Crops	Element	2006	2007	2008	2009	2010
Maize	Area Harvested (ha)	1,664,000	1,350,000	1,400,000	1,612,000	1,573,000
	Production (ton)	1,417,800	1,152,050	1,284,930	1,932,000	1,878,000
	Yield (ton/ha)	0.85	0.85	0.92	1.20	1.19
Cassava	Area Harvested (ha)	857,000	650,000	525,000	940,000	950,000
	Production (ton)	6,658,710	5,038,620	4,054,590	5,672,370	5,700,000
	Yield (ton/ha)	7.77	7.75	7.72	6.03	6.00
Sorghum	Area Harvested (ha)	406,000	300,000	320,000	617,000	620,000
	Production (ton)	204,986	169,543	187,265	384,000	395,000
	Yield (ton/ha)	0.50	0.57	0.59	0.62	0.64
Paddy	Area Harvested (ha)	105,000	105,000	104,000	182,000	185,000
	Production (ton)	99,173	104,655	101,914	179,000	180,000
	Yield (ton/ha)	0.94	1.00	0.98	0.98	0.97
Millet	Area Harvested (ha)	57,000	58,000	60,000	109,000	110,000
	Production (ton)	22,721	25,213	23,967	49,000	50,000
	Yield (ton/ha)	0.40	0.43	0.40	0.45	0.45
Pulses/beans	Area Harvested (ha)	300,000	320,000	290,000	300,000	315,000
	Production (ton)	195,000	210,000	190,000	195,000	205,000
	Yield (ton/ha)	0.65	0.66	0.66	0.65	0.65
Groundnut, with shell	Area Harvested (ha)	295,000	295,000	295,000	295,000	295,000
	Production (ton)	85,977	102,932	94,454	68,000	70,000
	Yield (ton/ha)	0.29	0.35	0.32	0.23	0.24
Sweet potatoes	Area Harvested (ha)	128,000	120,000	80,000	126,000	130,000
	Production (ton)	929,896	875,216	566,050	900,000	920,000
	Yield (ton/ha)	7.26	7.29	7.08	7.14	7.08
Potatoes	Area Harvested (ha)	6,800	7,500	7,512	7,997	8,000
	Production (ton)	90,000	100,000	104,530	110,000	110,500
	Yield (ton/ha)	13.24	13.33	13.92	13.76	13.81
Vegetables	Area Harvested (ha)	39,662	36,657	42,214	48,737	50,150
	Production (ton)	164,841	180,925	194,969	206,504	215,700
	Yield (ton/ha)	4.16	4.94	4.62	4.24	4.30
Fruits	Area Harvested (ha)	64,069	61,527	62,423	65,670	66,990
	Production (ton)	358,094	354,791	356,624	358,749	368,810
	Yield (ton/ha)	5.59	5.77	5.71	5.46	5.51

Source: FAOSTAT

(2) Cash Crops (Oilseeds & Industrial Crops)

Most cash crops were developed during the colonial period, and cotton, tobacco, cashew nut and sugar are still important export commodities of Mozambique. The crops were grown on plantations before independence. While the government managed the plantations under its socialism policy for a certain period after independence, currently, management of the plantations has been transferred to the private sector. However, the government has maintained a certain share of some companies since privatization.

Many individual farmers have also started the production of cash crops. Cotton and tobacco are grown by out growers of private company that has a monopoly right from the government to contract farmers and buy their harvested crop within its concession area.

Table 2.3.4 Cash Crops Production in Mozambique (2006 to 2010)

Crops	Element	2006	2007	2008	2009	2010
Cotton (lint)	Area Harvested (ha)	390,000	360,000	398,000	365,000	370,000
	Production (ton)	59,000	55,000	62,000	57,500	58,000
	Yield (ton/ha)	0.15	0.15	0.16	0.16	0.16
Sugar cane	Area Harvested (ha)	160,000	160,000	180,000	165,000	215,000
	Production (ton)	2,060,320	2,060,670	2,451,170	2,207,000	2,800,000
	Yield (ton/ha)	12.88	12.88	13.62	13.38	13.02
Castor oil seed	Area Harvested (ha)	135,922	150,000	157,143	160,193	149,100
	Production (ton)	49,627	54,515	52,071	37,487	38,600
	Yield (ton/ha)	0.37	0.36	0.33	0.23	0.26
Coconuts	Area Harvested (ha)	70,000	70,662	73,604	89,758	82,900
	Production (ton)	290,000	306,494	265,000	270,000	277,900
	Yield (ton/ha)	4.14	4.34	3.60	3.01	3.35
Cashew nuts, with shell	Area Harvested (ha)	75,000	90,000	102,000	77,000	77,000
	Production (ton)	62,821	74,395	85,000	64,000	67,200
	Yield (ton/ha)	0.84	0.83	0.83	0.83	0.87
Sesame seed	Area Harvested (ha)	22,500	33,000	45,000	68,000	69,500
	Production (ton)	15,000	22,000	30,000	45,000	46,000
	Yield (ton/ha)	0.67	0.67	0.67	0.66	0.66
Tobacco	Area Harvested (ha)	58,000	70,000	62,000	60,000	59,200
	Production (ton)	59,041	73,000	64,342	63,000	86,000
	Yield (ton/ha)	1.02	1.04	1.04	1.05	1.45
Sunflower seed	Area Harvested (ha)	8,500	14,000	12,000	10,808	12,500
	Production (ton)	4,204	6,252	5,128	6,500	6,700
	Yield (ton/ha)	0.49	0.45	0.43	0.60	0.54

Source: FAOSTAT

(3) Regional Difference

Table 2.3.5 shows major crop production by provinces. It implies that Nampula, Zambezia and Tete are leading provinces in terms of crop production in the country. They are also population-dense provinces, and more than half of the total

farm-households are concentrated on there. Production in provinces in the southern region is sluggish due to inadequate rainfall conditions. The southern region always suffers food deficiency under this situation.

Table 2.3.5 Major Crop Production by Provinces (unit: 1000ton)

Crop	Northern Region			Central Region				Southern Region			Total
	Niassa	Cabo Delgado	Nam-pula	Zam-bezia	Tete	Manica	Safara	Inham-bane	Gaza	Maputo	
Maize	104	86	94	**229**	**212**	**212**	97	29	61	11	1,133
Cassava	88	45	**1,144**	**2,322**	24	171	123	442	156	42	4,557
Rice (milled)	3	12	10	**62**	3	2	11	2	2	0.1	103
Sorghum	8	18	21	14	22	**44**	**36**	3	1	-	169
Millet	0.9	0.2	1.5	3.4	**10.6**	2.4	**3.6**	0.5	1.8	-	25
Haricot beans	**16**	0.1	4	**15**	12	3	1	0.2	3	0.1	55
Cowpea	1	**12**	**20**	6	5	3	2	9	3	1	62
Ground nut	3	11	**50**	12	10	3.3	3	8.3	2	1	101
Sweet potato	20	8	9	**205**	**288**	**178**	74	7	56	15	861
Cotton	1	**24**	11	9	**16**	**17**	**15**	0.02	0.02	0	93
Cashew nuts	-	3.9	**14.8**	**13.4**	-	3.2	4.7	**9.8**	7.2	0.5	57
Sesame seed	0.3	**4**	**6**	1	2	2	**4**	-	0	-	19
Tobacco	**11**	0.3	1	5	**16**	1	0.1	0.1	-	0	36
Sunflower	0.1	0.02	0.01	**2**	0.2	**3**	0.04	0	0	-	6

Source: TIA 2007, MINAG

Note: The total (National) calculation is not correct for some crops

2.4. Supporting System for Agriculture

2.4.1. Agriculture Research

The Agricultural Research Institute of Mozambique (IIAM) is the country's main agricultural research and development (R&D) agency. After peace prevailed in 1992, the Mozambican government has made an effort to revive its agricultural R&D in cooperation with outside resources, such as IARCS, IITA, CIMMYT, ICRISAT, CIP, etc. Since then, Mozambique has made progress mainly in adaptive research that addresses a gap between the best practice at research level and actual practice at on-farm level. However, the R&D system has the following constraints.

1) Shortage of qualified management and scientific staff
2) Low and seasonally unavailable financial resources
3) Deficient research infrastructures
4) Weak research management
5) Inadequate research planning, priority setting and stakeholder participation

The R&D system is also highly dependent on donor funding, which fluctuate from year to year. Donor funding accounted for around 50 to 75% of IIAM's total budget in

2004 to 2008. Coupled with budget shortage, late and irregular disbursement of funds have negatively affected IIAM's performance.

2.4.2. Agricultural Technology Extension

(1) General Outline

The respective SDAE is responsible for agricultural extension service after the decentralization of the extension governance by PRONEA (National Agricultural Extension Program). While every SDAE organizes agricultural extension workers under an Extension Supervisor, the Provincial Extension Service of DPA and the National Directorate of Agricultural Extension of MINAG guide and supervise SDAE at provincial and national level, respectively.

According to the Mid-term Review Report of PRONEA in 2011, there were 2,238 extension workers in 2010. Of this 2,238, there were only 770 government extension workers, while 817 were from NGOs and 651 came from private service providers. The figure implies that the agricultural extension service in the country depends heavily on the private sector including NGOs. In any case, the total number of extension workers is too small to provide required technical services to all of the 3.8 million farm-households in the country.

MINAG's Agricultural Extension Master Plan (2007 to 2016) describes that there are two main pillars for the organization of agricultural extension in Mozambique. The pillars are the National Extension System (SISNE), in which different extension providers from public and private sector have a role, and the Unified Extension System (SUS), in which all agricultural services operate through a single extension officer contracting farmers in a particular area of operation.

(2) PRONEA (National Agricultural Extension Program)

The PRONEA has been implemented as the operationalization program of the Agricultural Extension Master Plan, which is compliant with the PEDSA (2011 to 2020). While PRONEA was originally planned for the years 2008 to 2015, a new five-year implementation plan (2012 to 2016) was made after the mid-term review in 2011. The Mid-term Review Report confirmed that the PRONEA support project focuses on small-scale and emerging farmers in order to enhance their productivity and market access.

PRONEA is organized in three components, each with two sub-components.

<Component 1: Supply-side Development of Agricultural Extension Services>

1) Public Sector Reorientation and Support, contributing to public sector reorganization in the approach of challenges, such as paradigm change for

participatory extension, de-concentration to the district and the use of the value chain approach.

2) Private Sector/NGO Promotion and Support in extension activities: mainly refers to strengthening of the NGO and private sector agricultural extension service providers at district and provincial levels

<Component 2: Demand-side Development for Agricultural Extension Services>

1) Farmer Organization and Empowerment, contributing to the strengthening of the role of farmers organizations in district participatory planning and provision of demand-oriented extension
2) Group, Association and Enterprise Development: contributing to the strengthening of farmers organizations in terms of value chain development and provision of agricultural services

<Component 3: Agricultural Extension Services Provision>

3) Provincial-level Services Provision: contributing towards a better provision of services after capacity development and strengthening of agricultural service provision program
4) District/Local-level Services Provision by both public and private extension service providers

The total budget for the new five year plan is 26.8 million US$ financed by the government, IFAD and EU.

2.4.3. Farmers Organization Support

The association movement in Mozambique started with support of the Law of Associations: Law 8/91; Lei das Associações: Lei 8/91, which provided free association and the forums of incorporation and registration of various forms of association (philanthropic associations which defend interests, unions, political parties, NGOs, sports clubs, etc.). Within this legal framework for association, a large number of farmers' associations were established in central and northern Mozambique, often with support from non-governmental development agencies (NGOs) such as World Vision, CARE and CLUSA. Farmer members were trained in improved farming practices as well as governance skills such as literacy, numeracy, conflict resolution, meeting facilitation, agendas, democratic governance practices and business skills. Crops that were suitable for smallholder profit in the region, such as sesame and soybeans were also identified (CLUSA).

Later on, the legislation was improved by government approval of the Decree-Law 2/2006 that simplifies and decentralizes the process of registration of agricultural associations to the district level. Most of the associations were started through the support of this law. In order to encourage more economically-oriented organizations, supported by civil society and approved by the government, the General Law of

Modern Cooperatives (Law 23/2009), which emphasizes organization of people with an economic vision to overcome social issues in different areas not only the agricultural sector or branches of activity (agriculture, credit, health, consumer, construction, services, etc.) based on these three laws.

(1) Decree-Law 2/2006

The farmers' associations include registered and non-registered organizations. Regarding the regulation about incorporated organizations, presidential Decree - Law 2/2006 was prescribed. Registered organizations have advantages for fund-raising, however, application for registration requires various documents and red-tape formalities. This bureaucracy becomes a large obstacle when farmers apply for it. As a result, many farmers' organizations have not been registered.

Registered associations can establish a union with one or more other registered associations. If the union works beyond more than one district, the head of the province is responsible for the supervision. If the union works beyond more than one province, the head of concerned department of MINAG is responsible for the supervision. Following the establishment of a union, the member organizations can modify their constitution.

Farmers' associations are formed to fulfill one or more (multiple) functions of the following five areas: 1) to act as a recipient of agricultural extension services (information, technology, equipment, etc.) from MINAG and others, 2) to strengthen mutual assistance (community development, literacy education, empowerment of women, etc.) in the community, 3) to consolidate collection and shipment to collectively negotiate with traders and/or middle-men, 4) to access financial resources (microcredit), and 5) to operate and maintain the communal property (irrigation facilities, storage facilities, processing facilities, tractors, etc.).

(2) New Cooperative Law (Law 23/2009)

The new Cooperative Law (Law 23/2009) was approved in September 2009, and enacted in March 2010. A number of different organizations and projects (including ILO, CLUSA, Agrifuturo and others) were involved in the elaboration of the new law. Mozambican Association for the Promotion of Modern Cooperatives (AMPCM Associação Moçambicana de Promoção do Cooperativismo Moderno) was formally established in January 2010 to take a leading role in implementing the law through promoting and developing modern cooperatives in Mozambique as a sustainable form of wealth generation. The new law provides a well-defined legal framework for organizing farmers' cooperatives with a clearly defined purpose. At present commercialization of products may be the most urgent, and the purpose towards which farmers can create reasonably well-functioning cooperatives. Making new

legislation known and available, especially in the districts and rural areas, is still a real challenge in Mozambique.

Cooperatives are autonomous and independent, based on the voluntary association of its members, and under their democratic control. If cooperatives are organized as sales coops, there is ample space for separate farmers' associations which, according to Mozambican legislation, should have non-profit objectives and are not in a legal position to sign commercial contracts. In addition different types of farmers' organizations can be operative in the same localities, without being seen as competitive or mutually exclusive forms of rural organization.

Cooperatives do not, in contrast to associations, need previous authorization from the government be established. A producers' cooperative (a first-tier cooperative) must as a minimum have five members, while there is no upper limit regarding membership. Second-tier cooperatives are constituted with first-tier cooperatives as members, and they must as a minimum have two members. Article 82 of the new Cooperative Law provides for the transformation of existing producers associations into modern cooperatives if they comply with the requirements established in the law.

2.4.4. Agricultural Loan and Credits

In the last 10 years, the volume of lending to agriculture tripled despite the fact that the total lending to the Mozambican economy expanded by 9 times in local currency terms. The volume of credit to the agriculture sector accounted for only 6.5% of the total volume to the national economy in 2010. Lending to agricultural production still focuses on the traditional cash crops, i.e. tobacco, sugar, cotton, cashew, copra and tea.

Most small-scale farmers who dominate the rural economy of Mozambique are totally beyond the reach of any financial operators. As there is no subsidized formal finance system targeting small-scale farmers, commercial banks are the only formal financing channel for them. Though Banco Terra and ProCredit have set a micro-loan scheme appropriate for small-scale farmers, the scheme doesn't have no specific conditions for agricultural loans.

Nearly all of the districts have no formal banking facilities at all. In addition, many farmers have difficulties in accessing loans from commercial banks due to high interest rates commonly exceeding 25% and an inability of provide collateral for loans. Since it is state property, agricultural land cannot be used as collateral. The microfinance sector, complementing the weak commercial bank system, is small and has urban orientation, although a limited number of farmers associations have experiences with NGO in operating a micro financing. This situation makes it difficult for small-scale farmers to fulfill their increasing demands for rural financial services.

Table 2.4.1 shows that only 2.3% of farm-households could access credit at the national level, and there is a big gap between small, medium and large-scale farmers in accessibility to credit, except for Tete province.

Table 2.4.1 % of Farm-households that Accessed Credit

Province	Small	Medium	Large	Total
Niassa	0.7	11.1	-	0.7
Cabo Delgado	1.2	8.9	4.5	1.2
Nampula	1.2	6.3	11.4	1.2
Zambezia	0.4	8.1	13.0	0.4
Tete	13.9	9.9	15.6	13.8
Manica	0.6	6.3	20.0	0.7
Sofala	2.2	6.6	10.3	2.2
Inhambane	1.0	7.4	4.3	1.1
Gaza	2.4	5.3	20.7	2.4
Maputo	0.5	2.2	15.5	0.5
Maputo Cidade	0.9	3.0	24.1	0.9
National	**2.3**	**7.0**	**15.2**	**2.3**

Source: Agriculture Census in 2009-2010, INE

The Agribusiness Indicators, Mozambique (World Bank, April 2012) has determined that the majority of farmers who accessed credit in Tete province might be getting credit from MLTC (a tobacco company). As shown in Table2.4.2, a relatively large number of farmers had access to credit provided from inputs providers, maybe MLTC, in Tete province. The table implies that the government is the 2nd largest credit source after inputs providers, even the largest in some provinces.

Table 2.4.2 Number of Farm-households that Accessed Credit by Credit Sources

Province	Commer-cial Banks	Agri. Dev. Banks*	Credit Coops.	Inputs Providers	Self-help Group	Relatives & Friends	Govt.	Others	Total
Niassa	262	80	14	822	0	46	414	0	1,638
Cabo Delgado	100	244	1,044	0	47	334	1,458	792	4,019
Nampula	752	93	1,163	80	392	3,201	2,508	1,617	9,806
Zambezia	458	131	155	912	349	138	885	487	3,515
Tete	377	10	3,963	32,600	321	206	648	13,679	51,804
Manica	501	340	0	554	3	0	435	0	1,833
Sofala	4	1	11	1,031	576	24	3,850	431	5,928
Inhambane	90	46	74	339	472	0	1,821	6	2,848
Gaza	326	554	785	71	566	520	1,885	588	5,295
Maputo	296	117	187	2	56	0	77	46	781
Maputo Cidade	111	129	1	69	0	69	43	85	507
National	3,277	1,745	7,397	36,480	2,782	4,538	14,024	17,731	87,974

Source: Agriculture Census in 2009-2010, INE

Note: *The definition must be clarified since there are no banks exclusively for agricultural development in Mozambique.

The government source is probably the District Development Funds (FDD). FDD is a lump sum budget, 7 million MT, allocated from the central government to each district to implement district development projects subject to consultation with the

community and District Councils. While the first FDD plans were oriented to public investment projects, such as road and school constructions, the government later reserved FDD for loans to rural associations as well as for crop production aiming at improving food security.

2.5. Irrigation and Drainage

2.5.1. Water Resources and Management

(1) Legislative Framework and Policy

The basis of the legislative framework regarding use and management of water resources in Mozambique includes the Water Law (1991), the National Water Policy (1995, revised in 2007), the Water Tariff Policy (1998) and the National Water Resources Management Strategy (2007).

1) Water Law

The Water Law is the basis of the legislative framework regarding water resources. The Law is developed based on a river basin approach to water management. The Law provides the basis for reforms within the water sector and outlines the institutional structure and the principles and policies for water management in Mozambique. The Law is designed to create a participatory and decentralized system of water management within the country. Water uses are classified as common or private use in the Law. Common use is free and exempt from licensing and aims to meet domestic and personal water needs, including small-scale farming. Private use is given by concession or through related laws.

2) National Water Policy

The National Water Policy (NWP), which was approved in 1995 and revised in 2007, outlines specific strategies for the main areas of urban and peri-urban water supply, rural water supply, sanitation and integrated water resource management. The NWP aims to decentralize water resources management to autonomous entities at the basin and provincial levels. According to the policy, the government defines priorities, guidelines and minimum service delivery levels, but does not deliver services. Integrated water management is promoted within the policy as a means to optimize the benefits to communities, while also considering environmental impacts and sustainability of resources over time.

Within the new NWP, the water use for irrigation is expected to contribute to enlarging the base of economic development, creating wealth and better life conditions, and the main objectives of the sector are set as:

a) To improve food security, to increase family income and to create job opportunities, through expanding irrigated area, particularly with small dispersed irrigation systems.
b) To improve the sustainability and to minimize the environmental impacts using the water, through improving water use efficiency and improving capacities of water users for operating and managing irrigation systems.
c) To produce agricultural products for export and for the development of agro-industry.

3) Water Tariff Policy

The Water Tariff Policy approved in 1998 contains six main principles for establishing water tariffs: i)user pays, ii)environmental protection, iii)equity of tariffs, iv)sustainability, v) decentralization, and vi) participative management and mechanisms for decentralization.

4) National Water Resources Management Strategy

The National Water Resources Management Strategy approved in 2007 is the guideline for implementing the Water Policy. The water resources management includes: i)assessment of water resources, ii)monitoring plan of water resources, iii)management of water demand, iv)allocation of water, v)river basin management plan, vi)hydraulic structures, vii)joint management of international water rivers, viii)risk management of flood and drought, and ix)consolidation of Regional Water Administrations (Administrações Regionais de Águas: ARA).

(2) Institutional Framework

The National Water Directorate (DNA) within the Ministry of Public Works and Housing (MOPH) is in charge of policy making and implementation, overall planning, management of the country's water resources and the provision of water supply and sanitation services. Its objectives are to ensure the proper utilization of ground and surface water resources. The National Water Council (CNA) was created in 1991 as a consultative body to the Council of Ministers. The CNA coordinates between agencies involved in water resources management.

In the DNA, the Regional Water Administrations (ARAs) are established under the Water Law, as basin authorities responsible for water development and management. At the national level, water management is the responsibility of the National Water Directorate (DNA), while at the regional level the five ARAs, ARA South, ARA Center, ARA Zambezi, ARA North-central and ARA-North, are responsible. ARAs have administrative, organizational, and financial autonomy through collecting water fees from water users. At present, water fees are charged only to large-scale consumers

such as FIPAG, mining and other industrial users, and large-scale irrigation users of more than 500ha. The major responsibilities of ARAs includes:

a) Planning and allocation of water resources
b) Control of water use, discharge of tributaries, and other activities which affect water resources
c) Licensing and concession of water use and charging water fee
d) Planning, construction and operation of hydraulic infrastructure
e) Authorization and approval of hydraulic infrastructure
f) Providing technical service to public and private sectors
g) Collection and management of hydrological data

Regarding to licensing forthe water use, there are two types of licenses, License and Concession. A License is basically issued for short-term or limited use, of which the validity is 5 years and not allowed to extend more than 10 years, while the Concession does not have validity limitation. For the permanent use, in principle, a Concession is required. In addition to the above licenses, provisional licenses for water use are observed in some provinces such as LIchinga, and must be renewed each year.

Regarding irrigation and drainage development, the large-scale projects are administrated by DNA and CAN, while middle and small-scale projects are administrated by the Department of Hydraulic Engineering of the National Direction of Agricultural Service (DNSA) of MINAG.

2.5.2. Irrigation and Drainage

(1) National Irrigation Policy and Strategy

The National Irrigation Policy and its Implementation Strategy were adopted in 2002, which put a great strategic importance on irrigation. The National Irrigation Strategy was revised in 2010. The objectives of the Strategy are to contribute tor i) increasing agricultural production and productivity, ii) generating surpluses in agricultural products for export, iii) increasing job opportunities in the urban and peri-urban areas and iv) increasing income of the producers, through use of the potential of irrigation agriculture. In the Strategy, three periodical goals are set, the short term goals targeting 2012, the mid-term goals targeting 2015 and long-term goals targeting 2020:

Short-term goals (2012)

- Establishing an autonomous institution to coordinate the action of the irrigation sector.
- Formulating and approving the National Irrigation Program and reinforcing the mobilization of investment capital

Mid-term goals (2015)

- Increasing productivity of food crops in the upland fileds by at least 3 times
- Increasing the use ratio of irrigation systems from the current 60% to at least 80%
- Developing a database of irrigation systems

Long-term target (2020)

- Expanding irrigated area for food crops by at least 50,000 ha, of which at least 20,000 ha will be developed through private investment
- Increasing reservoir capacity to approximately 30 Mm^3 through rehabilitation and construction of a dam

The National Irrigation Program is under formulation at present.

(2) Present Situation of Irrigated Area

The country's tradition of irrigation dates back to the pre-independence period when the total irrigated area reached 100,000 ha. After independence in 1975, the irrigated area in the country was increased and the total equipped area reached almost 120,000 ha in the early 1980s. In the years following independence, the government encouraged the exploitation of existing large irrigation schemes by state companies. These companies, however, became a symbol of inefficiency, mismanagement, and the subsequent deterioration of the irrigation infrastructures. At present, irrigated areas are occupied by smallholders and agricultural enterprises. Small-scale irrigation exists everywhere in the country, either abandoned or partly utilized. Most of the schemes are in a bad to very bad condition, and only a relatively small part of the irrigation schemes is actually irrigated. In most irrigation schemes, surface water from rivers is used. Groundwater is used to a very limited extent by the family smallholder sector.

According to the results of the inventory survey of irrigation infrastructure carried by MINAG in 2001 to 2003 (Table 2.5.1), 118,120 ha are equipped for irrigation, of which 40,063 ha are actually irrigated, consisting mainly of large schemes over 500 ha. After the inventory, 13,356 ha of irrigation areas were rehabilitated or built in the period from 2004 to 2009 according to DNSA/MINAG. Even considering the expansion of the area in operation since 2004, there are still about 60,000 ha of inactive area.

In the north of the country there are only a few large-scale irrigation schemes that are actually irrigated, and only irrigation of small (Class A) and medium (Class B) schemes is operative. In the central and south part of the country, large (Class C) schemes account for approximately 70 to 80% of the equipped area. Class A schemes are mostly operated by farmers individually or organized in an association. Class B schemes are usually managed for industrial exploitation, mainly sugar cane

and rice. Class C schemes are not promoted anymore, as most of the recent projects are aimed at the rehabilitation and development of Class A and B schemes.

Table 2.5.1 Inventory on Irrigated Area and its Use

Descrição	Norte		Centro		Sul		Total	
	(ha)	(%)	(ha)	(%)	(ha)	(%)	(ha)	(%)
Áreas Equipadas para Rega:								
Classe A (<50 ha)	592	17	1428	4	4369	6	6389	5
Classe B (50-500 ha)	1760	53	6653	17	11234	15	19647	17
Classe C (>500 ha)	1000	30	30949	79	60135	79	92084	78
Total	**3352**	**100**	**39030**	**100**	**75738**	**100**	**118120**	**100**
Área realmente regada								
Classe A (<50 ha)	200	30	624	4	2452	11	3276	8
Classe B (50-500 ha)	461	70	1584	10	2635	11	4680	12
Classe C (>500 ha)	0	0	14049	86	18058	78	32107	80
Total	**661**	**100**	**16257**	**100**	**23145**	**100**	**40063**	**100**
Proporção de área equipada realmente regada								
Classe A (<50 ha)		34		44		56		51
Classe B (50-500 ha)		26		24		23		24
Classe C (>500 ha)		0		45		30		35
Total		**20**		**42**		**31**		**34**
Tecnologia								
Rega de superfície	656	99	4200	26	12000	52	16856	42
Rega por aspersão	0	0	11530	71	8330	36	19860	50
Rega por gotejamento	5	1	527	3	2815	12	3347	8
Total	**661**	**100**	**16257**	**100**	**23145**	**100**	**40063**	**100**
Principais culturas de rega								
Cana-de-açúcar	0	0	13799	84.9	10059	43.4	23858	59.6
Horticultura	301	100	210	1.3	6500	28.1	7011	17.5
Arroz	0	0	480	3	3650	15.6	4130	10.3
Tabaco	0	0	445	2.7	0	0	445	1.1
Citrinos	0	0	370	2.3	0	0	370	0.9
Outras	0	0	953	5.9	3036	13.1	4249	10.6
Total	**301**	**100**	**16257**	**100**	**23145**	**100**	**40063**	**100**

Source: MINAG (Inventory of Irrigation Equipped lands, 2001 -2003)

According to the Agricultural Inquiry 2007 carried out by MINAG, the farm households using irrigation is 13% of the national average. Niassa, Carbo Delgado, Nampula and Zambezia provinces show a lower rate around 3 to 8%, while Tete, Manca, Inhambane and Maputo provinces show a higher rate of about 30%.

Table 2.5.2 Percentage of Households Using Irrigation in Agricultural Inquiry 2007

Province	2002	2003	2005	2006	2007
Niassa	8	6	2	6	8
CDelgado	4	1	2	2	3
Nampula	2	2	5	6	6
Zambezia	1	3	2	3	6
Tete	28	19	9	17	30
Manica	22	5	3	10	30
Sofala	6	5	4	4	11
Inhambane	30	10	14	21	28
Gaza	27	15	18	19	17
Maputo	25	19	26	22	31
Nacional	10	6	6	11	13

Source: MINAG Trabalho de Inquérito Agrícola 2007

2.5.3. Water Users Organization

For the large-scale irrigation schemes in Mozambique, the main facilities, such as the main canal and related structures, are operated and managed by a public service corporation while facilities after the secondary canal are operated and managed by Water User's Associations (WUAs) which are organized by irrigation users. For the example of Chokwe Irrigation Scheme, which is one of the most important large-scale irrigation schemes in Mozambique, the main facilities are managed by the Chokwe Irrigation Public Company (Hidráulica de Chókwè Empresa Pública: HICEP), which has responsibilities for supplying and allocating water in the main canal, charging and collecting water fees, operation and maintenance of related facilities. WUAs organized in each irrigation block are responsible for operation and maintenance of the secondary and tertiary irrigation systems.

In Mozambique, the WUAs are legalized by the Association Law (Degree-Law 2/2006) as a farmers' organization because the law for water users' associations has not been prepared.

In general, the capability of WUAs has not been developed, due to a lack of experience in operation and maintenance of facilities, a lack of experience in water management and a lack of financial resources, thus, the irrigation systems are not managed adequately. The government and MINAG as well as donors have made various efforts to enforce the function of WUAs.

For small irrigation system, WUAs, the irrigation systems are operated and managed by a farmer's association or farmer's group, in some cases by the community, without a WUA which is organized specially for operation and maintenance of the irrigation system. The situation of operation and maintenance of facilities by these group is also inadequate in general. To cope with the above situation, the National Irrigation Strategy emphasizes support for organizing and enforcing an association of irrigation users in the development pillars of infrastructure, administration and irrigation use.

2.6. Agricultural Logistics

2.6.1 Markets of the Agricultural Products

The agriculture product market is divided into local market, regional market and international market. The local market supplies agricultural produces from the production area to the public and temporary market within the district, other districts and the capital of the province. The regional market supplies produce from other regions and districts. The international market consists of imports and exports of

agriculture produce and processed products. Since coverage of the irrigation system is low in Mozambique, rain-fed cultivation practice is dominant throughout the country and food staples shortages occurs in the dry season. On the other hand, the northen region retains maize surplus even in the dry season. Nonetheless, maize is imported every year in the southern region. High transportation cost caused by poor road conditions, results in difficulty for the northern maize to complete with imported product in the southern region. Consequently, maize produced in the northern region is exported to neighboring countries such as Malawi and Zimbabwe. High value crops, such as beans and peanuts from the northern region still have competitiveness in the southern region market.

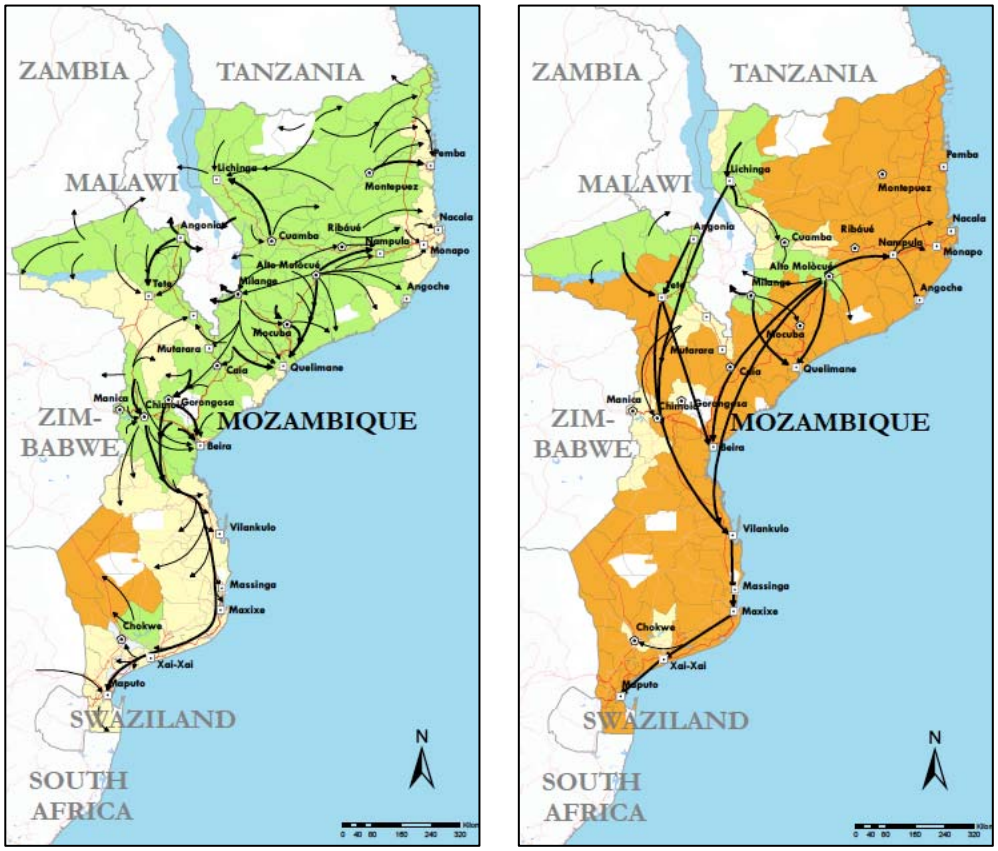
2.6.2 Domestic Trading of the Agricultural Products

As mentioned above, Mozambique is divided into three regions, north, central and south. In addition to movement between districts, typical movements of agricultural products in each region are observed as follows.

- In the northern region, movement to Nampula market, export and import with Malawi in districts adjacent to the border in Niasa province, and movement of produce exported to Nacala are observed.
- In the central region, there is movement to Maputo market, movement to Beira market, and export to Zimbabwe through Tete,
- In the southern region, there is movement from the south and movement from South Africa.

The flow of agricultural produce in Mozambique uses two typical products, maize and beans. Figure 2.6.1 illustrates the movement of maize in Mozambique. Maize produced in the northern region is supplied to districts in the region and neighboring regions mainly for consumption, and to Malawi and port of Nacala for export. Similar phenomenon occurrs in the central region, but they supply some maize to Maputo.

Meanwhile, for beans, a very small quantity was exported to neighboring countries, and large volumes were supplied from the northern region to the central and southern regions. The reason is the high value of beans. According to an interview with a transportation association member, beans are bought in Lichinga at 15 to 17MT/kg to be sold in Maputo at 45 to 50MT/kg. For maize, the profit margin is not as high as beans, they are bought in Lichinga at 3MT/kg and sold for 10MT/kg in Maputo.



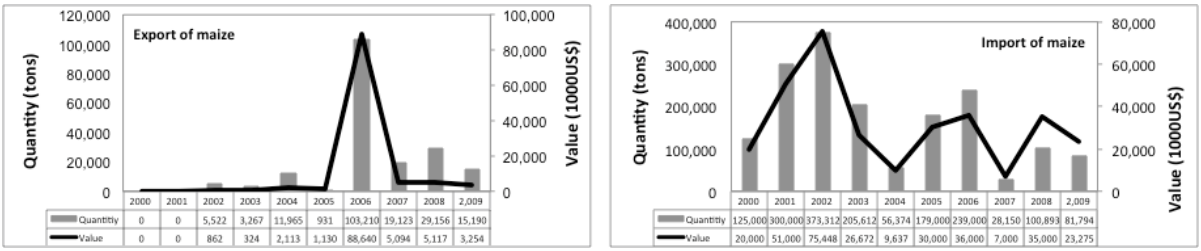
Source: FEWSNET, 2009

Figure 2.6.1 Production and Market Flow of Maize (left) and Beans (right)

2.6.3 International Trading of Agricultural Products

(1) Maize

As shown in Figure 2.6.2, export of maize varied levels from 15,000 to 30,000 tons. Domestic maize production in 2006 was very good and resulted in about 70,000 tons of maize surplus. Meanwhile, import of maize has tended to decrease since 2003. Overall the excess of import quantity tends to decrease.

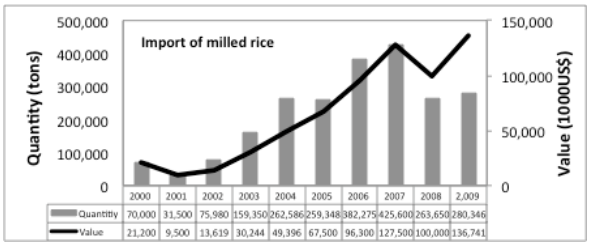


Source: FAOSTAT

Figure 2.6.2 Import and Export of Maize (Quantity and Value)

(2) Rice

The data suggests the level of import of rice (Figure 2.6.3) showed an overall increase in import volume and value from 2001 to 2007, and then diminished to the level of 2004 to 2005. This was caused by a spike in the international market price of rice in 2008, and by an increase in domestic production due to expansion of the production area in 2008. But, about 280 thousand tons (140 million US$) of rice was imported in 2009.

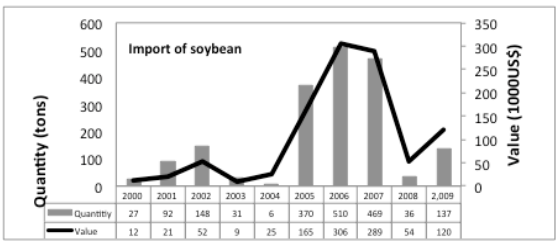


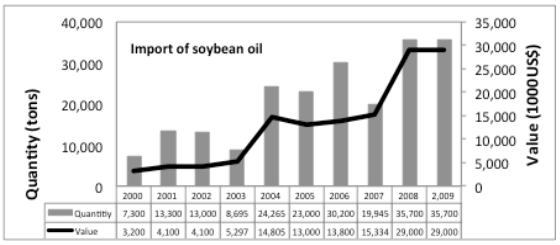
Source: FAOSTAT

Figure 2.6.3 Import of Milled Rice (quantity and value)

(3) Soybean

As illustrated in Figure 2.6.4, the import quantity of soybean appears to have risen during the period of 2000 to 2006, but dropped in 2008. The overall picture from the data is that the import of soybean oil has increased from 2000 to 2009.



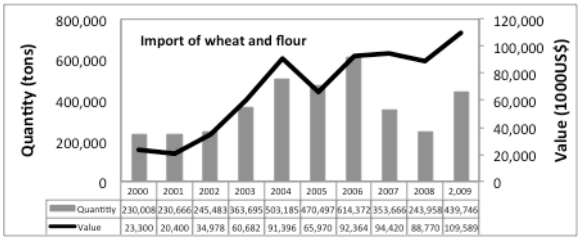


Source: FAOSTAT

Figure 2.6.4 Import and Export of Soybean and Soybean Oil (quantity and value)

(4) Wheat

Mozambique is a major importer of wheat mainly for urban consumption, and data appear to show an increase in quantity for the period from 2000 to 2006, but import quantity dropped in 2007 and 2008 due to the higher international market price. In 2009, a decrease in the international market price to the level of 2006 caused an increase in import quantity.

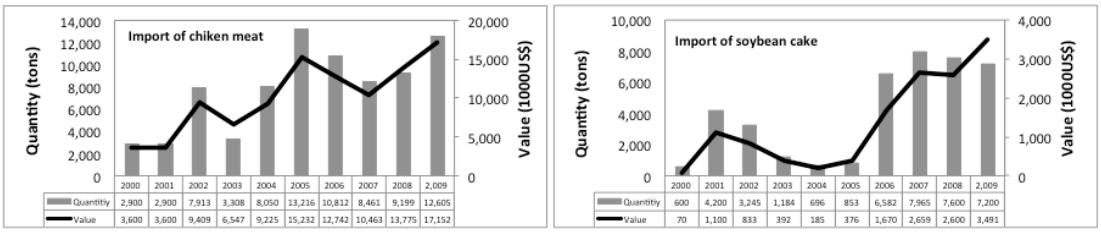


Source: FAOSTAT

Figure 2.6.5 Import of Wheat and Wheat Flour (quantity and value)

(5) Chicken

Figure 2.6.6 shows the import of chicken and soybean cake, which is used as a material for chicken feed. Chicken import started to drop in 2006, but increased from 2008 and reached about 18,000 tons in 2009 to reach the peak for the past years. As mentioned below in the section on soybean, domestic chicken meat production has increased since 2006, causing a one-time reduction in import of chicken meat, and increase of soybean cake. The import quantity of soybean cake varied from 7,000 tons to 8000 tons in the period of 2006 to 2009. Nevertheless, the import of chicken recovered to its peak level of 2005. Strong growth in the demand for chicken meat from the domestic market exists.



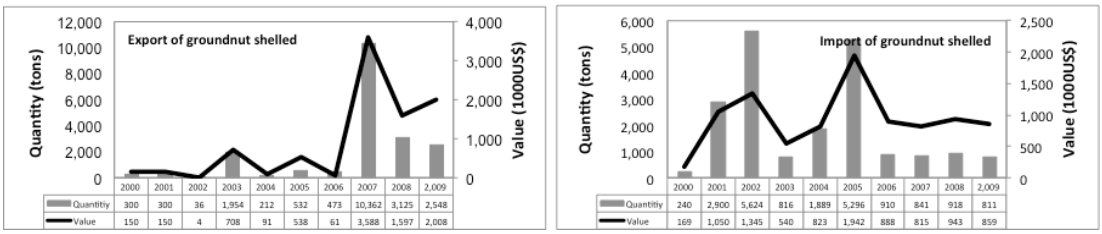
Source: FAOSTAT

Figure 2.6.6 Import of Chicken Meat and Soybean Cake (quantity and value)

Imports of soybean cake increased dramatically. The reason being that in 2006, the government banned selling chicken meat later than 80 days from the day of slaughter. This regulation has stimulated domestic chicken meat production, which was not competitive with imported chicken meat. Domestic chicken meat, which had only 10% of production capacity, has increased its capacity by 20% per year over the past 5 years, and investment in chicken production has continued. The international market price of soybean has increased since 2007 as well. Consequently, the demand of domestic soybean is rapidly expanding. A poultry producer in Nampula said that the price of imported soybean cake is 600US$/ton (16.86MT/kg) and one from Zambezia costs 18MT/kg (12 to 13MT/kg at farm gate price).

(6) Peanut

Peanut has strong price elasticity of demand. In Figure 2.6.7, data appears to show that import of peanut quantity decreases when the price increases, and vice versa. Since the international market price went up in 2006, the export quantity has kept increasing whereas the import quantity has remained at a low level.

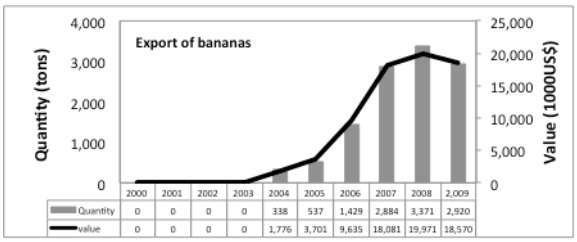


Source: FAOSTAT

Figure 2.6.7 Import and Export of Peanut (quantity and value)

(7) Banana

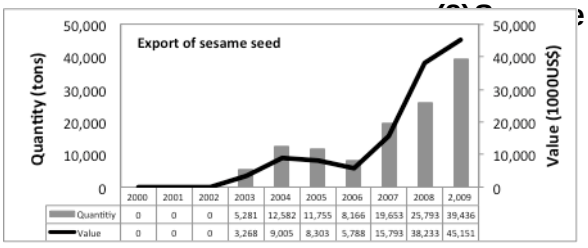
As illustrated in Figure 2.6.8, export of banana started in 2004, and continued increasing its volume and value. In Nacala Corridor, South Africa funded Matanuska in alliance with the USA funded Chiquita Banana, exports banana to the European market through Nacala port.



Source: FAOSTAT

Figure 2.6.8 Export of Banana (quantity and value)

Data for sesame (Figure 2.6.9) appears to show an overall increase both in export volume and value on the order of 7.5 times in volume and 13.8 times in value from 5,300 tons with about 3,300 US$ in 2003 to about 40,000 tons with about 45,000 US$ in 2009.



Source: FAOSTAT

Figure 2.6.9 Export of Sesame (quantity and value)

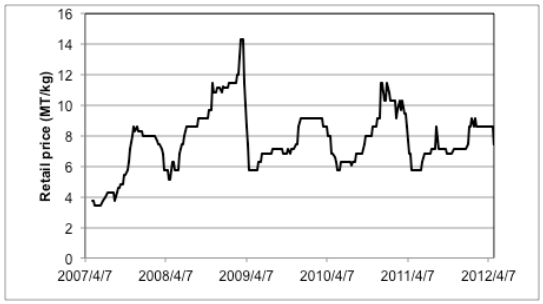
(9) Beans

There is no statistical information on the trade of beans. 6.5million US$ of beans were exported in 2009, but type of beans were not classified. In Nampula, Export Marketing, which is Indian-based grain trading company, exported 7,000 tons of mung beans and 23,000 tons of pigeon peas in 2011. They collected the beans directly from the producer through collectors, and exported them to India.

2.6.4 Pricing Mechanism of Agricultural Products and Recent Trends

(1) Maize

Maize is cultivated by rain-fed practice, and the one harvest season, April-June, the same every year. So, the price of maize in Nampula has a seasonal pattern with a peak in January and the bottom in May as illustrated in Figure 2.6.10. Meanwhile, maize cultivated in the southern region is supplied to the southern region market from June to September, after which, the supply volume from the southern region is tapered. Maize from South Africa is supplied in its place until next harvest season. Thus, the maize price in the southerm region is affected by the price in South Africa. The prices were varied from 6 to 12 MT/kg over the period of 2007-2012.

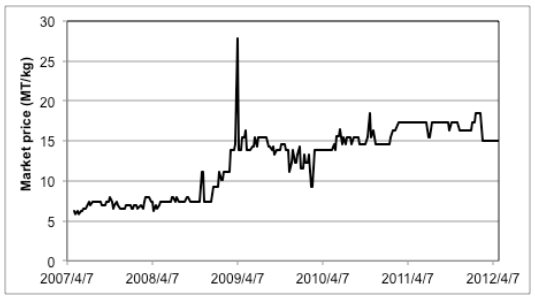


Source: SIMA

Figure 2.6.10 Market Price of Maize Grain in Nampula

(2) Cassava

As shown in Figure 2.6.11, data appear to show an overall increase of more than double over the past five years, but the price of cassava flour is relatively stable among staple crops. Because cassava can be harvested throughout the year, producers can supply according to demand of the market. The prices over the past year varied between 15 and 18 MT/kg.

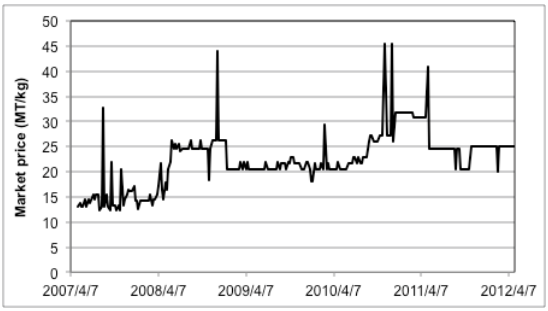


Source: SIMA

Figure 2.6.11 Market Price of Cassava Flour in Nampula

(3) Milled Rice

Mozambique relies on import for domestic consumption, and rice prices reflect the international market price. There is no seasonal change of prices. The market price over the past year fluctuated between 20 and 25 MT/kg.

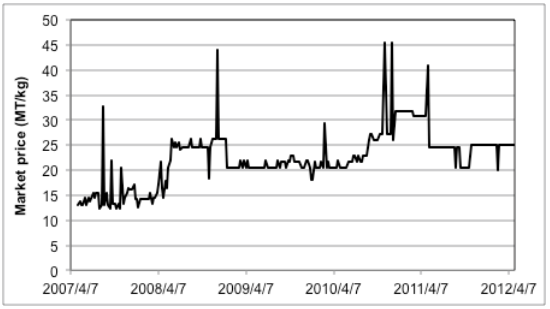


Source: SIMA

Figure 2.6.12 Market Price of Milled Rice in Nampula

(4) Cowpea

The retail price of cowpea is relatively lower than other beans. The price has been stable over the past year at around 25 MT/kg, and there is no seasonal fluctuation.

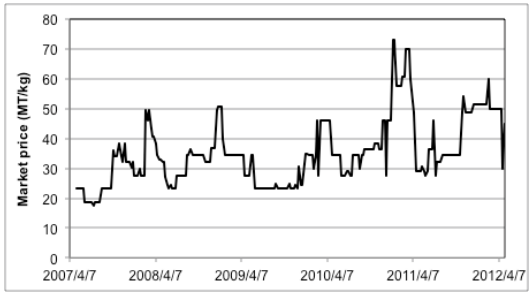


Source: SIMA

Figure 2.6.13 Market Price of Cowpea in Nampula

(5) Haricot bean

Haricot bean has strong demand allover the country, and is sold at a high price. The prices fluctuated between 20 and 70 MT/kg in Nampula. Haricot bean is one of the crops cultivated in the northern region, which can be competitive in central and southern regions.

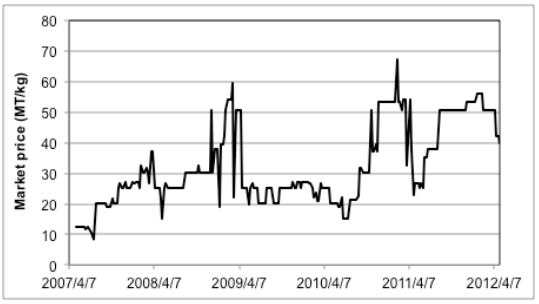


Source: SIMA

Figure 2.6.14 Market Price of Haricot Bean in Nampula

(6) Peanut

There is no seasonal pattern in prices of peanuts. The prices fluctuated between 10 and 50 MT/kg over the past fice years.



Source: SIMA

Figure 2.6.15 Market Price of Peanuts (Small with Shell) in Nampula

2.7. Agro-processing

2.7.1 Large-scale Agro-processing

The large-scale agro-processing industries shown below have a long history. Investments in agro-processing are predominantly geographically located as follows: (1) maize in Nampula, Maputo and Sofala, (2) cotton in Nampula, Zambezia and Cabo Delgado, (3) cashew in Nampula, Gaza, and Inhambane, and (4) tobacco in

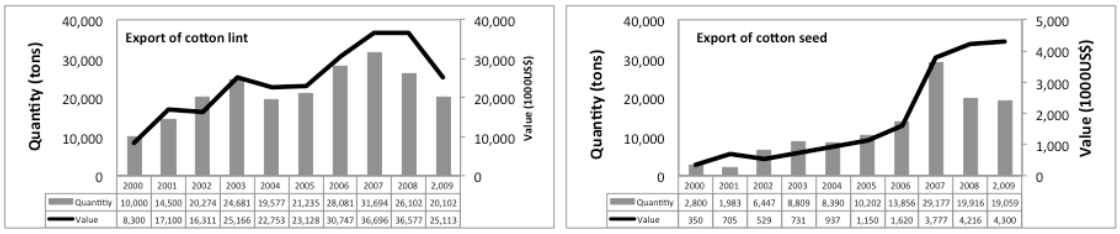
Nampula, Tete, Manica, Cabo Delgado, Gaza and Sofala, (5) tea in Zambezia, and (6) sugar in Maputo and Sofala.

Maize is one of the food staples in Mozambique, and large-scale mills located in provincial capitals supply maize flour to the local market. These millers buy maize and sell flour after processing and packaging.

(1) Cotton

Data (Figure 2.7.1) appears to show an overall increase in cotton export from 2000 to 2007, and a decrease from 2008. The global recession might have affected the international cotton market. The quantity and value dropped from 32,000 tons with about 36.7 million US$ in 2007 as a peak to 20,000 tons with 25.1 million US$ in 2009.

Mozambique exports cottonseed as well. Like cotton, export of cottonseed dropped in 2008, but export value increased and reached the highest value in 2009.

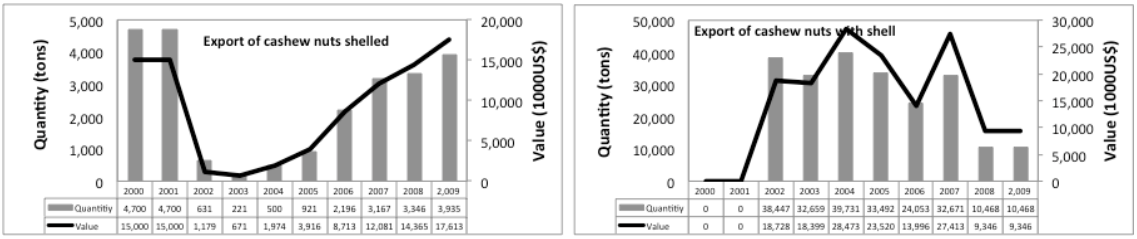


Source: FAOSTAT

Figure 2.7.1 Export of Cotton (left) and Cottonseed (right) (quantity and value)

(2) Cashew nut

Figure 2.7.2 shows export of both shelled and unshelled cashew nut. Since 2003, both quantity and value of shelled cashew nut has steadily increased reaching about 4,000 tons at 17.6 million US$. Contrarily, unshelled cashew nut was exported at 2.5 times this amount with 10,000 tons in 2009, but the value was about half of the shelled nuts ar 9.3 million US$.

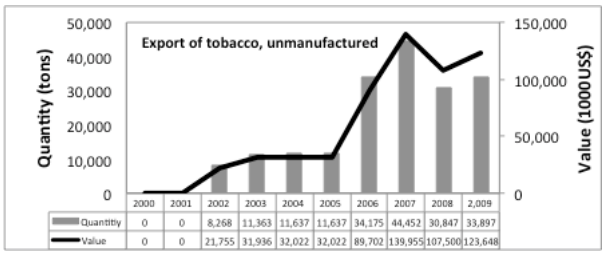


Source: FAOSTAT

Figure 2.7.2 Export of Cashew Nut Shelled (left) and with Shell (right) (quantity and value)

(3) Tobacco

As shown in Figure 2.7.3, in 2006, export of tobacco jumped up to 34,000 tons, three times the previous year. Export quantity has been more than 30,000 tons since then. The export quantity and value in 2009 were 34,000 tons and 123.6 million US$.

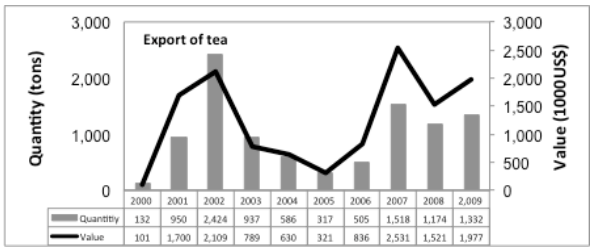


Source: FAOSTAT

Figure 2.7.3 Export of Tobacco (quantity and value)

(4) Tea

As illustrated in Figure 2.7.4, in the period of 2007 to 2009, the quantity of tea export was relatively high and stable compared to earlier years. The export quantity and value in 2009 were 1,300 tons and 2.0 million US$.

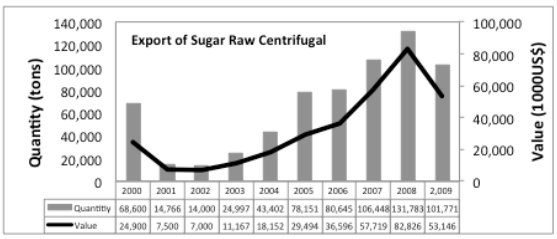


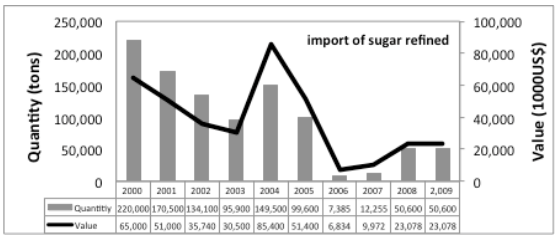
Source: FAOSTAT

Figure 2.7.4 Export of Tea (quantity and value)

(5) Sugar

Data suggests that there was a steady increase of molasses (sugar raw centrifugal) export in the period from 2001 (3,400 tons) to 2008 (132,000 tons). The value also increased from 7.5 million US$ to 83.1million US$ respectively. In contrast, import of refined sugar decreased to 51,000 tons in 2009, one quarter the quantity in 2000.





Source: FAOSTAT

Figure 2.7.5 Import and Export of Sugar (quantity and value)

2.7.2 Small-scale Agro-processing

Small-scale agro-processing such as rice, maize and cassava mills are dominant all over the country. Mills are located in and around the center of districts and cities, and provide milling service to customers. In rural areas, millers do not buy raw materials to sell milled products, but only provide milling service.

2.8. Investment in the Agriculture Development

2.8.1. Government Policies for the Agricultural Investment Promotion and Regulations

(1) General Conditions of the Investment Environment of Mozambique

In reviewing and comparing the general investment environment, the "Doing Business" Index[1] developed by the World Bank was utilized as the point of reference, highlighting the ease with which an entrepreneur is able to open and operate a business while complying with the relevant regulations of the country.

Table 2.8.1 below sets out the relevant "Doing Business" index scores for Mozambique and its neighboring countries with Mozambique being ranked 139th in the overall 2012 ranking, down from 132nd in 2011. Among its seven neighboring nations, Mozambique ranks 5th while South Africa ranks at the top of the seven countries, and 2nd in sub-Saharan Africa followed by Mauritius. In terms of the "Starting Business" indicators, Mozambique ranks 70th in the world, which indicates that Mozambican investment regulations, including licensing procedures, are relatively friendly to investors wishing to start a business. In addition, Mozambique stands at 18 in the overall ranking of the 46 countries of sub-Saharan Africa, which indicates that the Government of Mozambique has created a favorable regulatory environment conducive to operating a business compared to other countries in sub-Saharan Africa.

Table 2.8.1 Doing Business Index 2012 of Mozambique and Neighboring Countries

Country	Overall Rank (out of 183 countries)		Indicator	Overall Rank in
	2012	2011	"Starting a Business"	Sub-Saharan Africa
Mozambique	139	132	70	18
South Africa	35	36	44	2
Zambia	84	80	69	7
Tanzania	127	125	123	14

[1] Doing Business ranks economies based on 10 areas of regulation: 1) starting a business; 2) dealing with construction permits 3) getting electricity; 4) registering property; 5) getting credit; 6) protecting investors; 7) paying taxes; 8) trading across borders; 9) enforcing contracts; and 10) resolving insolvency.

Madagascar	137	144	20	17
Malawi	145	141	139	21
Zimbabwe	171	168	144	36

(2) Investment Promotion Agencies

In 2009 Mozambique's agriculture sector accounted for 31% of GDP, and employed nearly 80% of the total labor force.[2] The Government of Mozambique puts forth in the Strategic Plan for Agricultural Sector Development (PEDSA 2010 - 2019) a policy direction, emphasizing the importance of the value chain approach to agriculture development, which has laid the foundation for the current favorable agribusiness environment. This implies that the promotion of private initiatives in commercial agriculture and agribusinesses is key to the sustainable and inclusive growth of the agriculture sector, involving more small-scale farmers in production value chains. In order to attract foreign and domestic investment in the agriculture/agribusiness sector, two separate government agencies, the Investment Promotion Center (CPI) and the Agriculture Promotion Center of the Ministry of Agriculture (CEPAGRI), have worked on specific activities in investment promotion as summarized below. In relation to the Nacala Corridor area, the Malonda Foundation, a non-profit private entity, has worked in Niassa province since 2005 with the aim of promoting investment in order to strengthen the region's economic situation, which in turn contributes to the improving of the livelihoods of local people.

1) Investment Promotion Center (CPI)

The CPI, established in 1993 under the jurisdiction of the Ministry of Planning and Development, handles Mozambique's private investment development. As the window for both foreign direct and domestic investment, CPI provides investment promotion services, such as the dissemination of investment information and consultations on business ideas/opportunities, acting as a "one-stop service" provider for investors. CPI receives investment project proposals from investors, and processes them for approval according to the Regulation of Investment Law (Decree No. 43/2009 of 21th August). CPI has five branch offices in Beria, Chimoio, Tete, Quelimane and Nampula with offices working closely with local governments to support investors in negotiating land-use rights and preparing of necessary documents for investment proposals.

2) Agriculture Promotion Center (CEPAGRI)

CEPAGRI has a specific mandate to: i) promote agribusiness and agro-industry investments and trade; ii) analyze agribusiness potential by conducting technical research/studies; and iii) coordinate the integration of projects/initiatives

[2] Economic and Sector Work: Agribusiness Indicator Mozambique, World Bank 2012

implemented by different actors, such as the government, NGO/donors and private business, in order to maximize the impacts on agriculture development. CEPAGRI works closely with CPI in reviewing investment project proposals related to agriculture/agribusiness development, providing technical comments and feedback, which are then examined in detail during the approval process for each investment proposal. CEPAGRI has 4 sub-offices in Gaze, Manica, Zambezia, and Nampula provinces.

3) Malonda Foundation

The Malonda Foundation was established in 2005 in technical cooperation with the Swedish International Cooperation Agency with the aim of reducing poverty in Niassa province through the promoting of private investment. Since 2011 the Malonda Foundation has focused more attention on investment promotion activities, providing information on potential investment opportunities in Niassa province through their website and through advisory services to investors regarding the acquiring of necessary licenses/permissions for starting a business.[3] The Malonda Foundation works closely with concerned local government offices to facilitate the establishment of partnerships among the different stakeholders, community representatives, NGOs, local businesses and investors in order to create a favorable business environment, attracting more investment to the region.

(3) Investment Incentives

The investment environment in Mozambique is broadly supportive of the agriculture sector. Fiscal and non-fiscal investment incentives are provided to both foreign and domestic investment projects in the manner summarized in Table 2.8.2. In addition, a special Corporate Income Tax (IRPC) rate has been offered exclusively to the agriculture sector until the 31st of December 2015.

Table 2.8.2 Investment Incentives for the Agriculture Sector

Items	Incentives	Duration
• Custom duties and VAT on the import of equipment	• Exemption	• First 5 years of the project
• Corporate Income Tax (IRPC) for the entire agriculture sector	• Special rate 10% (normal IRPC rate: 32%)	• Until the 31st of December 2015
• Corporate Income Tax (IRPC) for new investment projects	• 80% reduction of the above rate (applied IRPC rate is 2%) • 50% reduction (applied IRPC rate will be 16%)	• Until the 31st of December 2015 • From 2016 to 2025
• Cost of professional	• Deducted from taxable income of IRPC	• First 5 years of the

[3] The Malonda Foundation gives priority to the agriculture, forestry, tourism, and mining sectors in the investment promotion.

training for Mozambican employees		project
• Costs of construction/ rehabilitation of social infrastructures (roads, water supply, electricity, etc.)	• Deducted from taxable income of IRPC at the below rate. ✧ 110% of the expenditure in Maputo ✧ 120% in other provinces	• 5 tax years

Source: Code of Fiscal Benefit, Law No. 4/2009 of 12th January, the Government of Mozambique

(4) Limiting Factors on Agriculture/Agribusiness Investment

<Policy Environment>

Though the overall policy direction and investment environment of Mozambique have been favorably received by the agriculture/agribusiness developers based on survey results,[4] the survey also indicates that the private sector seeks to have the issues of limited transparency in the formulation of policies, and the inconsistent implementation of some regulations, decrees and procedures addressed. One example of these policy changes is the waiving of duties on maize and soybean feed imports, which is viewed critically as beneficial to large, established agribusinesses and trading companies, while discouraging local investment in maize and soybean production and processing.[5]

<Financing>

The major barrier to agriculture/agribusiness investment is access to affordable sources of financing. Credit extended to agribusiness or agricultural producers is costly in Mozambique since the interest rates for commercial bank loans range from 20% to 25% depending on the creditworthiness of the client/project and quality of collateral. An additional limiting factor is the term of the loans since many banks do not offer loans for more than 5 years, which thereby limits the types of investments that borrowers may undertake.[6]

<Acquiring of a land-use right/ DUAT and collateral for a loan>

An investor has to undertake a long and complex process to acquire a DUAT according to the Land Law Regulation (Law No. 19/97 of 1st of October), which requires the holding of a series of public consultations, the conducting of topographical demarcation and the obtaining of documents from different government offices, all of which incur costs. And even when a DUAT has been issued, the land cannot be used as collateral for a loan, a fact that is regarded as a major limiting factor on the increasing of credit to agriculture. However, banks do accept farm buildings, warehouse and private irrigation systems as collateral.

[4] "Agribusiness Indicators : Mozambique" , April 2012, World Bank
[5] Ibid.
[6] Ibid.

(5) Application Procedures for Investment Proposals

With simplified licensing procedures, the Regulation of Investment Law (Decree No. 43/2009 of the 21st of August) stipulates the details for acquiring authorization both for foreign direct and domestic investment. CPI plays a leading role in the processing of investment proposals, coordinating inter-institutional meetings with relevant ministries and state agencies for the authorization of the proposal. A decision on the approval of an investment proposal must be made by the authorities according to the total investment value as summarized in Table 2.8.3 below. An investor receives notification on the final result of the screening within 17 days of the official acceptance of the investment proposal by CPI.[7]

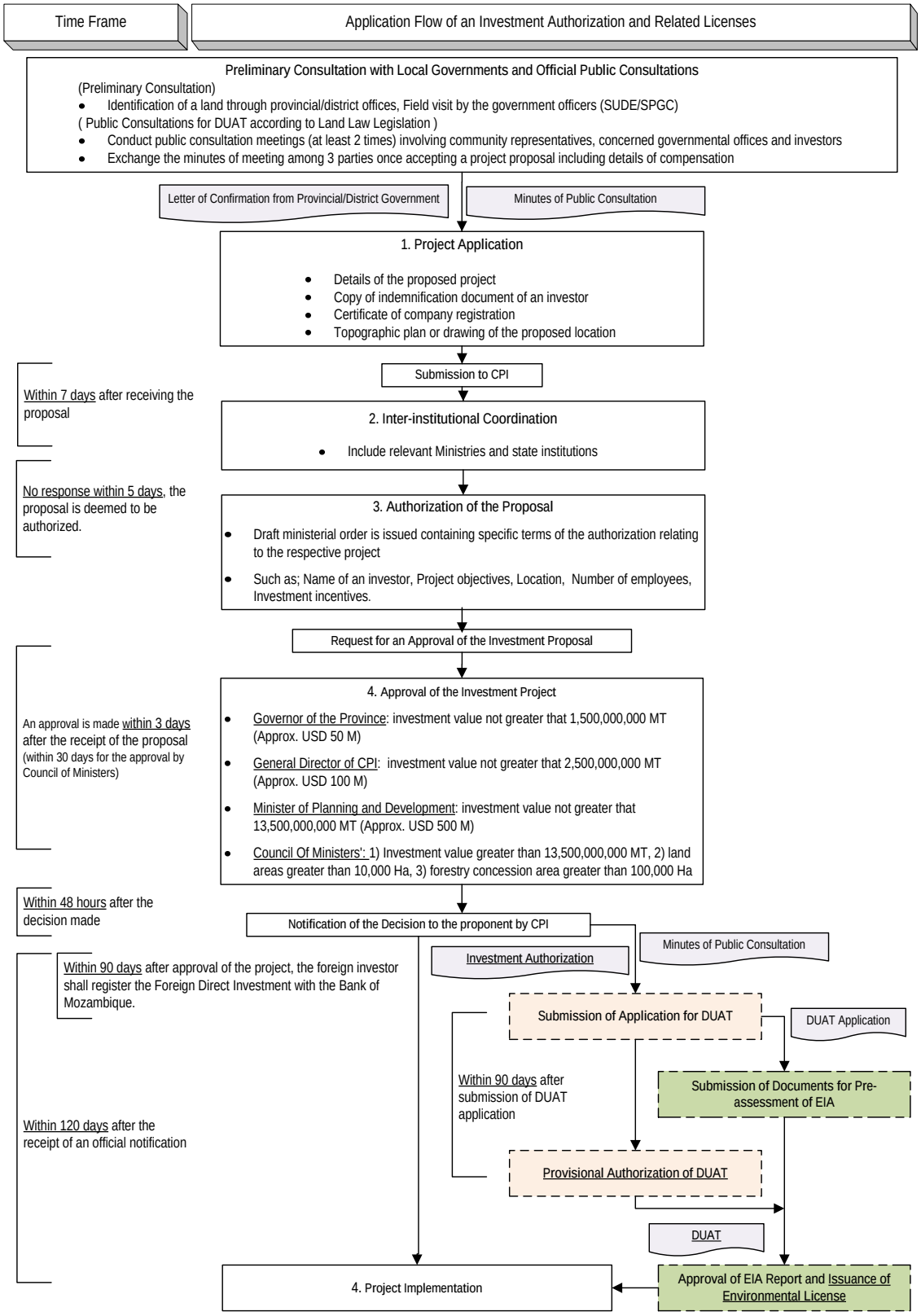
Table 2.8.3 Decision Making Authority for Investment

Decision made by:	Conditions
• The Governor of the Province (in which the proposed investment project will be carried out)	• Investment value is not greater that 1,500,000,000 MT (approx. 50 Mil US$).
• The General Director of CPI	• Investment value is not greater that 2,500,000,000 MT (approx. 100 Mil US$).
• The Minister of the Planning and Development	• Investment value is not greater that 13,500,000,000 MT (approx. 500 Mil. US$)
• The Council of Ministers	• Investment value is greater than 13,500,000,000 MT (approx. 500 Mil. US$); • Land area required for the project is greater than 10,000 ha; or • Forestry concession area is greater than 100,000 ha.

Source: the Regulation of Investment Law, Decree No. 43/2009 of the 21st of August

Other licenses required for the starting of business are a “DUAT (land-use right)” and “an environmental license” with the acceptance of an environmental assessment report. Application procedures for those licenses are interrelated with that of the investment proposal, as illustrated in Figure 2.8.1, for which the steps are as follows: i) preliminary consultation with local government and the holding of official public consultations; ii) the submission of an investment proposal to CPI with a supporting letter issued by the local government and the minutes of the public consultation meeting attached; iii) the submission of a DUAT application after acquiring an investment authorization from CPI; and iv) the acceptance of an environmental assessment report and the issuance of an environment license after the provisional DUAT has been authorized.

[7] In case a decision is made by the Councils of Ministers, it will take around 45 days.



(Source: JICA Study Team)

Figure 2.8.1 Application Flow for the Investment Authorization and Related Licenses

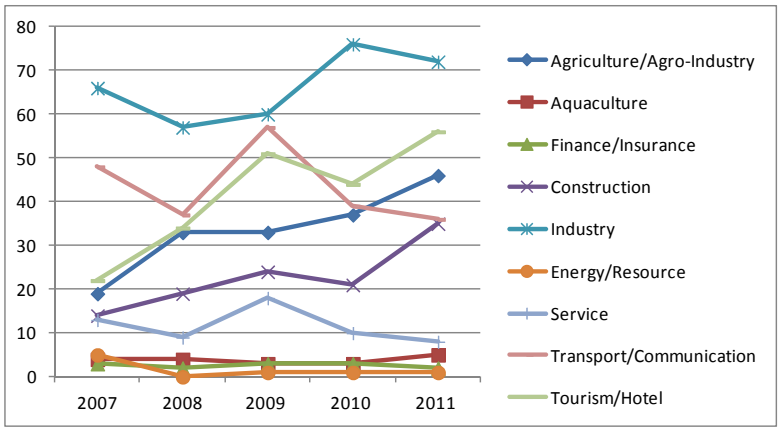
2.8.2. Agricultural Investments

As shown in Table 2.8.4 below, total investment value in Mozambique over the past five years has fluctuated from 1 billion US$ to 8 billion US$ per annum due to the influence on investment volume of large-scale investments in the energy/resource sector in 2007 and 2010, and the agriculture sector in 2009.[8] In terms of investment in the agriculture/agro-industry sector, the number of investment projects has increased from 19 in 2007 to 46 in 2011, accounting for 27.6% of the total investment volume in 2011. Though large-scale forestry and bio-fuel projects have contributed to the increase in investment volume, it is self-evident that agriculture is an important economic sector in Mozambique, accounting for 20 to 30% of the total investment value for the past 5 years, excluding large-scale projects in the energy/resource sector. Figure 2.8.2 shows the trends in the number of approved investment projects for each sector over the past five years.

Table 2.8.4 Total Investment Value in Mozambique (1,000 US$)

Sectors	2007				2008				2009				2010				2011			
	Amount	%	No.	%	Amount	%	No.	%	Amount	%	No.	%	Amount	%	No.	%	Amount	%	No.	%
Agriculture/Agro-Industry	581,111	7.2	19	9.8	484,688	44.9	33	16.9	4,915,607	85.5	33	13.2	388,104	12.6	37	15.8	787,336	27.6	46	17.6
Aquaculture	13,236	0.2	4	2.1	745	0.1	4	2.1	30,294	0.5	3	1.2	6,264	0.2	3	1.3	8,194	0.3	5	1.9
Finance/Insurance	1,999	0.0	3	1.5	12,833	1.2	2	1.0	20,218	0.4	3	1.2	75,110	2.4	3	1.3	69,298	2.4	2	0.8
Construction	18,548	0.2	14	7.2	43,139	4.0	19	9.7	77,255	1.3	24	9.6	38,238	1.2	21	9.0	600,162	21.0	35	13.4
Industry	402,361	5.0	66	34.0	215,932	20.0	57	29.2	191,631	3.3	60	24.0	169,202	5.5	76	32.5	370,728	13.0	72	27.6
Energy/Resource	6,582,247	81.5	5	2.6		0.0		0.0	3,656	0.1	1	0.4	1,900,000	61.5	1	0.4	157,000	5.5	1	0.4
Service	71,231	0.9	13	6.7	91,731	8.5	9	4.6	78,100	1.4	18	7.2	48,249	1.6	10	4.3	515,128	18.1	8	3.1
Transport/Communication	272,188	3.4	48	24.7	191,186	17.7	37	19.0	264,129	4.6	57	22.8	134,017	4.3	39	16.7	95,162	3.3	36	13.8
Tourism/Hotel	129,347	1.6	22	11.3	40,000	3.7	34	17.4	167,730	2.9	51	20.4	331,071	10.7	44	18.8	249,556	8.7	56	21.5
Total	8,072,268		194		1,080,254		195		5,748,620		250		3,090,255		234		2,852,564		261	

Source: CPI Investment Summary Data



Source: CPI Investment Summary Data

Figure 2.8.2 Number of Approved Investment Projects by Sector

[8] In 2009, investment proposals for two large-scale plantation projects in Zambezia and Nampula provinces were approved.

2.9. Legal System and Land Registration

2.9.1. Land Legal System

Land Law 19/97 reviews Law 6/79 the first land law enacted after the country's independence, to ensure access and security of land tenure and to make it, as established by the Constitution, the source of creation of wealth and social welfare (Art.109), encouraging its use by sectors such as agriculture, which is the base of national development (Art. 103). Thus, the Law establishes how to use, modify, transfer and extinguish the Land Use Rights.

The main topics covered by the Law are listed below:

- The land as a state property, cannot be sold, alienated, mortgaged or pledged, and it is part of the State Land Fund;
- Total protection zones (areas of preservation, security, etc.) and partial zones (border areas, coastline, etc.) are of public domain;
- The Land Use Rights (DUAT) may be granted to Mozambique citizens and foreigners (foreigners residing for at least five years in the country and international companies duly registered); individuals and local communities (according to customary practices); or individuals who are using the land for at least 10 years;
- The DUAT title will be issued by the Provincial Service of Geography and Registry (SPGC), nevertheless it is not necessary in the case of individuals and local communities (according to customary practices), or national individuals who have been using the land for at least 10 years;
- Changes, evidence of land use, transmission and extinction of DUATs;
- The DUAT for economic activity has a maximum term of 50 years, renewable for a similar period, if requested;
- Deadlines do not apply to DUATs acquired by local communities, private homes, of family farming;
- Responsibility to issue licenses and DUATs for areas not covered by urbanization plans:
  - ✓ Use of land up to 1,000 ha = Provincial Governors;
  - ✓ Use of land between 1,000 and 10,000 ha = Minister of Agriculture;
  - ✓ Use of land above 10,000 ha = Council of Ministers;
- Participation of local communities in the management of natural resource and conflicts, etc.;
- Provisional authorization, after the request of DUAT, (5 years for locals and 2 years for foreigners); final authorization, issuance of the title;
- Annual authorization fees;
- Domestic cooperatives and associations of small-scale farming are exempt from fees.

The Law Regulation, Decree 66/98, brings details on administrative procedures covering topics such as: acquisition of DUAT by national individuals who occupy the land in good faith, local communities, co-certification, rights and duties of DUAT holders, deadlines (request the extension of use for another 50 years, must be done12 months before the deadline stated in the title), evidence of land use, project/ plan implementation; demarcation, monitoring, taxes, and temporary tax exemption.

The Land Law, its regulations and amendments are intended to guarantee the rights of land use by the Mozambican people and to promote domestic and foreign investments. Those measures grant importance to the Mozambican citizen, by recognizing customary rights and practices of local communities, by including the communities in the processes of obtaining DUAT, and establish links between legal agencies of the state and community authorities. Regarding investment, the Law recognizes that domestic and foreign private investments are the driving force of Mozambique development.

2.9.2. Registration System

The National Land Registry Office was created, under the Land Law, to organize and understand the use of land. It is a single system under the responsibility of the National Land and Forests Directorate (DNTF). The DNTF gathers information and enables government authorities: a) to know the economic and legal situation of land; types of occupation and use; soil fertility; forest areas; water reserves, flora and fauna; b) to organize the land use, protection and conservation; c) to indicate the regions suitable for specialized productions and d) to issue the Land Use Rights Title(DUAT).

This decentralized system receives information from the country's provinces, through the Provincial Services of Geography and Registry – SPGC; and its update occurs periodically, when a DUAT is officially issued after the granted area is demarcated (geo-referenced).

2.9.3. Land Use Rights (DUAT)

The DUAT title, Land Use Right, is issued by the National Land and Forests Directorate (DNTF) and the Provincial Services of Geography and Registry (SPGCs), and is intended for:

1. Occupancy by individuals and local communities, according to customary norms and practices (tradition) that do not contradict the Constitution (DNTF);
2. Occupancy by national individuals who in good faith, have been using the land for at least ten years (DNTF), and
3. Formal occupation of individuals or collective ventures, national or foreign that have an approved Operating Plan (SPGCs).

Although the three categories are recognized as legitimate by the Mozambican state, only the occupations related to item 3 are listed in total in the National Land Registry Office, because they are concessions duly demarcated and authorized on a provisional or definitive basis (issuance of DUAT). The occupations described on items 1 and 2, although they can request a title exempt from fees, usually it does not occur, maybe due to demarcation costs. So, the Registry Office does not have precise information on occupation types 2 and 3.

(1) Cost of DUAT

The costs involved in the DUAT application process are regulated by the government, and are charged according to the Table 2.9.1 below, which specifies the amount regarding **Process Procedures** and Annual Amount charged per **Specific Activity/ hectare**.

Table 2.9.1 Tax Table

Temporary authorization (**Process Procedure Tax**)	1.500,00 MT
Permanent authorization **(Process Procedure Tax**)	750,00 MT
Anual Tax (for commerce)	75,00 MT/ha
Annual Tax for Specific Activities:	
Livestock cattle	5,00 MT/ha
Restocking of Wildlife	5,00 MT/ha
Permanent crops	5,00 MT/ha
Agriculture	37,50 MT/ha
Tourism, summer house and commerce located within three kilometers bordering the area of coastline public domain	500,00 MT/ha

Source: Ministerial Order no. 144/2010 of 24 August 2010.

The calculation also involves the adjustment Table 2.9.2 below that is multiplied over the amount of the “annual tax for specific activities” of the Table 2.9.1.

Table 2.9.2 Index Table

Index applied to the annual tax for a national individual	0,8
Land Bordering:	
Partial protection zones	1,5
Priority areas for development	0,5
Other zones	1,0
Size: Up to 100 ha	1,0
From, 101 to 1000 ha	1,5
Superior to 1000 ha	2.0
Purpose of the use: Associations with charitable purpose	0,5

Source: Decree no. 66/98 of December 8, Article 41, Annex 2 and 3.

The following is an example of the calculation concerning the fee paid annually by **a national individual** who works in agriculture, in an area of 900 ha, according to explanation of the SPGC Nampula:

37.50 MT (agriculture) x 900ha (area) = 33,750 x 0.8 MT (index applied for the Mozambican citizen) = 27000.00 MT

In the case of a ***foreign individual****:*

37.50 MT (agriculture) x 900 ha (area) = 33,750 x 1.5 MT (index for non-Mozambique citizen) = 50635.00 MT

(2) Local Community Authority and the DUAT

The process for obtaining the DUAT to implement an Operating Plan in a particular area requires the consent of the Local Community Authority. Therefore, it is important to understand that structure, a hierarchical organization, traditionally established.

The Mozambican government, through the Ministry of State Administration, MAE, recognizes this hierarchy by means of the Decree no. 15 of June 20, 2000, which was regulated by the Ministerial Diploma. 107-A/2000 of August 25th that defines the relationship between the State Legal Authorities and the Community Authorities, establishing rights and responsibilities of each authority and setting a monthly allowances for each one of the following leaders, the RÉGULO, traditional chief, 1st LEVEL leader;2nd LEVEL leader, and; 3rd LEVEL leader.

(3) Private investment and the DUAT

The National Land Policy assumes that land is one of the most important natural resources that Mozambique has, that the state holds the land as its property, and that local population as well as domestic and foreign investor have guarantee of access and use of land.

Private investment is considered by the government as the great promoter of its development policy crucial to mitigate poverty. Investments in agriculture and tourism depend on the access to land and require the DUAT.

Although the DUAT, by definition, is not a right that equals to the concept of private property, its legal content offers security, making it possible, for example, concession of an area for a total period of 100 years - long enough to ensure a good return on invested capital.

(4) Process to Obtain the DUAT

The Provincial Services of Geography and Registry (SPGC) of each province concentrates the necessary procedures to request DUAT – Land Use Rights, and provides to interested individuals, information regarding:

a) Legislation;
b) Documents required to start the process;
c) Fees and taxes;
d) Requirements related to the process: outline, location maps and demarcation;
e) Benefits, restrictions or constrains on claims of interested parties, and;
f) Claims and appeals.

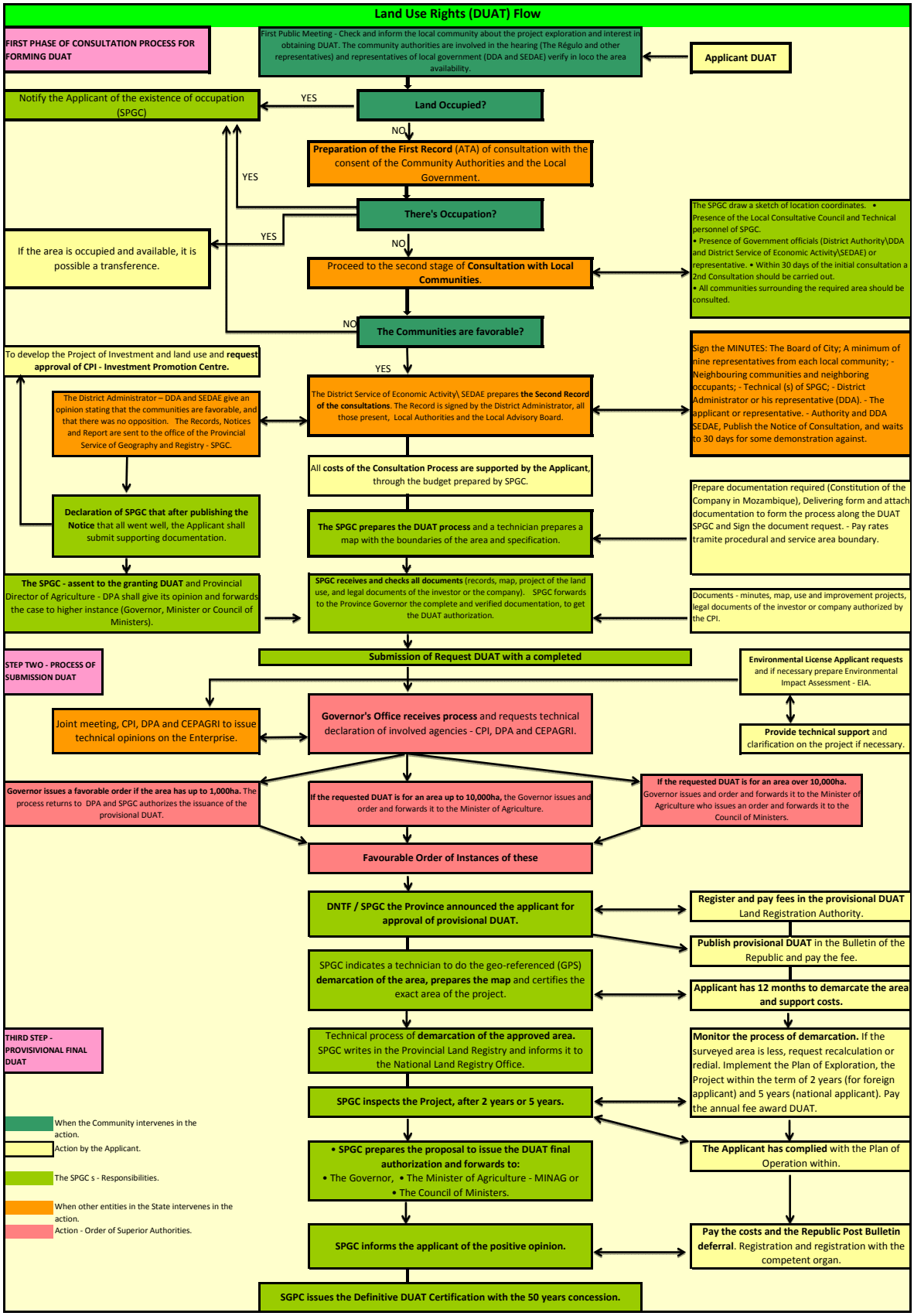


Figure 2.9.1 Land Use Rights (DUAT) Flow

2.10. Environmental and Social Considerations

2.10.1. Approach of ProSAVANA-PD

"JICA Guidelines for Environmental and Social Considerations (April 2010)" will be applied throughout the study. Since ProSAVANA-PD envisages formulation of a master plan, 'strategic environmental assessment' (an assessment implemented at the policy, planning and program levels but not a project-level EIA) will be the basic methodology. In the later stage of the study, once the 'priority agriculture development projects' and 'quick impact projects' are identified, screening (classifying proposed projects into four categories) and scoping (choosing alternatives for analysis, a range of significant and potentially significant impacts, and study methods) will be conducted for each project. Simplified resettlement action plans will also be drafted for the projects that require land expropriation or involuntary resettlement. All these processes shall maintain harmony with related Mozambican legislation. Steps are summarized in Figure 2.10.1.

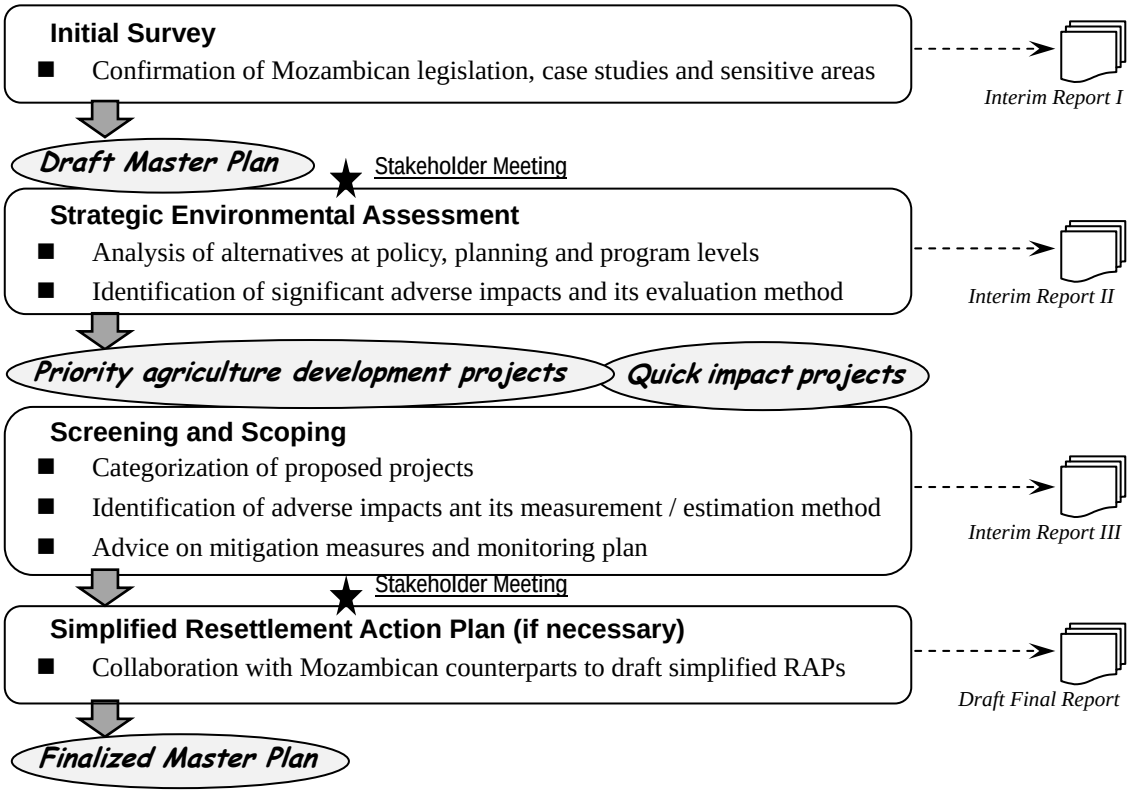


Figure 2.10.1 Steps of Environmental and Social Considerations

2.10.2. Legal Framework

(1) General

Environmental and social protection in Mozambique is supported by a number of framework laws and specific regulations (Table 2.10.1) based on the Republic's Constitution.

Table 2.10.1 Legal Framework of Environmental and Social Protection

Major Legal Instruments (only those related to Agriculture/Agro-industry Sector)	Responsible Organs (central / provincial)
Environment in general, Environmental Impact Assessment ✧ Law no.27/97: Environment Law ✧ Decree no.45/2004: Regulation on Process of Environmental Impact Assessment (plus, Ministerial Orders no.198/2005, 129/2006,130/2006, 182/2010) ✧ Decree no.11/2006: Regulation on Environmental Inspection ✧ Decree no.25/2011: Regulation on Process of Environmental Audit ✧ Decree no.5/2012: Regulation on Simplified License	MICOA / DPCA
Pollution, Waste ✧ Decree no.18/2004: Regulation on Norms of Environmental Quality, Emissions and Effluents (plus, Decree no.67/2010) ✧ Decree no.13/2006: Regulation on Waste Management ✧ Decree no.6/2009: Regulation on Management of Pesticides	MICOA / DPCA MINAG / DPA (for pesticide)
Land, Forest and Wildlife, Protected Areas ✧ Law no.19/97: Land Law ✧ Decree no.66/98: Regulation on Land Law (plus, Decrees no.1/2003, 43/2010, Resolution no.70/2008 and Ministerial Orders no.29-A/2000, 144/2010, 158/2011) ✧ Decree no.60/2006: Regulation on Urban Land ✧ Law no.10/99: Forest and Wildlife Law ✧ Decree no.12/2002: Regulation on Forest and Wildlife Law (plus, Decree no.11/2003 and Ministerial Orders no.55/2003, 93/2005)	MINAG / DPA MITUR (for national parks and reserves)
Water ✧ Law no.16/91: Water Law ✧ Decree no.43/2007: Regulation on License and Concession of Water ✧ Decree no.47/2009: Regulation on Small Dams	MOPH / ARA (at regional level)
Cultural Heritage ✧ Law no.10/88: Cultural Heritage Protection Law ✧ Decree no.27/94: Regulation on Protection of Archaeological Heritage ✧ Law no.13/2009: National Liberation Heritage Protection Law ✧ Decree no.72/2009: Regulation on National Liberation Heritage Protection Law	MEC / DPEC
Territorial Arrangement, Land Expropriation, Resettlemen ✧ Law no.19/2007: Territorial Arrangement Law ✧ Decree no.23/2008: Regulation on Territorial Arrangement Law (plus, Ministerial Order no.181/2010) ✧ Resolution no.63/2009: Conservation Policy and its Implementation Plan, Annex 4 ✧ (Approved in May 2012 by Council of Ministers, yet to be promulgated): Regulation on Process of Resettlement caused by Economic Activities	Council of Ministers / Province Government MICOA (for resettlement from protected areas)

Source: JICA Study Team

Mozambique is also a signatory of the following international agreements on the natural environment:

- AU African Convention on the Conservation of Nature and Natural Resources (ratified in 1981)
- Convention on International Trade in Endangered Species of Wild Fauna and Flora (ratified in 1981)
- UNESCO Convention Concerning the Protection of the World Cultural and Natural Heritage (ratified in 1982)
- UN Convention on Biological Diversity (ratified in 1994)
- SADC Protocol on Wildlife Conservation and Law Enforcement (ratified in 2002)
- UNESCO Convention on Wetlands of International Importance Especially as Waterfowl Habitat (ratified in 2003)
- SADC Protocol on Forest Activities (ratified in 2009)

(2) Zones for Protection

Mozambican legislation defines several types of zone for protection as summarized in Table 2.10.2. According to Land Law and its Regulation, both “zones for total protection” and “zones for partial protection” prohibit most human activities therein, but some activities may exceptionally be acceptable if duly licensed by competent authorities. Acquisition of DUAT (right to use and benefit of land) is not allowed in these zones.

Forest and Wildlife Law and its Regulation prohibit in national parks all such activities (except for by scientific reasons or by necessity of park management) as hunting, forestry, agriculture, mining, livestock farming, research, survey, sounding, landfill, any works that may alter terrain or vegetation, pollute water or disturb flora and fauna, and, introduction of animal or plant species regardless of being native or exotic, wild or domestic. Utilization of natural resources existing in national reserves is subject to environmental license and each reserve’s management plan, as long as it may not damage the specific objective of the reserve’s creation. In case of “zones of historical cultural value and use” local communities’ right to access to forest and wildlife resources in accordance with customary norms and practices is guaranteed for either economic, social or cultural purpose, as long as the communities respect related restrictions such as protection of certain species and payment of exploitation fee.

It is worth mentioning that GOM recently approved the “Conservation Policy and its Implementation Strategy (Resolution no.63/2009)” where reclassification of the conservation areas is proposed in order to set up a new system more adequate to actual reality.

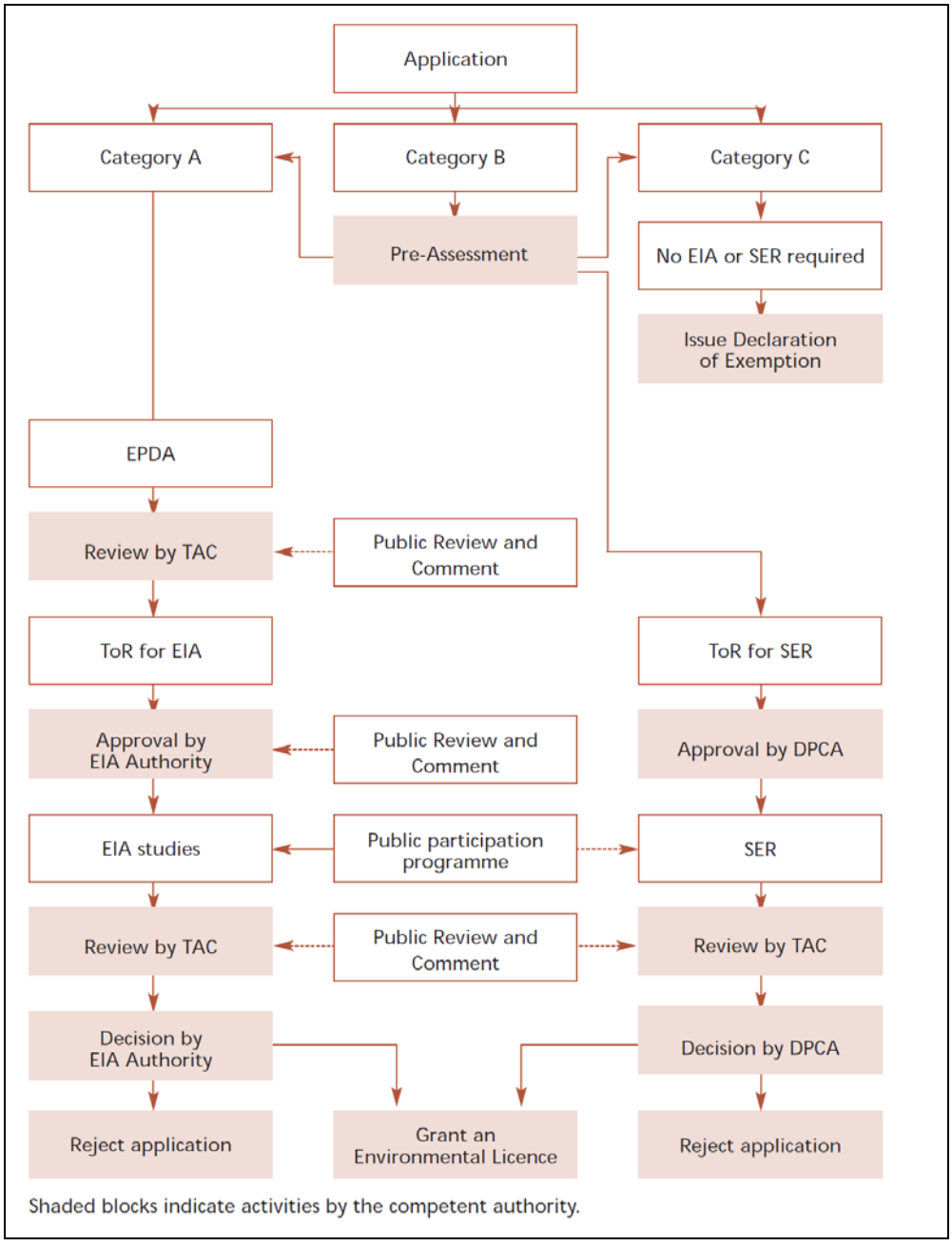
Table 2.10.2 Zones for Protection by Mozambican Legislation

Legal Background	Zones for Protection
Land Law (Articles 7, 8, 9) in 1997	● Zones for total protection: areas oriented for activities of conservation or preservation of nature, as well as defense and security of the country. ● Zones for partial protection: - Inland water bodies, territorial waters, exclusive economic zone - Continental shelf - Strip of land along navigable rivers and lakes, up to 50 meters measured from the water's edge at maximum level - Strip of land up to 100 meters adjoining to water sources - Strip of seashore and the lands around islands, bays and estuaries, up to 100 meters measured from the water line at high tide toward inland - Strip of land surrounding dams up to 250 meters - Strip of land with 2 kilometers of width along terrestrial border
Regulation on Land Law (Articles 4, 5, 6, 7, 8) in 1998	● Zones for partial protection associated with public infrastructure: - Secondary and tertiary roads, and the strip of adjoining land for 15 meters - Primary roads and the strip of adjoining land for 30 meters - Highway or roads of 4 lanes, and the strip of adjoining land for 50 meters - Aerial, superficial, underground or submarine facilities and ducts related to electricity, telecommunication, petroleum, gas and water, and the strip of adjoining land for 50 meters - Railways and stations, and the strip of adjoining land for 50 meters - Airports and airstrips, and the strip of adjoining land for 100 meters - Military facilities and other facilities for defense and security of the country, and the strip of adjoining land for 100 meters
Forestry and Wildlife Law (Articles 10, 11, 12, 13) in 1999	● National parks: Territorial space delimitated for preservation of natural ecosystems, generally areas of great scenic beauty and those representing the country's heritage ● National reserves: Territorial space oriented for preservation of certain species of flora and fauna which are rare, endemic, threatened, extinguishing or declared to be in decline, as well as fragile ecosystems
Regulation on Forestry and Wildlife Law (Articles 2, 3, 4, 5, 6, 7, 8) in 2002	● Zones of historical cultural value and use: Territorial space delimited with the objective of protecting sacred forests and other sites with historical importance and cultural use for local community ● Buffer zone: Terrain surrounding a zone for protection, which forms a transitional strip between the protected area and multiple-use areas, with the objective of controlling and reducing the impacts caused by human activities
Water Law (Articles 57, 58) in 1991	● Slopes near fountains and rivers, or soils with ongoing or foreseen erosion should be protected. (Activities which may change hydrological conditions need authorization.)
Regulation on Protection of Archaeological Heritage (Article 21) in 1994	● Zones for archaeological protection: Zones surrounding archaeological sites or other areas with evidence of archaeological elements of inestimable scientific value and importance for future generations

Source: JICA Study Team

(3) Environmental Impact Assessment

Mozambican legislation requires an EIA for all public and private activities that may influence environmental components either directly or indirectly. The process of EIA is different depending on the categorization of the proposed project (see Figure 2.10.2).



Acronyms

EIA
Environmental Impact Assessment

SER
Simplified Environmental Report

EPDA
Environmental Pre-viability Report and Scope Definition

TAC
Technical Assessment Commission

ToR
Terms of Reference

DPCA
Provincial Directorate for Coordination of Environmental Affairs

Source: Handbook on Environmental Assessment Legislation in the SADC Region

Figure 2.10.2 Flowchart of EIA Process

Table 2.10.3 Criteria of Project Categorization for EIA

Category	Activity (only those related to Agriculture/Agro-industry Sector)
A	➢ All activities related to and/or situated in the sensitive areas described in **Table 3.10.1** ➢ Parceling for agriculture of more than 350ha with irrigation or 1,000ha without irrigation ➢ Conversion of agricultural land for commercial, urban or industrial purposes ➢ Conversion of areas equal to or more than 100ha of agricultural land without cultivation for more than 5 years to intensive agriculture ➢ Introduction of new crops and exotic species ➢ Irrigation systems for areas of more than 350ha ➢ Aquaculture or marine fish culture with production more than 100 tons/year and area equivalent to or greater than 5ha ➢ Intensive animal breeding of more than: 100,000 poultry; 3,000 pigs and/or 100 breeding sows; and, 500 cattle and individual or cumulative area of less than 2,000ha (4ha/animal) ➢ Aerial or terrestrial spraying over individual or cumulative are greater than 100ha ➢ Factory for animal feed with production of 2,000 tons/month ➢ Production of animal oils and fats (production equal to or greater than 75 tons/day) and vegetable oils and fats (production equal to or greater than 300 tons/month) ➢ Sugar mills including the cultivation of sugarcane ➢ Reclamation, parceling and exploration of indigenous vegetative cover with individual or cumulative area greater than 100ha ➢ Deforestation with more than 50ha, reforestation and forestation of more than 250ha ➢ Commercial exploitation of natural fauna and flora ➢ Industrial allotment with more than 15 ha ➢ All principal roads outside urban zones, construction of new roads ➢ Water conduits of more than 0.5m diameter and with more than 10km in length ➢ Dams and weirs with an inundated area equivalent to or greater than 5ha ➢ Exploration for, and use of, underground water resources including the production of geothermal energy which imply the extraction of more than 500 m^3/h or 12,000 m^3/day ➢ Manufacture of pesticides ➢ Production or processing of fertilizers
B	➢ All activities that do not appear in the Categories A and C
C	➢ Irrigation schemes with individual or cumulative area between 50 and 100ha ➢ Transformation or removal of indigenous vegetation with areas between 100 and 200ha without irrigation ➢ Exploration for, and use of, underground water resources including the production of geothermal energy which implies extraction of more than 200 m^3/year ➢ Poultry farming in pavilion with capacity between 1,000 and 1,500 poultry ➢ Fruit and flower preservation industries with production equal to or greater than 300 tons/day ➢ Animal feed production factories with production less than 1,000 tons/month ➢ Cashew nut processing factories

A: Projects that may have a significant impact on the environment and therefore a full EIA is required.

B: Projects that do not significantly affect populations or environmentally sensitive areas: the negative impacts can readily be mitigated and few are likely to be irreversible, and therefore only SER is required.

C: Projects that are likely to have insignificant, negligible or minimal effect on the environment, none of which are likely to be irreversible, and therefore do not require either EIA or SER.

Source: Adapted from “Decree no.45/2004 Regulation on the Process of Environmental Impact Assessme nt” and “Handbook on Environmental Assessment Legislation in the SADC Region”

Projects in Category A need authorization by MICOA at the central level, while projects of Category B are authorized by DPCA at the provincial level to obtain an environmental license. At the district level, SDPI is responsible for environmental affairs but its role is still limited in EIA and licensing. The applicant should bear all the costs of EIA or SER and the licensing fee. In Mozambique, only professional consultants registered at MICOA can undertake EIA or SER. Public participation is obligatory for Category A projects and optional for Category B projects, whereas it turns obligatory when the project implies resettlement, relocation of goods or restriction on use of natural resources. Technical reports produced during the EIA process should be open and available to public consultation, and its records are required as attachment to the EIA/SER study report. The period of an EIA can vary by many factors: it is known that is some cases more than a year was needed. Once authorized, the project has to start its activity within two years from the date of issue of the license. An environmental license will be valid for five years, renewable for an equal period.

An EIA study report must consist of an executive summary, main report, environmental management plan, public participation report and an annex. Socio-economic impacts on local communities are also included in the same EIA study. DUAT (either application or provisional authorization) and an investment proposal for CPI must be attached as an annex. The necessity for and procedure of resettlement action plan (RAP) is not clearly stated in the “General Guideline for Elaboration of Environmental Impact Study (Ministerial Order no.129/2006 by MICOA)”: however, in an example case in the study area, a RAP was submitted together with the EIA study report but it took more than half a year to be approved. Implementation of an environmental management plan as well as RAP, including periodical monitoring and audit, follow the issuance of license and start of the project activities. Some case studies will be described in Chapter 3.

Very recently, “Regulation on Simplified License (Decree no.5/2012)” was approved by Council of Ministers. According to this new legal instrument, certain kind of economic activities including agriculture can be exempt from EIA studies or SER by obtaining ‘simplified license’ which is valid for an indefinite period. However, this is not applicable to foreign legal representatives. It will be important to gather and analyze example cases of agricultural projects to which this new system is being applied. Eligible activities for ‘simplified license’ include the following:

- Agriculture up to 350ha with irrigation or 1,000ha without irrigation
- Animal husbandry (up to 50 head of cattle, 3,000 pigs and/or 100 sows, and, 100,000 poultry).

2.11. Foreign Donors for Agriculture and Rural Development

2.11.1. Aid Coordination

Mozambique is one of the most active countries of aid coordination in sub-Saharan Africa, and a large number of donor countries and organizations provide general budget support. Currently, 19 countries and organizations (Germany, Belgium, Denmark, United Kingdom, Italy, Finland, France, Ireland, Norway, Netherlands, Portugal, Sweden, Switzerland, Canada, Spain, Austria, World Bank, EU and African Development Bank) provide general budget support, and are called PAPs (Program Aid Partnership) or G19. Because the framework of general budget support by G19/PAPs becomes the framework of monitoring and evaluation of PARPA as the Poverty Reduction Strategy Paper of Mozambique, G19/PAPs has a great influence in determining the development policy in Mozambique.

On the other hand, donors that have not given general budget support such as Japan, the United States and UN agencies, are collectively referred to as Non-PAPs. It is said that the macro perspective channels of Non-PAPs to make a policy dialogue with the Government of Mozambique are limited. Japan is participating as an observer to the meeting of the general budget support in the donor meeting holding on a regular basis and a joint meeting between the donors and the Government of Mozambique (Mozambique Country Evaluation, Ministry of Foreign Affairs of Japan, 2009)

Recently, the World Bank announced the "Partnership Strategy of Mozambique 2012-2016" in April 2012. This strategy will plan to support programs reaching 1.04 billion US$, and includes aims for extensive economic growth. In the 2011 annual review, the G19 was evaluated as "satisfactory" regarding the implementation of the outcomes of the Government of Mozambique, and expressed general budget support of 2013 will continue to be carried out. On the other hand, they are seeking further efforts from the Government of Mozambique regarding to anti-corruption to improve the transparency of public administration including the publication of contents such as contracts with mining companies and government and facilitate the implementation of the education sector strategic plan.

2.11.2. Donors' Trend of Assistance for Agriculture and Rural Development Sector

According to a report by the Netherlands' government, the Government of Mozambique and partners agree that an important policy shift is needed to broaden growth and to allow larger segments of the population to benefit from it (inclusive growth). In particular, agricultural productivity of smallholders is at a very low level. There is an urgent need to stimulate agricultural productivity and rural development

in general; agricultural production and productivity are major bottlenecks to the country's economic development. At least 70% of Mozambican families live in rural areas, and most of these are involved in agriculture. However, Mozambicans do not cultivate enough to feed themselves. If all food produced annually was divided equally to all Mozambican families, it would not suffice to provide them with the necessary calories.

Significant technical constraints (access to improved seeds, extension services, fertilizers, etc.) hinder production and market chain development. Lack of enabling infrastructure (roads and electricity) further contributes to the stagnation of agricultural productivity at levels between 30% and 60% of available potential (Gender Policies and Feminization of Poverty in Mozambique, CMI 2008). The involvement of the political elite in food imports, an example of state-party-business nexus (Chatham House Report, 2010) is not conducive to private initiative. Risk-adverse financial providers are hindering access to capital and financial services (only 4% of the rural population has access to capital) further limit the development of viable and sustainable commercial agriculture, in which government and the (smallholder) private sector jointly operate. In general, the government promotes large plantation investments that contribute to the development of the macro-economy and create some job opportunities but are not focused on social development, which requires the development of the small and medium agricultural enterprise sector.

Also, smallholder farmers have no secure land access, which affects long-term investments. An initially strong political commitment to pro-poor land reform, expressed in the innovative land law, securing land rights for rural communities and promoting private investment is being challenged by a tendency to make quick gains, neglecting community land rights.

The opportunities lie in the integration of competencies of all actors involved (donors, NGOs, private and public sector) through practical work, research on market chain development and through professional and vocational training. Enhanced access to capital by local actors (farmers, processors and traders) in the agricultural and rural sector is essential.

Mozambique is highly dependent on aid flows. In 2011, 44% of the State Budget came from external sources, and there were dozens of sectorial programs and common funds, as well as hundreds of projects being implemented in the country. Tax revenues, however, have recently increased. In 1996, tax revenues represented 9.9% of GNP and in 2011, they represented around 16%. Gradually, Mozambique is catching up with other low-income SADC countries, such as Malawi (18% of GDP) and Zambia (18% of GDP), and the government still has a huge potential to improve

its revenue collection at both central and municipal level (Netherlands Embassy Maputo-Mozambique Multi-Annual Plan 2012-2015, Ministry of Foreign Affairs, 2011).