

**National Directorate for Industrial Crops & Agribusiness,  
Ministry of Agriculture & Fisheries,  
The Democratic Republic of Timor-Leste**

**THE STUDY  
ON  
PROJECT FOR PROMOTION OF AGRIBUSINESS  
IN TIMOR-LESTE**

**FINAL REPORT  
(MASTER PLAN)**

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**JAPAN INTERNATIONAL COOPERATION AGENCY (JICA)**

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## EXECUTIVE SUMMARY

### 1. BACKGROUND OF THE STUDY

#### 1.1 BACKGROUND

Over 80 % of the total working population has been engaged in agriculture/ forestry and fisheries sector in the Democratic Republic of Timor-Leste (hereinafter referred to as Timor-Leste) achieved independence in May 2002, where the contribution of these sectors on GDP except for petroleum/ natural gas sector has reached the rate of 32% in 2007. Nation Development Plan emphasizes the realization of food security with improvement of agricultural productivity and promotion of agribusiness included in processing/ marketing of agricultural products. The Government of Timor-Leste has been providing political approaches which aims to improve agricultural productivity towards the food security under the assistance from related donors. However, related to the promotion of agribusiness, development direction has not been formulated yet. In order to promote it, it is dispensable to establish supporting system of related administration organizations and formulate development direction of agribusiness in Timor-Leste.

Under such conditions, the Government of Timor-Leste officially requested to carry out a development study for formulating a Master Plan (MP) for promotion of agribusiness including strengthening capacity of the administration and human resources related to the agribusiness. In response to this request, Japan International Cooperation Agency (JICA) conducted “The Study on Project for Promotion of Agribusiness in Timor-Leste” from April 2009. Counterpart agency of the Study is the National Directorate for Industrial Crops & Agribusiness (DNPIAC), the Ministry of Agriculture and Fisheries (MAF).

#### 1.2 OBJECTIVES OF THE STUDY

The objectives of the Study are described as bellows.

1. To formulate the Master Plan for the promotion of agribusiness in Timor-Leste. In order to promote processing/ marketing of agricultural products driving by private sectors such as small farmers’ organizations, entrepreneurs and agro-dealers (middlemen, market traders), the Master Plan aims to provide administration system for promotion of agribusiness, to strengthen administrative services so as to support the agribusiness activities and to provide infrastructures including in establishment of institutional system/ standardization and construction of infrastructural facilities such as roads.
2. To develop the capacities of the counterpart personnel for planning and implementing projects on agribusiness through the activities during the course of the Study.

#### 1.3 STUDY AREA

The area of the Study covers entire area of Timor-Leste.

#### 1.4 OVERALL WORKING SCHEDULE

The Study implemented in the two phases.

Phase 1: from April 2009 to December 2009

Formulation of draft Master Plan and draft Action Plan, and the Pilot Project Plan for phase 2

Phase 2: from February 2010 to November 2011

Implementation of the Pilot Projects and finalization of Master Plan and Action Plan

## **2. GENERAL CONDITIONS**

### **2.1 NATURAL CONDITIONS**

The land has a dramatic topography, total area of approximately 15,000 square km, extended east and west of 265 km and north and south 92 km. The country is dominated by the Ramelau Range runs across the middle of the island. In the north side, relatively short and steep slopes run down from the mountains to the coast area. Coast zone is the precipitous cliff with limited low lying land. The south part is formed by relatively gentle slope and coast zone.

The island has a tropical monsoon climate. Annual rainfall ranges from 1,000 mm or less in the northern coastal areas, and 3,000 mm or over in the central mountainous areas and from 1,000 mm to 2,000 mm in the southern part. Temperature varies from approximately 20 centigrade in the interior highlands to 27 centigrade in lowland coastal areas. The southern areas receive relatively longer rainfall period compared to the northern areas. Flash flood and soil erosion frequently occurs during rainy season and damage to agricultural lands and roads.

In terms of elevation, the country is divided into three zones. The zone less than 500 m occupies approximately 65% of the total area, along the coast. Two-thirds of the country's population lives in this zone. The middle zone between 500 m and 1,500 m has 37% of the population. This is the coffee-growing zone. The third zone, higher than 1,500 m, is characterized as less population and land use.

Timor-Leste has a coastline with over 735 km, and a potential Exclusive Economic Zone (EEZ) of approximately 75,000 square km. However, the boundaries of this zone have not been determined yet precisely.

### **2.2 SOCIO-ECONOMIC CONDITIONS**

Administration of the Timor-Leste is comprised by 13 districts and 65 sub-districts and 442 sucos. 95% of suco have been classified as rural and the remaining is considered as urban suco. The 2010 census put the total population of the country at 1,066 thousand. The number of households is 195,254 with average size of 4.7 members and 43% of the population is under 15 years of age (2004 census). Economic activities of agriculture/ forestry/ fishing employ at 79% of the whole employment. The population of the country was estimated to have reached 1.014 million at the end of 2007. Related with the population and employment, the number of youth aged 15-29 is expected to increase to 37% in 2010. Youth unemployment is currently estimated as approximately 43% nationally and a staggering 58% in Dili. (Economic and Social Development Brief, World Bank Group and ADB, August 2007)

According to the country's economic trend in key sectors, agriculture/ forestry and fishery sector dominates the country's economy, represent one-third of the non-oil GDP in 2007. In the agriculture sector, share of crop production reaches about 60%, non-food production account 34%, while livestock/ fisheries at the remaining 6%.

## **3. PRESENT POLITICAL SITUATION RELATED TO AGRIBUSINESS**

### **3.1 POLITICAL FRAMEWORK**

National Development Plan (NPD) emphasize that development of agriculture, fisheries and forestry sector is playing an important role for this country and achievement of food security is put as one of important development goals.

MAF provided the Policy and Strategic Framework aiming to contribute more effectively to the goals of

the NPD. Development of market-oriented agriculture and agro-industries is stated as one of the goals in the Policy and Strategic Framework. Then, to support it, the policy objectives of to, promote agricultural exports, promote substitution of agricultural imports, improve efficiency of internal agricultural marketing systems, increase incomes and employment in agro-industry are provided, and the proposed strategy such as to promote private sector investment in processing and commodity export, improve farmer agribusiness capacity and establish product quality standards are described as the proposed strategy. The Sector Investment Program describes the agribusiness development as the component in the programs, and to support it, emphasizes to support for agribusiness education, further development and strengthening of rural producers groups, and expansion of agribusiness division.

Related to agribusiness, the 4th Constitutional Government Program states that the Government intends to promote the production and promotion of products liable to be commercialized in market, the optimization of the rice and corn, etc, and infrastructure improvement such as roads and markets.

In the Development Partner Meeting (April 2009), the Government stated the seven national priorities. Related to the agriculture sector, two national properties of 'agriculture and food security' and 'rural development' were provided. Then, it was stated to formulate action plan and its target such as increase of rice production at 20%, government purchasing of products, promotion of rural business, rehabilitation of rural marketplaces and facilitation to cooperatives.

Strategic Development Plan was formulated as long term economic vision by 2030. Related with agribusiness promotion, it was emphasized to begin the integration of farm activities with small industry for short term target, expand business scale and managerial capacity of farmers for medium term target, develop and implement agriculture product processing technology.

Agribusiness promotion is consistent with the above political framework. However, there are many subjects to be solved to realize it.

### **3.2 GOVERNMENT ORGANIZATIONS RELATED TO THE AGRIBUSINESS**

The MAF has three Secretaries of State for Agriculture/ Arboriculture, Livestock and Fisheries, under the Minister. The Director General is the head of the civil service of the Ministry, with 12 National Directorates and 13 District Directorates. Workforce is the total 1,825 in national and district levels. Each Directorate allocates from 2 to 5 staff in each district (2009).

The National Directorate for Industrial Crops and Agribusiness (DNPIAC) is responsible for promotion of agribusiness of industrial crops and food crops. The Directorate consists of six departments. Total 27 staff is allocated in the central office and the staff from 2 to 3 persons is allocated to each district (2009).

The other ministries relevant to the promotion of agribusiness are the Ministry of Infrastructure (MoI), Ministry of Education (MoE), Ministry of Health (MoH), Ministry of Tourism, Commerce and Industry (MTCI), Ministry of Economy and Development (MED), Ministry of Finance (MoF).

### **3.3 PRESENT LEGAL AND REGULATORY FRAMEWORK**

Legislations enacted and being prepared in the agriculture sector are the fields relevant to crop, livestock, fisheries and forestry. Those are to tend to define standard and formulating process, and ensure the compliance with it. There is the 'commercial law' and the 'cooperative law' as other promulgated relevant legislation.

No doubt a portion of Timor- Leste's dilemma on business is as a result of overlapping legislations and

institutions generated by Timorese, Portuguese and Indonesian authorities. Problems begin with starting a business. Cumbersome and time consuming entry procedures are an obstruction in incorporating and registering a new firm and obtaining construction permits in Timor-Leste. Access to credit is one of the most important drivers for business. However, legal basis as well as related enforcement procedures on credit system is not strong enough to provide confidence to either lenders or borrowers. This cause is an extremely prickly problem related to land tenure. Foreign trade is extremely costly at import and export processes. This is a real barrier to expand trading activities. Legal environment is still evolving. Resolution of commercial disputes, contract enforcement and bankruptcy proceedings and businesses closures through the judicial system is only just beginning.

There are six main categories of taxes: (1) services, (2) excise, (3) sales, (4) import, (5) wage income, and (6) income. Import tax and sales tax are applied on all goods imported into Timor-Leste. Income tax is applied on the income above \$6,000/year. Most all farmers are not subject to any taxes.

#### **4. CURRENT SITUATION RELATED TO AGRIBUSINESS**

##### **4.1 AGRICULTURE/ LIVESTOCK/ FISHERIES PRODUCTION**

Most farming in Timor-Leste is self-subsistent farming style, in which farm household produces food crops for their self-consumption. The number of farm household is estimated at 155,175 based on the population who engage in agriculture/ forestry/ fishing and average household size in the population census 2004.

###### **(1) Food Crops**

Rice is one of the staple crops for nation people. According to the recent production data, paddy production was estimated at 120,775 ton (2009) and 112,925 ton (2010). The yield is low at from 2.1 to 3.6 ton/ha. Baucau district is the top producer, production of 34,024 ton (2010).

Maize is the second most important cereal crop in this country. Significant planting area is placed on fragmentary soils in sloping lands. According to the recent 2010 data, total planted area and production is 70,255 ha and 148,891 ton. Yield is low and post-harvest loss is much. Most large producing district is the Lautem, its production of 42,106 ton occupies by 28% of the country's total production.

Root crops such as cassava, sweet potato and potato are the other subsistent crops which ensure food availability, and planted in the mixed farming with other food crops. According to the production data in 2008, production of cassava is 35,500 ton, sweet potato 9,000 ton, potato 2,600 ton.

Legumes in rotation with rice and other crops are of particular importance. According to the production data in 2008, total production is around 800 ton for soybean, mungbean 1,200 ton and peanut 1,300 ton, respectively. Bobonaro district is the main producer.

Vegetables such as cabbage, onion, tomato and potato are also planted

###### **(2) Industrial Crops**

Coffee is the major export commodity from agriculture sector. Coffee producers are mainly located in the districts of Ermera where plantation area and production are almost half of the country, 32,400 ha and 5,372 ton (2006). Coffee industry employs laborers in the stages from production to processing and marketing.

Timor-Leste has a significant coconut resource. Coconut resource is used as source of food, for cooking oil and making soap and body oils, etc. Its leaves and wood are used for roofing and building materials.

Total area under coconut tree is assumed at around 17,900 ha, with total 11,500 ton copra. Producers are concentrated in districts of Baucau, Lautem and Viqueque, occupying more than 80% of the country's total.

Candlenut production has been decreased in recent times due to lowering its quality and withdrawal of Indonesian traders. Other industrial crops such as bitternut, vanilla, capoc, cacao, clove, pepper and oil palm are produced in the country, although those production and area are limited.

### **(3) Livestock**

Most households have some raising animals as a source of protein and income source to support their subsistence farming. These animals are chickens, pigs, goats, cattle, buffalo, horses and sheep in the natural grazing style. Among them, cattle are more valuable than any other animals.

### **(4) Fisheries**

Total number of fisherman in all districts was counted 5,265. Fish production is increasing in recent years. It is estimated at around 3,207,000 kg equivalent to 6,413,000 US\$ in 2008. Dili is the most active fishing district, occupying around 40% of country's production. Most production is consumed domestically. Currently, seaweed is exported from Atauro to Indonesia, exported amount of 65,000 kg in 2008. The country has high potential for development of offshore. However, some subjects such as construction of processing and cold storage facilities should be provided to promote fishing activities.

### **(5) Agricultural Supporting Services**

Country's potential irrigable area is designed about 71,300 ha. Out of them, functional irrigation areas have been increased to 56,300 ha. Then, further irrigation requirement areas come to about 15,000 ha. It is crucial to establish irrigation management system to increase agricultural productivity.

Micro-finance Institute established in 2002 with the support from Trust Fund for East Timor (TFET) is the only bank who handles agricultural finance. Type of loan related to the agribusiness is the Seasonal crop loan for farmers, Market vender loan for venders/ traders and Micro enterprise loan for business. No loan system for fisheries is provided. It is needed for obtaining a loan to provide a security such as land title, vehicle and personal guarantee.

Although some parts of input materials such as seed, fertilizers, pesticides and farming machine are distributed by MAF free of charge to farmers, countrywide reliable systematic distribution system is not established yet. Supply of seed is conducted under the 'Seed of Life' project by AusID.

Agricultural Service Center (ASC) had been established in three districts of Maliana, Viqueque and Aileu, by grant from the World Bank Trust Fund, aiming to support farmers in providing input materials, processing/ marketing and transporting of their products. Although operation of the three was started in from 2001 to 2002, two ASCs had stopped operation. Only ASC in Maliana is being operated. Besides, Centro Logistic National (CLN) established in Manatuto purchases paddy from farmers and mills/ sells it. But, its operation and management capacity is weak.

Establishment of cooperatives is promoted by the National Directorate for Cooperatives (DNCOOP), Ministry of Economy and Development (MED). The number of registered cooperatives is counted at 38 (total number of cooperative member 2,064 households) up to 2008. Out of them, Agricultural Cooperative registered is 9. Main activity of them is supposed to milling. There are very few active cooperatives.

The National Directorate for Agriculture Community Development (DNADC) is responsible for agricultural extension and rural community development in the country. DNADC allocates total 388 extension staff to each district/ sub district/ village. No certain outputs are produced through extension activity by them, due to lack of facilities for extension activity and not sufficient capability of them.

#### **(6) Agricultural Education Organization**

There are three agricultural high schools under the National Directorate for Agricultural Education. The East Timor National University has seven faculties. Out of the seven, agriculture faculty is consisted of three subjects of agricultural economy, agriculture and livestock. In order to enrich agricultural education, it is essential to improve teachers' capacity.

### **4.2 POST HARVEST AND PROCESSING**

#### **(1) Environment of Post Harvest and Processing**

Increase of domestic rice is the prioritized challenge to achieve nation's goal of food security. It is also crucial for rice importing country like Timor-Leste to avoid the price fluctuations of international rice. Both increase of rice production and reduction of post harvest and processing loss are required in order to increase domestic rice in quality and quantity. But, current government purchasing system may cause huge post harvest loss due to lack of storage facilities. Purchasing price of the current system is fixed without assessment of the crop quality. As the result, the current system is not effective in providing productive incentives for farmers and does not assess their post harvest and processing technologies on the buying.

There are a few domestic processed products distributing and selling in the market. Then, sales opportunity to promote processed products is not often hold for processors and sellers, except the festivals or events organized by related donors which is opened as a direct-sales. The biggest direct sales promotion event is the Expo in Dili. It is organized by MTCI, MAF and other related ministries. (In the Expo 2009, products and handcrafts such as tais, coconut oil/ soap supported by NGOs and fruit jam/ chips from SIPI were exhibited.)

#### **(2) Domestic Processed Products**

**Coffee:** It is the most important export product in Timor-Leste. Cooperative Café Timor (CCT) who is the largest market share holder in this country is exporting the coffee bean before processing. The role of government is to support further export by making the use of the organic certification. In the domestic market, powdered coffee roasted is sold in bulk and the packaged in Indonesia in small volume is marketed.

**Milled rice:** In a few domestic market of milled rice, Salguerios Agricultural Cooperative registered by MED is operating agribusiness to mill locally produced paddy called *Mamberamo* and sell it as a brand. The cooperative has a problem that broken rice occupies more than 30% in the milled one. It is required to improve moisture control of produced paddy and its milling technology. Generally, Timorese's prefer to local variety rice rather than IR variety. Domestic local rice has a large development potential.

**Coconut:** Consumption of coconut cooking oil is gradually increasing in rural area, especially in eastern region, since its price is low. Future subject is to expand consumption of local made one through developing higher quality and lower price under the present conditions small purchasing power of local people and keen competition with Indonesian made one with less smell and high quality. Value adding Manufacturing and selling processes of the coconut oil products including cooking oil are supported technically and financially by GIZ, USAID and NGOs.



**Tofu, Soymilk and Tempe:** Those products are made from soybean. Advanced local processor in Dili is trying to use domestic produced beans as raw materials to manufacture them, since quality of domestic bean production is being improved. But, soybean production is unstable in rural area. It is not resulted yet in stable manufacture of them. Tofu processors are facing with unsuitable sanitation conditions. Tempe processors have poor sanitation conditions which may cause food poisoning due to careless contamination of bacteria except tempe fungus (*Rhizopus oligosporus*). From viewpoints of food safety, it is urgently required to improve sanitation conditions in the manufacturing process.

**Roasted Peanut:** Peanuts are sold as de-husked beans with skins in market and road sides. Processing products such as peanut sweets and peanut butter are not found in this country.

**Jam and Chips:** Women groups have developed and marketed some kinds of jams whose raw materials are papaya, bread fruit, orange, guava, tamarind, and chips making from banana, cassava, sweet potato and taro, etc, with the assistance of donor agencies. Major constraints for future development are the competition with imported one in quality and sales price.

**Bread:** Production of wheat is very limited in this country, so that bakeries rely on imported wheat flour for baking bread. Timor-Leste has mixed food culture with Portuguese one such as breads and sweet buns. Demand of breads is large. Future problem in making breads would be the stable procurement of wheat flour in quantity and price. In addition, it will be becoming hard to procure firewood as heating source in future. It may be required to shift it to other sustainable source such as gas and electricity.

**Palm Wine:** There are two types of simply-fermented and distilled ones. Both are filled in recycled PET bottles for mineral water and sold in the public marketplace. The demands are very high with cheaper price compared with other imported alcohol drink. The quality such as taste and degree of distillation is different from produced sites.

**Minor products:** Minor products are sold by a small quantity in the local marketplace. These are Honey, Marine salty sauce, Dried fish, Dried beetle nut, Spice powder (such as cardamon, cinnamon, clove, nutmeg).

**Possible Processed Products using Available Raw Materials:** The products which are processed in Indonesia, but not in Timor-Leste, are found. Available raw agricultural materials (possible processed products) are listed: mungbean (vermicelli, sweets), maize (bread, corn flake), peanut (peanut butter), Bali cattle/ pig/ goat (frozen cut meat, ham), fruit (dried fruits), cassava (tapioca, flour), chicken (washed eggs).

### 4.3 MARKETING

#### (1) Weights and Measures

Ministry of Tourism, Commerce & Industry (MTCI) has a department of measures. This office is entrusted to develop laws, regulations and guidelines related to weights and measures, and implement the related rulings. But, the office is not actively engaged in setting weights or measures for agricultural products. In fact, with the exception of coffee, there are no guidelines or regulations for agriculture products. The use of the US dollar has a decided impact on how produce is merchandized. Typically, dry crops are measured in bags for wholesale at a pre-set kg weight or cans for retail. Fruits and vegetables are sold at a fixed price for a bunch or pile of produce. The units/dollar is used. While round dollar sales simplify the traders' work, it is more costly to consumers. The use of weight scales for sales would make marketplace more efficient and reduce the buyer's costs. But, it would be difficult to shift into a weight unit considering actual coin basis marketing.

## **(2) Food Supply and Demand at the District Level**

The Timorese diet is traditionally based on the rice and maize, representing two-third of total necessary calorie intake. Root crops such as cassava and sweet potato are followed as the remaining calorie source. Self-sufficiency of the food at the district level is estimated from the balance of food supply and demand which is assumed on the district production and food intake or consumption of the district people. The estimate shows: 1) rice self-sufficiency is not reached yet except 4 districts such as Bobonaro, 2) as for maize, there is a surplus in the east region such as Lautem and Viqueque, but, lack of supply (production) in the western regions of Aileu, Ainaro, Dili, Ermera and Liquica, 3) supply of root crops such as cassava and sweet potato nearly meet with the country's demand.

## **(3) Import Policy of Rice**

Domestic production for staple food crops both rice and maize was not sufficient to meet demand (rice import, 78,000 ton (2007) and 98,000 ton (2008)). Its quantity was decided by the Inter Ministerial Commission including MAF under the leadership of MTCI.).

MTCI puts out to tender contracts to import, bag and store rice. The contractors are responsible to store the imported rice until pick up by approved traders. District traders appointed by district administrative come to the storage in Dili and purchase scheduled quantity, and then, transport to their districts. Traders' purchase prices represent subsidized rates, then, purchasing price including transportation cost differs by districts. Traders are required to sell imported rice at not exceeding maximum price or less set in advance. Traders are not forbidden to import directly, but effectively cannot compete at subsidized market rates.

## **(4) Purchasing Products by the Government**

The overall objective of the government is to promote agricultural policies that lead to food self sufficiency and market-oriented agriculture with price stability. To attain its objective, the government attempts to introduce purchasing system of agricultural products under the leadership of MTCI. The Ministerial Committee including MAF set purchasing products and prices (in 2009, 12 products such as paddy and maize and the price were set by three purchasing places: farmer's gate, district warehouse and Dili warehouse).

This system is geared to support farmers, and is not generally focused on building up trader or processor skill and facilities. Traders are not forbidden to trade directly to farmers, but, have a difficult time surviving between the mandated prices and MTCI's retail sales prices. If this system is continued, traders' business opportunities would be often quite constrained.

## **(5) Marketing Profiles**

**Rice:** Paddy producing farmers sell it to collectors and MTCI except home consumption. For sales to retailers, farmer group or individual has to mill paddy and sell the polished rice. But, the volume of its sales is small, primarily limited to small retailers in local markets selling by the cup. Local rice is more costly than the imported rice. Consumers tend to have a taste of local one than the imported.

**Maize:** Most maize is consumed directly by farm household, and the surplus enters into the marketplace through collectors. Most commonly maize farmers sell their produce directly to retailers. Less frequently, traders travel to farms and purchase maize at the farm gate. It is estimated that less than 10% of total maize production makes it to market. Maize is marketed as either (i) fresh, (ii) dry on the cob, (iii) dry kernels, and (iv) threshed/ milled. Dry corn kernels and milled ones are sold in small quantities.

**Soybean:** Limited domestic market seems to be the industry's largest constraint. Most products go to from

farmers to collectors who transport and sell to tofu and tempe producers. The collectors also have the option to sell to MTCI's purchasing system. However, payments from the MTCI to collectors are often delayed. Most traders prefer to sell directly to local soybean processors. Most domestic soybean needs are imported in 2008. As there is currently insufficient product in country, and since domestic price levels are comparable to those of imports and local beans are considered of superior quality, increasing production can substitute for imports.

**Mungbean:** There is an ample opportunity to increase sales to both domestic and export markets. It is estimated that about 25% of local trader purchases from farmers are sold in country and 75% exported. For export, Traders in West Timor buy from farmers and traders in Timor-Leste. Its market price is seasonally fluctuated. Taking market opportunity of the high prices would require storage of the mungbean. But, post harvest drying, cleaning, grading and storage facilities are not available in the country. When demand is high in Timor-Leste, those are sometimes re-exported back from West Timor to Timor-Leste.

**Fruits, Vegetables and Root Crops:** Marketing channels of fruits, vegetables and root crops are (i) farmer → consumer, (ii) farmer → retailer → consumer, (iii) farmer → collector → retailer → consumer. Those collectors, retailers and often farmers are predominantly women.

**Livestock:** Domestic sales of livestock except home consumption, in case of cattle, are: (i) farmers sell it to traders, (ii) traders usually transport and slaughter it themselves, (iii) traders sell meat in local markets. There is no cold chain or abattoirs, and no hygiene standards at meat processing. If safe quality meat is available in the marketplaces, it will be able to substitute for imported frozen meat. 'Bali cattle' is well known as high quality cattle. Its demand is high in Indonesia. High potential exists in expanding export of alive cattle.

**Fisheries:** Fish are landed in Atauro and northern coast. Usually fishers sell to buyers nearest to their point of landing. Buyers may be individuals, local restraints and collectors. There are no refrigerators and ice making facilities at landing points. Then, fishermen and fish traders have difficulty in transporting fresh fish to inland areas. Salted and/ or canned fish selling in the market is imported.

## **(6) Imports and Exports**

In Timor-Leste, total non oil trade balance has been in deficit. The growing trade deficit is the cause for concern. Export products are coffee, copra and spices, etc. Import is rice (milled rice, paddy), sugar refined, maize, fruit, wheat flour, vegetable and milk, etc. (FAO's import data (1997-2006), yearly more than 100 ton). On the export, coffee's contribution is very significant representing over 90% by value of all non oil exports. Agriculture import products have high import substitution potential. To realize it, it is required to provide high competitive power in price and quality.

Currently, Timor-Leste quarantine services are unable to comply with WTO's standard.

## **4.4 SELLING OF AGRICULTURAL/ LIVESTOCK/ FISHERIES PRODUCTS**

### **(1) Public Marketplaces**

Basic marketplaces have been built by MTCI in the municipal centers of each district. The operation and management of them is formally entrusted to local retailers and local administration staff under the direction of District Administrator. However, in reality, the District Administrator often devolves its authority to run the marketplaces to either the market traders who use the facilities, or local MAF staff. The facilities are used actively by related retailer and traders themselves who operate and manage the allocation of space, maintenance, repairs and cleaning. There are various market styles such as free market

of direct sales, open shop, retail shop with simplified building structures, shops with large scale building constructed by MED. There are no infrastructures such as water supply, electricity and drainage facility in the marketplaces. Border marketplaces have been constructed, but, not opened yet in 2009.

DNPV is responsible for construction, operation and maintenance of the abattoirs. There are no abattoirs running at present. All of them have been closed since independence. DNPV plans to resume the Tibar abattoir in Liquica district, through rehabilitation of the devastated facilities. Currently, animal meat of cattle, pig, chicken and goat is usually made in the garden of each farmhouse. Hygienic condition is not managed in the garden.

## **(2) Current Selling Products in the Marketplaces**

Most of agricultural products are generally transport as the post-harvest processed and sold them in just as it is. Some products are sold in simple packaging style by plastic bag and string imported. Most products are just piled up. Purchasing power of local people is small. Products are sold in a small quantity by using cups and plates which are provided by sellers.

## **4.5 DISTRIUBUTION INFRASTRUCTURES**

Ruining condition of the road network in Timor-Leste (total length: about 6,000 km) is generally poor. It is required to rehabilitate them for promoting agribusiness activities from production to marketing. Under this condition, ADB has prepared the middle/ long term rehabilitation plan for roads and bridges.

There are seven (7) sea ports in the country. Except for Dili port, they have only small wharf or jetty. In the middle term development plan, construction plan of a new international port is formulated. However, there are some subjects to step forward. It would be unlikely to be justified in the near future.

As for electricity, most of the district capitals have diesel generators providing electricity from 6 to 12 hours per day, except for Baucau and Dili where have supplied generally 24 hours. Nationwide electric power supply plan should be formulated for developing various industries. However, for time being, it is required to provide any power supply facility at the time when new processing machine or equipment is introduced.

Water supply and sewerage facilities in both rural and urban area in Timor-Leste are devastated. Water supply system in Dili is rehabilitating with the assistance of JICA. But, there are no plans for rural areas. As for sewerage system, no plans have been provided yet. Therefore, when processing industry is set up, necessary water supply and sewerage facilities should be provided individually as the need.

Access to telecommunication services is limited, and communication fare is relatively expensive. It is hard to communicate agribusiness information easily among farmers, traders and processors. It is easy to access to Timor TV for most of suco. People can get social information through the TV.

## **4.6 BASELINE SURVEY**

The baseline survey conducted to grasp the current situation of district agribusiness and the processing/ marketing groups/ organizations in district. As the survey result on the distinct agribusiness, advantages arisen, "Natural farming" in six districts, "Low wages in the agricultural sector" in three districts, etc; problems arisen; "Lack of marketing information" in four districts, and "Price fluctuations of agricultural products" in three districts, etc. From the survey on the groups/ organizations, it was observed overall that related processing activities were weak. "Simplifying official procedures for business licenses" as for improvement of institution, "Capacity development of staff" and "Organizing groups/ cooperatives for

farmers/ fishermen” as for improvement items on human resources and groups/ organizations, were arisen. Related to the organization management, “Lack of means to procure operation from outsides” was arisen.

#### **4.7 SOCIAL AND ENVIRONMENTAL CONSIDERATION**

Men and women share nearly an equal role in the agriculture sector. Gender related duties are often culturally defined. Nearly all rice/ maize traders are men, whereas, nearly all fruit and vegetable traders/ retailers are women. Women play a vital role in from agricultural production to marketing/ selling.

Marketplaces’ environmental situation varies widely depending on the locations. Expectation is that the new MTCI’s marketplaces will be developed in an environmentally sound manner with practical environmental management plans including in provision of laws/ regulations related to market of agricultural/ livestock/ fisheries products.

#### **4.8 RELEVANT PLANS/ PROJECTS BY INTERNATIONAL ASSISTANT AGENCIES**

International assistant agencies are implementing relevant plans/ projects.

**JICA:** The project “One village One product (OVOP), local called “SIPI” (Suco Ida Produti Ida, was completed in 2010. Besides, those types projects, grand aid type project on rehabilitation of irrigation facilities, technical cooperation on irrigation/ water management and watershed management, and grass root aid on agricultural sector such as strengthening coffee corporative. **GIZ (EU):** Past implementation projects contribute to the introduction of ICM farming and the development of processing/ marketing fields of agricultural products. At present, Rural Development Programmes (RDPII and RDPIII) funded by EU are on-going. **AusID:** Major seeds such as paddy and maize are distributed to some farmers through the “Seed of Life” program”. **USAID:** Besides the support to CCT for development of coffee industry, two programs were implemented, “Agribusiness Horticulture Program” to support private sector and “Agribusiness Capacity Development Program” to educate agribusiness person. **Portugal:** Small projects to support production fields of coffee, maize and peanuts are implementing in eastern region.

### **5. FORMULATION OF MASTER PLAN**

#### **5.1 PROBLEM ANALYSIS**

Core problems which should be dealt with to promote processing and marketing industries are compiled based on the present conditions in line with the stages from production to processing, marketing and selling of agricultural/ livestock/ fishery products, as shown in the Fugure-1. Those are complicatedly linked with each others.

#### **5.2 APPROACH TO PROBLEM SOLUTION**

Subjects are evolved to solve the core problems and necessary approaches to solutions are formulated to deal with the subjects. Based on the approaches, necessary measures are evolved. By compiling the measures, framework of the Master Plan was prepared.



Framework of the "Nurturing plan of agribusiness stakeholders was changed into the "Value Chain Improvement".

Figure-1 Approach to Formulating Master Plan

## 5.3 FORMULATION OF MASTER PLAN

### (1) Agribusiness Development Direction

#### **Integrated Development Approach with Production/ Processing/ Marketing/ Selling :**

Timor-Leste farmers have developed agricultural systems based on food security rather than market orientation. Changing the self consumption pattern to a market orientation requires the building of confidence in market systems. For self-supporting farmers, it is required to generate market orientated sense with processing/ marketing/ selling of their cultivated crops. To do so, they are encouraged to cultivate target crops directed to shipping target, and it is important to provide them technical support to cultivate target crops. In order to shift from self-sufficient farming to market oriented commercial farming, it is necessary to accumulate production activities oriented toward post-harvesting, marketing and selling process of their produced products. Such activities should be conducted under the basic concept of value chain improvement. Farmers' commercial sense would be generated by accumulating such small activities.

**Promoting Small Scale Processing and Marketing Industries with Domestic Products:** Considering poor marketing infrastructures, setting up of large scale agribusiness has much risk. Imported commodities are widely sold by cheap prices in the marketplaces. It is necessary to promote domestic commodity processing industry making use of domestic agricultural/ livestock/ fishery products, although competition with imported commodities is keen in price, quality and quantity. Considering present poor social infrastructures such as roads, electricity and water supply, possible processing industry is limited to a type of labor-intensive small scale home industries with farmers groups/ farmer organizations/ cooperatives.

**Promoting Agribusiness Envisaging Customer Target:** For setting up of agribusiness, it is expected to profit from its business. To do so, it is necessary to analyze business feasibility, envisaging customer targets which are roughly classified into rich people, consuming public and overseas consuming public.

**Import Substitute and Demand Expansion Oriented Processing and Marketing Industries for Consuming Public:** Considering that many agricultural/ livestock/ fishery products and processing commodities are imported, processing/ marketing industries to deal with imported substitute products should be targeted in the agribusiness promotion. Target products so that they can be manufactured by making use of domestically produced products should be found and developed for consuming public. Furthermore, considering the development constraint such as lack of nation-wide products distribution system, it is desirable to promote small scale processing/ marketing industries in local area so that locally produced products can be consumed within their area.

### (2) Composition of Master Plan

#### 1) Objective of Master Plan

“In order to promote processing/ marketing of agricultural products driving by private sectors such as small farmers' organizations, entrepreneurs and agro-dealers (middlemen, market traders), the Master Plan aims to provide administration system for promotion of agribusiness, to strengthen administrative services so as to support the agribusiness activities and to provide infrastructures including in establishment of institutional system/ standardization and construction of infrastructural facilities such as roads.”

#### 2) Target year, area and beneficial people

Target year of the Master Plan is set to be implementation period of 10-years after completion of the study. The target area covers entire area of Timor-Leste. Direct beneficial people is estimated 842,599 people who engaged in agricultural/ livestock/ fishery sectors.

### 3) Composition of Master Plan

Based on the framework of Master Plan and suggestion from the pilot projects, the Master Plan is composed of 7 Programs and 20 Projects, as follows.

Program	Project	
1. Improvement of agricultural productivity	1.1	Establishment of seed/ input materials supply system
	1.2	Rehabilitation of agricultural production infrastructures
	1.3	Strengthening of dissemination system of cropping technology
	1.4	Promotion of contract farming
2. Support for promotion of processing industries	2.1	Support for set-up of private processing industry
	2.2	Support for set-up of processing industry by farmers/ women group
	2.3	Support for specializing products
	2.4	Support for provision of processing infrastructures
3. Support for promotion of distribution industries	3.1	Support for improvement of product transportation
	3.2	Provision of agricultural distribution infrastructures
	3.3	Provision of an agribusiness information and communication system
4. Support for sales promotion	4.1	Support for marketing route development
	4.2	Introduction of agriculture produce grading system
	4.3	Improvement of sanitary management
	4.4	Introduction of food safety inspecting system
5. Improvement of the government's products purchasing system	5.1	Improvement of an operating system in central and local levels
6. Support for export promotion	6.1	Support for finding export commodity and its sales promotion
	6.2	Promotion of exporting
7. Value chain Improvement	7.1	Support for establishment of product based value chain
	7.2	Capacity development plan of value chain stakeholders

### 4) Objectives of the Programs

Development goal of the Master plan is set "Processing/ marketing / selling of agriculture/ livestock/ fishery products are promoted.". In order to achieve this, the objectives of each program are set as follows.

Program	Objectives
1. Improvement of Agricultural Productivity	To support increase of productivity of rice and other food crops in quality and quantity through establishment of sustainable seed/ input materials supply systems, establishment of operations and management systems for farm machines, rehabilitation of present irrigation systems, dissemination of farm technology and contract farming between farmers groups and traders/ processing industries.
2. Support for Promotion of Processing Industries	To support farmers groups/ women groups so that they can set up and operate small scale processing industries which make use of local agricultural/ livestock/ fisheries products aiming at expansion of local product demand.
3. Support for Promotion of Distribution Industries	To promote provision of infrastructure such as roads, storage facilities and ports and improvement of products transportation, and provide prepare market/ agricultural information supply service for agribusiness stakeholders including processing industry, traders, wholesalers,

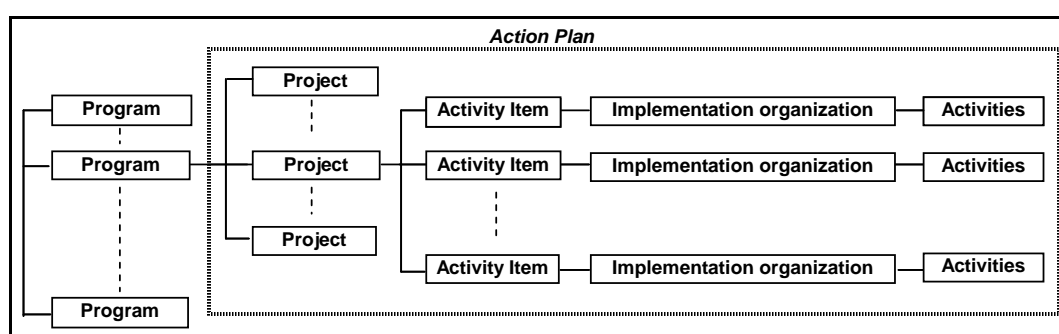


Program	Objectives
	farmers groups, women groups and retailers and sellers, so as to make products distribution more effective and economic.
4. Support for Sales Promotion	To provide sales opportunities such as exhibitions and agribusiness talking opportunities for producers/ traders/ sellers, improve sanitary environments of marketplace and abattoir, introduce agricultural products grading system and food safety inspection system so as to be conducive to promote food sales
5. Improvement of the Government's Products Purchasing System	To improve the present products purchasing system to generate practical impacts.
6. Support for Export Promotion	To find exportable Timor-Leste's naturally farmed products by seizing the opportunities through analysis of information produced by market research in the target export countries, and promote its export through provision of export business conditions such as improvement of quarantine service, simplified export documentation and export promotion campaigns.
7. Value Chain Improvement	To create agribusiness through supporting the development activities from viewpoint of value chain improvement of the product. This program takes the cross-cutting approach of series programs from the No.1. to the No.6. To realize the value chain improvement, capacity development of human resources including administration organization staff and private sectors such as farmers groups/women groups, processors, traders and sellers, are also conducted.

## 6. FORMULATION OF ACTION PLAN

### 6.1 COMPONENT OF ACTION PLAN

Each program has an Action Plan to achieve the objectives of the program. Each Action Plan has some projects. Composition of the 'Program', 'Action Plan' and 'Project' is illustrated as below.



### 6.2 SUGGESTION FROM THE PILOT PROJECTS

Activity items and activities of the project were practiced in the pilot projects and lessons learned were obtained. Those lessons are incorporated into the Action Plan.

### 6.3 ACTION PLAN FOR IMPROVEMENT OF AGRICULTURAL PRODUCTIVITY

Project	Objective and Outline of Activity Items
Establishment of Seed/ Input Materials Supply System	This is to support increase of agricultural productivity through establishment of sustainable seed/ input materials supply system. By implementation of this plan, it can be realized to provide seed/ input materials for cropping. This contributes to increase in crop productivity. With the increase of production, surplus crop production can be shipped into market.
Rehabilitation of Agricultural Production Infrastructures	This is to support increase of agricultural productivity through rehabilitation of irrigable areas. By implementing this project, it can be realized to increase in irrigation area. It brings to increase in cropping area and crop productivity. With the increase of production, surplus crop may be provided for self-sufficient farmers. It may be shipped into market.
Strengthening of Dissemination System of Cropping Technology	This is to support increase of agricultural productivity through strengthening cropping technology. By implementing, extension staff can be realized to learn know-how of cropping. Organic farming technology including the ways how to make organic fertilizer and organic pesticide and how to spray them should be disseminated.
Promotion of Contract Farming	This is to promote contract farming between crop producing farmers and processors/ traders. By this project implementation, it is expected to make crop production stable in quantity and quality. It is led to ensure stable supply of the crops to processors and traders. Then, they can provide manufacturing plan and trading plan in advance. It makes their business operation stable. It also contributes to generation of income source and stable farming for contract farmers.

### 6.4 ACTION PLAN FOR SUPPORT FOR PROMOTION OF PROCESSING INDUSTRY

Project	Objective and Outline of Activity Items
Support for Setting-up of Private Processing Industry	This is to support private processing industries in setting-up, operation and management of their processing business through supporting value adding process and new commodity development of the products. Planning the action plan is largely dependent on the target products. Private processing industry seeks any possibility of set-up industry based on the marketability of the target products with customer targets (rich people, consuming public and overseas customers). In the pilot projects, soybean processors and bakeries.
Support for Setting-up of Processing Industry by Farmers/ Women Groups	This is to support farmers groups/ women groups who try to set up and operate industries making use of local agricultural/ livestock/ fishery production resources. Contents of the action plan are largely dependent on the target crops. Administration organization should encourage them to challenge setting-up of industry, indicating future development direction of processing/ marketing industries. Administration provides necessary support in setting-up and operation processes for them.
Support for Specializing Products	This is to support farmers/ women groups in setting-up and operation of their home industries handling special products, in cooperation with ongoing SIPI campaign. By implementing this action plan, new local special commodities can be found by farmer themselves and processed/ marketed for specialization. This plan includes technical supports in the new commodity development processes. This project contributes to realization of self-reliance of producers, farmers/ women groups.
Support for Provision of Processing Infrastructures	This is to provide processing infrastructures such as electricity and water supply for processing industry on demand. This project is regarded as temporary measure in response to the request from processors, farmers groups/ women groups and other related processing groups until provision of infrastructures is completed.

## 6.5 ACTION PLAN FOR SUPPORT FOR PROMOTION OF DISTRIBUTION INDUSTRIES

Project	Objective and Outline of Activity Items
Support for Improvement of Product Transportation	This project is to support processing and marketing industries in transportation of the target products produced by farmer groups/ women groups and processors among production, processing and consumption sites. This mainly is focused on the fresh products. The project includes improvement of packaging to make the products transportation more effective.
Provision of Agricultural Distribution Infrastructure	This project aims to improve infrastructure so as to make distribution business of agriculture/ livestock/ fishery products more efficiency and economically. The project consists of “Rehabilitation of roads”, “Rehabilitation of ports” and “Construction of storage facilities”. Rehabilitation of road is prioritized.
Provision of Agribusiness Information and Communication System	This project is to seek to improve agribusiness’ access to market information so that agribusiness actors can reflect that information on their business. It includes in establishing collection system of related information and providing an electronic agribusiness database and communications system.

## 6.6 ACTION PLAN FOR SUPPORT FOR SALES PROMOTION

Project	Objective and Outline of Activity Items
Support for Marketing Route Development	This is to support sales expansion of processing and marketing products. The strategy includes elements such: (i) agribusiness fairs, (ii) use of market booths (antennae markets), and (iii) a market promotion campaign. The market promotion campaign makes use of radio, television, newspapers, banners and competitions.
Introduction of Agriculture Product Grading System	This is to introduce grading and certification system of domestically produced products so that sales of the products can be expanded. Introduction of the grading and the provision of certificate may boost its sales and provide consumers more high quality products.
Improvement of Sanitary Management	This plan aims to improve environment conditions of marketplace so as to appeal food safety to buyers. It is to improve sanitary environment, provide sales room for fresh food, and introduce low temperature storage facility in the marketplace for sales promotion. The project consists of the “Provision of sanitary management system in the marketplace” and “Provision of abattoir”. It contributes to provide safety of fresh products.
Introduction of Food Safety Inspecting System	This project is to make it possible to sell foods added high-quality value by ensuring food safety system through strengthening inspection system along market routes. If food safety inspection system complied with international regulations is established, it may contribute to getting reliability from international market and help export promotion of the products.

## 6.7 ACTION PLAN FOR IMPROVEMENT OF THE GOVERNMENT’S PRODUCTS PURCHASING SYSTEM

Project	Objective and Outline of Activity Items
Establishment of an Operating System in Central and Local Levels	This project seeks to create better farmers’ incentives through improvement of the existing MTCI product purchasing system. Improvement of the present MTCI operation system includes: 1) human resource development program for MTCI staff, 2) introduction of quality inspection system, 3) establishment database, 4) making purchasing process simplify.

## 6.8 ACTION PLAN FOR SUPPORT FOR EXPORT PROMOTION

Project	Objective and Outline of Activity Items
Support for Finding Export Commodity and Sales Promotion	This project seeks to promote the exportation of naturally farmed products. It includes: (i) finding of agriculture products with export potential, (ii) creation of an export marketing strategy for selected products in target markets, (iii) introduction of an organic (i.e., naturally farmed) certification program. Introduction of these measures should enable the nation's produce to enter the international market.
Promotion of Exporting	This aims to improve quarantine service and export documentation system. By implementing, product exporting will be activated through simplified documentation process and upgraded quarantine system.

## 6.9 ACTION PLAN FOR VALUE CHAIN IMPROVEMENT

Project	Objective and Outline of Activity Items
Support for Establishment of Product Based Value Chain	This project is to support in establishing value chain system from production to processing, marketing and selling until consumption. This project takes an integrated development approach in cross-cutting of the above projects. DNPIAC is responsible for this project implementation. DNPIAC should take approach to establish a linkage of the actors to create the value chain.
Capacity Development Plan of Value Chain Stakeholders	This is to provide learning opportunities on agribusiness for value chain stakeholders including administration and private sectors. There are two training directions: 1) improving administration staff's agribusiness operation capacity under value chain improvement, 2) strengthening business management and economic activity of private sectors such as farmers' group/ women groups, cooperative, processing industries and traders.

## 6.10 SOCIAL AND ENVIRONMENTAL CONSIDERATIONS

In general, project activities of Action Plan are agriculture in nature, and are not expected to cause significant adverse environmental impacts. In any case, the environmental effects are site specific, and can be mitigated through application of appropriate managerial and technical remedies.

Implementation of the Action Plan provides transfer of agribusiness knowledge, skills and technology, better market information, upgraded marketing outlets and opportunities, improved sales environment, more dependable income source, and enhanced government support services. Taken as a whole, draft action plan activities have a net positive impact. There are also indirect benefits such as better food safety and effective quarantine systems.

## 7. IMPLEMENTATION PLAN OF ACTION PLAN

### 7.1 RECOMMENDATION FROM THE PILOT PROJECTS

Lesson learned for the pilot project implementation, followings were suggested for planning the implementation organization: 1) it is required to organize the implementation organization so as to enable to cooperate with related ministries and related MAF directorates, 2) it is effective to incorporate relevant NGOs and private organizations/ groups into the implementation organization of the Action Plan, under the management and financial supports from the international aid agencies, until MAF provide budgeting and institutional conditions for realization of Action Plan, 3) it is realizable to take product based approach for materializing Action Plan.

## 7.2 PROPOSAL OF IMPLEMENTATION ORGANIZATION

### (1) Related Administration Organizations with Action Plan

Related Administration Organizations involved in Action Plan are the National Directorates under MAF, and MTCI for processing/ marketing and sales, MED related with cooperatives, MoI for provision of processing/ marketing infrastructures, MoH for food safety of processing/ marketing products, etc.

### (2) Proposal of Implementation Organization

**Provision of Implementation Organization of the DNPIAC:** DNPIAC is the implementation body for implementing the Program and Action Plan. DNPIAC should establish an implementation organization immediately after the completion of this study.

**Proposal for Organizing Agribusiness Promotion Unit (APU):** In order to materialize the Action Plan, it is required to build cooperative relationship among related ministries and related MAF Directorates and private agribusiness actors. However, it is not easy to build the effective cooperation system. To realize the cooperation, both economic activities by private actors and responsibility of related administration should be analyzed along value chain. DNPIAC is the only possible Directorate to take cross-cutting approach among MAF Directorates, and should act as implementation body to realize cooperation with them. However, DNPIAC will not be able to act as coordination organization with all organizations considering the responsibility mandated from MAF. Considering such situations, it is proposed to provide a new implementation organization, apart from DNPIAC organization.

- "Agribusiness Promotion Unit (APU)" is established in the MAF. MAF assigns the DNPIAC as secretariat of the APU. Representatives of the all Directorates are participated in the APU.
- MAF mandates the APU to promote agribusiness. MAF takes necessary budget for the APU.
- MAF organizes a "Steering Committee" in the MAF.

Tasks govern to the APU is regarded as a usual tasks of the DNPIAC. APU staff also holds the concurrent post in the DNPIAC.

Main responsibility of APU is to: 1) provides learning opportunity as for agribusiness promotion and awareness of value chain for private actors and central/ district DNPIAC staff, and other related organizations/ persons, 2) collects agribusiness information on products or crops, producers, processors and traders, etc. and establishes human resources' network for establishing value chain, 3) make linkages with actors of related administration and private actors to establish cooperation system with each other.

Basic function of the Steering Committee is to: 1) budget to APU and supervise APU activities, 2) makes strategy and policies for agribusiness promotion, 3) coordinates corporation with related ministries, other related organizations and institutes, 4) suggest related policy to related ministries and arrange to make policy.

## 7.3 IMPLEMENTATION PLAN

### (1) Implementation Schedule Planning

**Implementation under the DNPIAC implementation organization:** Action Plans are implemented based on the outcomes from the pilot projects under the DNPIAC implementation organization. However, MAF will face with budget limitation and lack of human resources. Considering such constraints, it is considered that an implementation pace may be slow, to be difficult to attain the target within the 10-years.

**Implementation under the APU:** Action plans are implemented under the APU, aiming to attain the

master plan target with 10-years. It is necessary to provide budget and training of agribusiness stakeholders to ensure attaining the target, so that training activity is incorporated into the implementation under the APU.

Overall Implementation Schedule of Action Plan	Preparation	Implementation Period 10-years)		
		First (4-years)	Second (3-years)	Third (3-years)
<b>1. Implementation under the DNPIAC</b>	→			
1) Monitoring/ Follow-up of the Pilot Projects under DNPIAC	→			
2) Arrangement of Administrative Conditions for Implementation	→	▶		
<b>2. Implementation under the APU</b>		→		
1) Implementation under the APU provided full support from international aid agencies		→		
2) Implementation under the APU shifting from full-support to self-supporting organization			→	
3) Implementation under the self-supported APU				→

- 1) Implementation under the APU provided full support from international aid agencies, Action Plan is materialized under the financial and technical full supports from the international aid agencies that have knowledge and experiences. APU's organization capacity will be improved in this period.
- 2) Implementation under the APU shifting from full-support to self-supporting organization, supports from international aid agencies will be minimized. APU will try to operate and manage the Action Plan implementation based on the knowledge and experiences learned from the first stage. This is to shift from full-support from the international aid agencies to self-supporting APU.
- 3) Implementation under the self-supported APU: self-supported APU will operate and manage programs/ draft action plans. Implementation processes will be progressed as regular tasks of DNPIAC.

## (2) Product Based Approach to Implementation and Priority Products

It is proposed from the suggestion of pilot projects that the Action Plan should be materialized as product based implementation, as well as the pilot project. To do so, target product is primarily selected from the domestically produced and marketed products based on the agribusiness development potential. Necessary supports for selected target product are incorporated as concrete activities into the Action Plan.

Priority is put on the possible products to realize the Action Plan. Criteria to put priority is considered; the product is the food/ horticultural/ industrial crops producing widely in the country; the product is considered to be import substitute; it is expected to get a large and quick benefit from small investment in the short term; the selected product has high marketability; it is expected to become exported product in the short term; many actors are expected to become beneficial people.

For short term development, higher priority is put on the major food crops, such as **rice (including husk, rice bran and straw), corn, root crops such as cassava, sweet potato and potato, etc, pulse crops such as soybean, mungbean and peanut.**

DNPIAC should take over the outcomes brought from APU and continue and expand them to the related areas/ actors. To perform such duties, present DNPIAC organization structure stipulated under the present organic law should be improved. DNPIAC has a section "Agribusiness of Food & Horticulture" dealing in agribusiness promotion. The organization structure should be improved: 1) for short term target, two departments of 1) food crop and horticulture crop and 2) industrial crops and forestry crops, are formed,

and two departments dealing in 3) livestock and 4) Fishery, should be added as long term target. Total four departments are proposed as future organization.

### (3) Putting Implementation Priority on the Programs

Considering the actual budgeting of MAF and related ministries, it is considered to be hard to provide full scale funding along the proposed implementation schedule. Considering the budget limitation, it is proposed to put priority on the Programs. High priority is put on the "Improvement of Agricultural Productivity", "Support for Promotion of Processing Industries" and "Value Chain Improvement". As an urgent project, priority project is put on the "Strengthening of Dissemination System of Cropping Technology".

### (4) Cost Estimate for Implementing Programs and Action Plans

Implementation cost is consisted of the following parts.

**1) Operation cost for APU:** this is the cost for overall operation and management. It covers costs in planning, executing, operation and managing the action plan implementation. Necessary cost to realize cooperation with related MAF Directorates and related Ministries are also included. Most of the cost is considered to be the soft component cost.

**2) Cost for related MAF Directorates:** it should be allocated to the related MAF Directorates for their usual tasks. Cost component includes the irrigation rehabilitation by DNIGUA, dissemination of cropping technology by DNAH and DNADC, improvement of abattoir/ execution of disease prevention measures for DNPV and opening of fish market for DNPA. Most of the cost is related with improvement of infrastructures.

**3) Cost for related Ministries:** it should be allocated to the related Ministries for their usual tasks such as road improvement by MoI, provision of cool transpiration and storage facilities by MED and MTCI, introduction of food safety inspection of MoH and improvement of government products purchasing system by MTCI. All of them are related with the provision of infrastructures.

**Necessary cost for Program/ Action Plan Implementation** Unit: US\$1,000

Cost component	First(4-years)	Second(3-years)	Third(3-years)	Total( 10-years)
Operation cost for APU	3,511	2,187	1,998	7,696
Cost for related MAF Directorates	14,512	19,422	19,124	53,058
Cost for related Ministries	23,985	16,917	17,086	57,989

Costs of three parts are desirable to be allocated in line with the implementation of Action Plan. To do so, however, it is required to make arrangement with the related organizations. It seems to be difficult to arrange with them. Those components can be operated each other as separate development plan.

## 7.4 IMPLEMENTATION UNDER THE DNPIAC IMPLEMENTATION ORGANIZATION

It is expected to take a long term to organize the APU and launch the Action Plans. Therefore, DNPIAC implementation organization should tackle the implementation until organizing the APU.

### (1) Follow-up of the Pilot Projects

The pilot projects are considered to be the prior implementation of the Action Plans. The results will influence future prospect of the Programs and Action Plans. DNPIAC implementation organization should take over the outcomes from the pilot projects and intervene in the acting process, support their activities. The follow-up activities should be continued until outcomes generated are fixed on the actors.

## **(2) Implementation Direction of the Action Plans after the Pilot Projects**

It is expected to promote the proposed Programs and Action Plans with any target products under the DNPIAC implementation organization after completion of the pilot projects. DNPIAC implementation organization will have difficulty in provision of human resources and funding, so that dealing number of target products may be limited. DNPIAC should try to realize the Action Plans based on the experiences and knowledge obtained from the pilot projects. Considering present condition, mungbean is tentatively selected as promising product. The project "Value-chain improvement of mungbean" is tentatively proposed.

### **7.5 EXPECTED EFFECT OF THE ACTION PLAN IMPLEMENTATION**

From the action plan implementation under the APU, it is expected to bring the following effects to: 1) contributes to the food security, 2) provides labor employment in local area, 3) ensures income source and improves purchasing power for rural population, 3) brings effective land use, 4) contributes to increase non-oil sector's GDP.

## **8. CONCLUSION AND RECOMMENDATION**

### **8.1 CONCLUSION**

The study team conducted the study based on the scope of work (S/W), aiming to formulate a Master Plan. Study results are presented in this report. Formulated Master Plan shows a framework and development direction of agribusiness promotion in this country, consisted of seven (7) Programs and Action Plans of the 20 Projects.

Through the implementation of five pilot projects, it was verified that formulated Programs and Action Plans were fully effective and implemented pilot projects were considered to be effective as business model in the country. It is clarified that proposed Programs and Action Plans are effective to achieve the objectives for agribusiness promotion.

As the results, it was concluded that the Programs and Action Plans presented in this study should be immediately conducted in the country.

### **8.2 RECOMMENDATION**

#### **(1) Provision of administrative conditions and implementation organization for materializing formulated Programs and Action Plans**

It was confirmed that implementation of the Programs and Action Plans bring the effects such as contribution to the food security in this country, employment of labor force for local people, creation of income source for local women. MAF should understand the effectiveness of the Programs and Action Plans which takes an integrated development approach with related stages from production, processing, marketing to selling. It is suggested that MAF should provide administrative conditions to put forward formulated Programs and Action Plans.

It is proposed to establish an organization of Agribusiness Promotion Unit (APU) in the MAF. DNPIAC should be assigned as an implementation body for this APU. Basic responsibility of the APU is considered to be the usual tasks of the DNPIAC. Therefore, proposed organization structure of the APU consists of a project manager and some staff from the DNPIAC. In parallel with setting-up of the APU, a steering committee should be organized to supervise the APU. Basic responsibility of the steering committee is to



allocate budget to the APU and make arrangement with related ministries and related MAF Directorates. To realize the Programs and Action Plans, it is proposed that MAF makes arrangements for establishing such organization.

**(2) Necessity of following up the pilot projects**

Pilot projects implemented in this study are considered to be a leading project to materialize the proposed Programs and Action plans. It is required that the pilot project sites serve as demonstration sites of all activities performed so far such as activity processes taken by private actors, supports from the administration and effects brought from the pilot projects. Private actors participated in the pilot projects are acting aiming to achieve their target. But, their activities are still remained in the trial stage. Their activities should be continued until those would become established as usual works. To do so, on-going pilot project activities should be monitored and intervened by DNPIAC and related organizations as required time. It is suggested MAF mandates the DNPIAC to monitor and intervene their activities and budgets for them.

**(3) Making approaches to establishing cooperation with related ministries and institutionalizing technical and financial supports to private sectors.**

It is required for agribusiness promotion to establish close cooperation system with administration organizations in line with establishment of value chain of targeted product. Related ministries are MTCI, MED, MoI and MoH, etc. In addition, it is obvious that on-going government products purchasing system operating under the MTCI has an influence on not only production fields but also processing/ marketing fields.

In order to ensure an effectiveness of proposed Programs and Action Plans, it is suggested that MAF makes approaches to establishing cooperation system with such related ministries. It is also suggested that MAF takes initiatives to arrange among related ministries for making agribusiness promotion policies.

Agribusiness activities are regarded as an economic activity by private actors such as farmers, processors and traders. Therefore, they always have operation risks in their economic activities. The risk is to invest certain expenses in agribusiness activities. For example, those are required to procure processing machine/ equipment and operate/ manage them, and purchase packing materials. Financial capacity of the private sectors is very weak. Credit system has not established yet. Private actors can not bear heavy burden to procure necessary machine/ equipment and input materials for their business operation.

Basic responsibility of the administration is to support their agribusiness activities from administration side such as institutionalizing and making regulations to make their business operation smooth. It is crucial for private actors who are challenging agribusiness to reduce their financial burden when agribusiness setting-up and operating. Considering such conditions, it is suggested that MAF in corporation with related ministries makes approaches to establishing organization system so as to support private sectors systematically in agribusiness development activities and any financial supporting system such as subsidy system and long-term lending system for procurement of machine/ equipments and purchasing system of packaging materials.

**(4) Keeping close cooperation with international aid agencies to realize Programs/ Action Plans**

Socio-economic and political situations are still unstable, although social confusion after the independent are being settled. Government institutional base is weak. MAF and related ministries are facing with low

administrative capacity and budget limitation. It may be difficult that proposed APU by itself can provide enough financial and operational capacity to realize formulated Programs and Action plans. Considering such constraints, it can be considered that proposed Programs and Action Plans may be materialized under financial and technical supports from international aid agencies that have full knowledge and experiences. It is suggested MAF to keep close cooperation with international aid agencies for realizing proposed Programs and Action plans.

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EXECUTIVE SUMMARY

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## ABBREVIATIONS

ADB	Asian Development Bank
AFTA	Asian Free
APEC	Asia-Pacific Economic Co-operation
ASC	Agricultural Service Centre
ASEAN	Association of South East Asian Nations
AusID	Australian Agency for International Development
APU	Agribusiness Promotion Unit
A/P	Action Plan
CARE	Cooperative for Assistance and Relief Everywhere
CCT	Cooperative Café Timor
C/P	Counterpart
EC	European Commission
FAO	Food and Agricultural Organization (of the United Nations)
GDP	Gross Domestic Product
GM	Gross Margin
GIZ	German Development Agency
ICM	Integrated Crop Management
IFC	International Finance Corporation
IMF	International Monetary Fund
IRCP	Irrigation and Rice Cultivation Project
MAF	Ministry of Agriculture and Fisheries
MoI	Ministry of Infrastructure
MoE	Ministry of Education
MoH	Ministry of Health
MTCI	Ministry of Tourism, Commerce and Industry
MED	Ministry of Economy & Development
M/P	Master Plan
DNAF	Director Nacional de Administração & Finanças (En.) National Directorate for Administration & Finance
DNPP	Director Nacional de Política e Planeamento (En.) National Directorate for Policies & Planning
DNFA	Director Nacional de Formação Agrícola (En.) National Directorate for Agricultural Education

DNPSE	Director Nacional de Pesquisas e Serviços Especializados (En.) National Directorate for Research & Specialist Services
DNPIAC	Director Nacional das Plantas Industriais e Agro-Comércio (En.) National Directorate for Industrial Crops & Agribusiness
DNAH	Director Nacional de Agricultura e Horticultura (En.) National Directorate for Agriculture & Horticulture
DNF	Director Nacional das Florestas (En.) National Directorate for Forestry
DNPA	Director Nacional de Pescas e Aquicultura (En.) National Directorate for Fisheries & Aquaculture
DNPV	Director Nacional de Pequária e Veterinária (En.) National Directorate for Livestock & Veterinary Services
DNIGUA	Director Nacional de Irrigação e Gestão da Utilização de Água (En.) National Directorate for Irrigation & Water Use Management
DNQB	Director Nacional de Quarentina e Biosegurança (En.) National Directorate for Quarantine & Biosecurity
DNADC	Director Nacional de Apoio ao Desenvolvimento Comunitário Agrícola (En.) National Directorate for Agricultural Community Development
NGO	Non-Governmental Organization
NSD	National Statistics Directorate, National Statistics Office
RDTL	Republica Democratia de Timor-Leste
SDP	Strategic Development Plan
SIP	Sector Investment Program
SWOT	Strengths, Weaknesses, Opportunities and Threats
TFET	Trust Fund for East Timor
UNDP	United Nations Development Program
USAID	United States Agency for International Development
WB	World Bank
WTO	World Trade Organization

#### Unit

sq.m:	Square meter	sq.km:	Square kilometer	cu.m:	Cubic meter
m <sup>2</sup> :	Square meter	km <sup>2</sup> :	Square kilometer	m <sup>3</sup> :	Cubic meter
g:	Gram	kg:	Kilogram	lit:	Liter

**Exchange Rate:** 80.99 Yen/ 1.0 US\$ (as of July 2011, JICA designated rate)

## **CHAPTER 1 BACKGROUND OF THE STUDY**

### **1-1 BACKGROUND AND OBJECTIVES OF THE STUDY**

#### **1-1-1 Background**

Over 80 % of the total working population has been engaged in agriculture/ forestry and fisheries sector in the Democratic Republic of Timor-Leste (hereinafter referred to as Timor-Leste) achieved independence in May 2002, where the contribution of these sectors on GDP except for petroleum/ natural gas sector has reached the rate of 32% in 2007. Such situation has made the agriculture, forestry and fisheries sector topmost important sector in the National Development Plan (2002 – 2007) which targets on the poverty reduction and the acceleration of economic growth. Currently, phase 2 of the National Development Plan is drafting. In 2008, in the first fiscal year for the new political regime, the “improvement of employment and income” is placed as the forth development priority theme among 6 ones, with emphasis on food security, improvement of agricultural productivity and strengthening of extension activities, and activation of private sector related to agricultural field.

In Timor-Leste, principal crops such as rice, maize, cassava and sweet potatoes have mainly been cultivated in the low-input/ low-output self-sufficient farming system. Hence, as for the staple crops, rice, only 33,000 ton has domestically been produced against 92,000 ton of rice consumption and the shortage about 60,000 ton has been imported in 2006/2007. The marketing quantity of domestic rice has also been limited due to provision for home consumption. Thus, for rice, it has been recognized as a political major task to improve agricultural productivity by means of providing irrigation facilities, promoting farm mechanization and improving farming techniques, and to establish effective marketing system from local producing areas to other demand areas including capital, Dili.

Meanwhile, coffee has been ranked as the top export commodity in this country. However, its export amount has been in the level of about 10,000 ton per year. Exports of other agricultural/ animal produce (Bali cattle, groundnut, etc.) also remain in a limited level. Accordingly, the Government of Timor-Leste has started a political arrangement to open a trade zone at the border between Timor-Leste and Indonesia so as to enlarge the export to Indonesia or other countries via Indonesia.

Under such circumstances, the Government of Timor-Leste has been providing political target which aims to improve agricultural productivity of rice towards food security. In addition to this policy, the Government has put development priority on the promotion of agribusiness which includes processing and marketing of agricultural products. In line with this government policy, Ministry of Agriculture and Fisheries (hereinafter referred to MAF) has established “National Directorate for Industrial Crops & Agribusiness” (hereinafter referred to DNPIAC) in 2009, to promote agribusiness field in the country.

Despite, private sectors engaged in agribusiness are still seldom found in Timor-Leste. Current agribusiness still remains as a sluggish business in which a few commodities produced by small farmers are marketed. Under this situation, it has been recognized that it is important to establish appropriate policies/ plans aiming to provide an administrative framework which can support agribusiness activities by private sectors, to establish administrative supporting system which enable private sectors including farmers’ organizations to deal in agribusiness and to provide infrastructures including institutional system and marketing facilities such as market building/ equipments and transportation roads which can make domestic agribusiness more active and facilitate exports of potential commodities.

Though some agribusiness promotion have been handling by related aid donors, it has been recognized that lack of administrative service with human resource and technical/ financial supports for agribusiness actors bottlenecks their activities when they expand into other farmers and enterprisers. In order to realize promotion of agribusiness, it is indispensable to strengthen capacity of related administration organizations including DNPIAC and formulate development direction of agribusiness in Timor-Leste.

Under such conditions, the Government of Timor-Leste officially requested to carry out a development study for formulating a Master Plan (MP) for promotion of agribusiness including strengthening capacity of DNPIAC. In response to this request, Japan International Cooperation Agency (JICA) conducted a preliminary study during 20th February 2008 to 2nd March 2008, and the scope of work (S/W) for “ the Study on Project for Promotion of Agribusiness in Timor-Leste” were signed with the Ministry of MAF on 2nd December 2008. Based on the S/W, JICA dispatched a study team in April 2009 to perform the Study.

### **1-1-2 Objectives of the Study**

The objectives of the Study are described as bellows.

1. To formulate the Master Plan for the promotion of agribusiness in Timor-Leste. In order to promote processing/ marketing of agricultural products driving by private sectors such as small farmers’ organizations, entrepreneurs and agro-dealers (middlemen, market traders), the Master Plan aims to provide administration system for promotion of agribusiness, to strengthen administrative services so as to support the agribusiness activities and to provide infrastructures including in establishment of institutional system/ standardization and construction of infrastructural facilities such as roads.
2. To develop the capacities of the counterpart personnel for planning and implementing projects on agribusiness through the activities during the course of the Study.

### **1-1-3 Study Area**

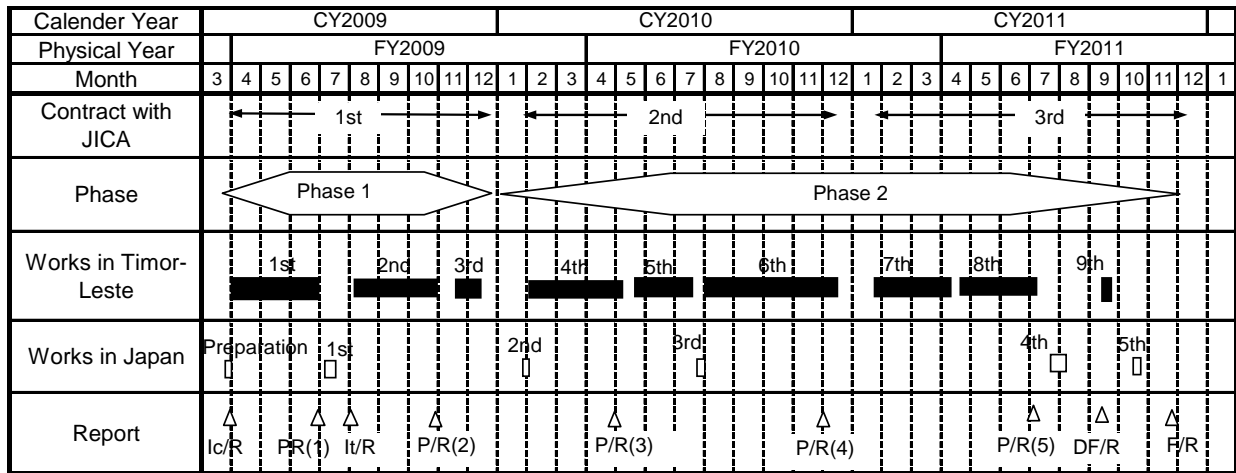
The area of this Study covers entire area of Timor-Leste.

### **1-1-4 Counterpart Agency**

Counterpart agency of this Study is the National Directorate for Industrial Crops & Agribusiness (DNPIAC, Director Nacional Plantas Industriais e Agro-Comercio), the Ministry of Agriculture and Fisheries (MAF).

## **1-2 OVERALL WORKING SCHEDULE**

As indicated below, the Study was conducted in the two phases of Phase 1 and Phase 2 in the three year implementation.



Phase	Contract Year	Scope of work
<u>Phase 1</u> Draft Master Plan and draft Action Plan shall be developed through collection of basic data and their analysis and a plan for pilot projects shall be formulated for Phase 2.	1st Year	(1) Preparation (2) 1st stage study in Timor-Leste (3) 1st stage study in Japan (4) 2nd stage study in Timor-Leste (5) 3rd stage study in Timor-Leste
<u>Phase 2</u> Pilot projects shall be implemented, then Master Plan and Action plan shall be finalized through feedback from the implementation of Pilot Projects	2nd Year	(6) 2nd stage study in Japan (7) 4th stage study in Timor-Leste (8) 5th stage study in Timor-Leste (9) 3rd stage study in Japan (10) 6th stage study in Timor-Leste
	3rd Year	(11) 7th stage study in Timor-Leste (12) 8th stage study in Timor-Leste (13) 4th stage study in Japan (14) 9th stage study in Timor-Leste (15) 5th stage study in Japan

Figure 1-2-1 Overall Working Schedule

This Final Report was prepared based on the outcomes of the Phase 1 and Phase 2 from the (1) to the (15) of the Scope of work.

## CHAPTER 2 GENERAL CONDITIONS

### 2-1 NATURAL CONDITIONS

#### 2-1-1 Geography

The land has a dramatic topography, total area of approximately 15,000 km<sup>2</sup>, extended east and west of 265km and north and south 92km. The country is dominated by the Ramelau Range runs across the middle of the island from the eastern to the western tip. The highest point, Mount Tatamailau, is the top elevation of 2,963 m above sea level and less than 20 km from the sea. The topography of the island is formed by relatively short and steep slopes running down from the Ramelau Range to the island's north and south coasts. In the north side, relatively short and steep slopes run down from the mountains to the coast area. Coast zone is the precipitous cliff with limited low lying land. The south part is formed by relatively gentle slope and coast zone. Moist lowland areas are extended along the river ruing from the mountain areas, where are prone to occur flood and tidal flow intrusion, so that reclamation land is few. The geology is derived from limestone and metamorphosed marine clays. This means the island has relatively unproductive. Soil fertility is low for cultivation. In most areas, it is compounded by the rapid decomposition of organic matter due to the tropical climate.

The topography gives a serious effect on vegetation and erosion. Almost half of land has a slope of 40% or more. Surface shallow soil is prone to be eroded so that soil erosion frequently occurs in the mountainous slope area during rainy season. High frequency of flood disaster occurs in the lowland areas. High levels of erosion greatly decrease soil fertility, damage natural and man-made water ways and water storage facilities. Flash flood and landslides are common throughout the country.

#### 2-1-2 Climate

The island has a tropical monsoon climate with two distinct seasons, dry and rainy season. Rainy season begins around December and extends to April, usually with a northwest monsoon. In general, the south of the country is wetter than the north, and mountainous areas are wetter than lowland areas. Amount of rainfall is influenced under by topographic conditions with land elevation. Relatively lower rainfall is recorded in the low elevation coastal zone. On the other hand, the mountainous area has relatively higher rainfall. Dry season with south-eastern trade wind extends from May to November. Even in dry season, there is a little rainfall under the influence of the Range in the southern part of the island, where has two rainy seasons.

Annual rainfall ranges from 1,000 mm or less in the northern coastal areas, and 3,000 mm or over in the central mountainous areas and from 1,000 mm to 2,000 mm in the southern part of the island. Temperature varies regionally, with daily averages ranging from approximately 20 centigrade in the interior highlands to 27 centigrade in lowland coastal areas.

Based on the agro-climatic conditions, the land can be divided into six agro-climatic zones as shown in the Figure 2-1-1. The geographical area, annual rainfall, suitable agricultural crops are classified in the zones, as follows.



**Table 2-1-1 Classification of Agro-climatic Zones**

	Zone and Definition	Area ('000ha) (%)	District city/ town	Agriculture/ livestock	
				1st Priority	2nd Priority
<b>A</b>	<b>North Coast Lowlands</b> Lowland in the northern coast Altitude: <100m Annual rainfall: <1,000mm	147 (10)	Maubara, Dili, Manatuto	Coconut, watermelon, Vegetables, goats	Mounbean, sorgum
<b>B</b>	<b>Northern Slopes</b> North low land, hills, high land Altitude: 100-500m Annual rainfall: 1000-1500mm Rainy months: 5 to 6	337 (23)	Atabae, Dare, Baucau, Lautem	Peanut, water melon, vegetables, candlenut, goats, ducks	Coconut, oranges, and other fruits, soybeans, onions, buffalos
<b>C</b>	<b>Northern Uplands</b> Highest/ middle land in the north, hills land in mountainous toward to the north. Altitude: >500m Annual rainfall: >1.500mm Rainy months: 6 to 7	290 (20)	Bobonaro, Ermera, Aileu, Venilale	Candlenut, coffee, oranges and other fruits, general vegetables, ducks	Red peanut, Buffalos
<b>D</b>	<b>Southern Uplands</b> Hills land and the mountainous land in the south Altitude: >500m Annual rainfall: >2000mm Rainy months: 9	215 (15)	Lolotoe, Same, Suibada, Ossu	Candlenut, coffee, oranges and other fruits, ducks.	Avocado, other fruits, red peanut, buffalos,
<b>E</b>	<b>Southern Slopes</b> Hills land in the south Altitude: 100-500m Annual rainfall: 1500- 2000mm Rainy months: 8 months	305 (21)	Hatu-Udo, Baguaia, Alas, Lospalos	Candlenut, various fruits, soybean, general vegetables, buffalos, duck	Coconut, red peanut, cassava, Pig
<b>F</b>	<b>South Coast Lowland</b> Low land in the southern coast Altitude: <100m. Annual rainfall: <1500mm Rainy months: 7-8	167 (11)	Suai, Natarbora, Betanu, Viqueque	General fruits, mungbean, general vegetables, buffalos, ducks	Coconut, watermelon peanut, maize
	<b>Total</b>	<b>1,461 (100)</b>			

Source: National Directorate for Research & Specialist Services, MAF.

Compiled by the Study Team referring the State of Nation Report, Agriculture and Fisheries (April, 2008)

**Figure 2-1-1 Agro-climatic Zones**

The southern areas receive relatively longer rainfall period compared to the northern areas, so that it would be able to cultivate two crops in a year. However, the areas is prone to be affected by monsoon, high tide and flooding.

### 2-1-3 Land Area

In terms of elevation, the country is divided into three zones, each with its own physical, cultural and economic characteristics. The zone, between 0 and 500 m, occupies approximately 65% of the total area, including a broad band along the south coast, and a narrow band along the north coast. Two-thirds of the country's population lives in this zone where has most of the country's arable land. The middle zone lies between 500 and 1,500m, approximately 32% of the total land. This is the coffee-growing zone of the western highlands. The third zone, higher than 1,500m, is characterized by high annual rainfall, cool temperatures and poor, rocky soils.

**Table 2-1-2 Land Area and Population by Elevation Zone**

Elevation		Land Area		Population	
Zone	Elevation (m)	Area (km <sup>2</sup> )	% of the Total	Number	% of the Total
1	0-500	9,742	65.3	559,458	60.6
2	500-1,500	4,782	32.1	339,740	36.8
3	Higher than 1,500	395	2.6	24,000	2.6
		14,919	100.0	923,198	100.0

Source: Timor-Leste Census of Population and Housing 2004, National Statistic Directorate

### 2-1-4 Land Use

The land use practices and living of the people are greatly influenced by the ago-climate conditions mentioned above. According to the GIS data on land use, much of land is classified as forest including green land, savanna or secondary forest. Such forest occupies 57% of the geographical area of the country, 28% under agriculture.

**Table 2-1-3 Land Use of the Timor-Leste**

Land use category	Area (ha)	Distribution (%)
Forest		
Lowland	761,486	51.0
Highland, coastal and other	92,768	6.2
Agriculture		
Estate crops	74,578	5.0
Food & others	336,400	22.5
Non-productive land	203,152	13.6
Cities, towns, villages	19,934	1.3
Lakes	5,080	0.3
Total	1,493,398	100.0

Source: MAF, Agricultural Land Use & GIS Unit.

Timor-Leste has a coastline with over 735 km, and a potential Exclusive Economic Zone (EEZ) of approximately 75,000km<sup>2</sup>, which is endowed with rich marine resources. However, the boundaries of this zone have not yet been determined precisely. (The state of the Nation Report, 2004)

## 2-2 SOCIO-ECONOMIC CONDITIONS

### 2-2-1 Administration Structure

Administration of the Timor-Leste is comprised by 13 districts and 65 sub-districts and 442 sucos. The districts are aggregated into 5 regions, each represented in the national government by secretary of state.

**Table 2-2-1 Administration Structure**

District	District center	Sub-district	No. of Suco
Region 1			
Baucau	Baucau	Baguia, Baucau, Laga, Quelicai, Vemasse, Venilale	59
Lautém	Lospalos	Iliomar, Lautém, Lospalos, Luro, Tutuala	34
Viqueque	Viqueque	Lacluta, Ossu, Uatolari, Uato Carabau, Viqueque	35
Region 2			
Ainaro	Ainaro	Ainaro, Hatudo, Hatu Builico, Maubisse	21
Manatuto	Manatuto	Barique-Natarbora, Laclo, Laclubar, Laleia, Manatuto, Soibada	29
Manufahi	Same	Alas, Fatuberliu, Same, Turiscaí	29
Region 3			
Aileu	Aileu	Aileu, Laulara, Lequidoe, Remexio	31
Dili	Dili	Atauro, Cristo Rei, Dom Aleixo, Metinaro, Nain Feto, Vera Cruz	33
Ermera	Gleno	Atsabe, Ermera, Hatólia, Letefohó, Railaco	52
Region 4			
Bobonaro	Maliana	Atabae, Balibó, Bobonaro, Cailaco, Lolotoi, Maliana, Maucatar, Suai, Tilomar	50
Covalima	Suai	Fatululik, Fatumean, Fohoren, Mape-Zumalai	29
Liquiçá	Liquiçá	Bazartete, Liquiçá, Maubara	23
Region 5			
Oecussi	Pante Macassar	Nitibe, Oesilo, Pante Macassar, Passabe	18
Country			442

Source: "Timor-Leste Census of Population and Housing 2004 Atlas", National Statistics Directorate, 2006.

According to the National Statistics Directorate (2004), 95% of sucos have been classified as rural and the remaining are considered as urban (The State of Nation Report, Rural Development, Chapter-5).

### 2-2-2 Demography

#### (1) The 2004 and 2010 Population Censuses

According to the population census 2004 and 2010 Census Preliminary Results, demographic data is shown as follows. (The 2010 Census is based on the Principles and Recommendations of the 2010 World Round of the Population and Housing censuses programme developed by the United Nations Statistics Division.)

**Table 2-2-2 Demography in Each District**

District	Area km <sup>2</sup>	Population		Rate (%) 2004-10	Population density (person /km <sup>2</sup> )		No. of Dwellings 2004	No. of House- hold 2004	Average size of household	
		2004	2010		2004	2010			2004	2010
Aileu	737	37,967	45,512	3.02	51.5	61.8	6,292	7,748	4.9	6.3
Ainaro	804	52,480	59,382	2.06	65.3	73.9	8,999	11,528	4.6	6.1
Baucau	1,506	100,748	111,484	1.69	66.9	74.0	19,168	22,689	4.4	5.2
Bobonaro	1,376	83,579	89,787	1.19	60.7	65.3	14,807	18,431	4.5	5.4
Covalima	1,203	53,063	60,063	2.07	44.1	49.9	9,445	11,842	4.5	5.4
Dili	367	175,730	234,331	4.80	478.8	638.5	26,114	31,702	5.5	6.7
Ermera	768	103,322	114,635	1.73	134.5	149.3	18,771	21,169	4.9	6.1
Lautém	1,813	56,293	60,218	1.12	31.0	33.2	11,028	13,018	4.3	5.3
Liquiçá	549	54,973	63,329	2.36	100.1	115.4	9,277	11,071	5.0	6.1
Manatuto	1,782	36,897	43,246	2.65	20.7	24.3	6,249	8,352	4.4	6.0
Manufahi	1,323	45,081	48,894	1.35	34.1	37.0	7,264	8,915	5.1	6.5
Oecussi	814	57,616	65,524	2.14	70.8	80.5	12,716	13,667	4.2	4.7
Viqueque	1,877	65,449	70,177	1.16	34.9	37.4	12,556	15,122	4.3	5.2
Total	14,919	923,198	1,066,582	2.41	61.9	71.5	162,686	195,254	4.7	5.8

Source: "Timor-Leste Census of Population and Housing 2004 Atlas", National Statistics Directorate, 2006.  
Population and Housing Census 2010 Preliminary Results, Timor-Leste

The 2004 census put the total population of the country at 923.2 thousand in 2004. The 2004 census shows that the number of dwellings is 162,686 and the number of households who live in private residents, hotels and institutions is 195,254, average size of household is estimated at 4.7 members. The 2010 census estimate 1.066 millions of total population and 5.8 persons of average household size. According to the age structure, Timor-Leste has a very young population, 43% of the population is under 15 years of age. Age group 15-64 years occupies 53% of the total. Country's population between 2001 and 2004 was increased, representing an average annual increase of 5.31%. But, the rate decreases 2.41 %, according to the 2010 Census. During this period, especially, the population of Dili district is largely increased at by 4.8 %., compared with the other districts.

## (2) Population trend

According to the 2010 census, population trend from 1980 to 2010 is estimated as follows. Annual rate of growth is estimated 2.41 %.

**Table 2-2-3 Population Trend, 1980 - 2010**

	1980	1990	2001	2004	2010
Population	555,350	747,557	787,340	923,198	1,066,582
Population change	-	192,207	39,783	135,853	143,384
Average annual increase	-	19,220.7	3,616	45,286	23,897.3
Population increase (%)	-	34.6	5.3	17.3	15.5
Annual rate of growth	-	2.97	0.47	3.2	2.41

Source: 2001 Suco Survey, 2004 census and Country population assessment, Timor-Leste 2007.

Original source: Population and Housing Census 2010 Preliminary Results, Timor-Leste

According to the SIP's estimated population, the population of the country is estimated to have reached 1.014 million at the end of 2007, as the result of analysis on a series of demographic scenarios. It is estimated to increase at an annual rate of 3.2% in 2007. The population is reasonably balanced between males and females. Population is estimated 1.302 million in 2015.

**Table 2-2-4 Estimated Population**

<b>Population</b>	<b>2004</b>	<b>2007</b>	<b>2010</b>	<b>2015</b>
Male ('000)	469.9	515.9	569.6	662.0
Female ('000)	453.3	498.0	550.6	639.8
Total ('000)	923.2	1,013.9	1,120.2	1,301.8 (1,324.6)
Population growth rate (%)	3.2	3.2	3.1	3.0

Source: SIP (In case of high growth rate assumed)

According to the population projection by FAO, it is estimated to increase the urban population by 4.6% of the growth rate, larger than 2.2 % of the rural area. Related with the population growth and employment, the number of youth aged 15-29 is expected to increase to 37% in 2010. Youth unemployment is currently estimated as approximately 43% nationally and a staggering 58% in Dili. (Economic and Social Development Brief, World Bank Group and ADB, August 2007)

### 2-2-3 Labor Force and Economic Activity

#### (1) Labor force and economic activity based on the 2004 population census

Population census in 2004 put the number of people in the labor force at 314,422, 60% of the total, and economic activities of agriculture/ forestry/ fishing employed the population of 247,000, 79% of the whole employment.

**Table 2-2-5 Population in aged 15 Years and Older Currently Economically Active According to Sex and Industry**

<b>Economic activity</b>	<b>Total</b>	<b>Males</b>	<b>Females</b>
Agriculture	245,229	137,945	107,284
Forestry	331	229	102
Fishing	2,173	2,045	128
Mining, Quarrying, Oil	252	221	31
Manufacturing	1,296	587	709
Electricity	588	554	34
Construction	2,350	2,174	176
Wholesaling, Retailing, Selling	12,341	6,444	5,897
Hotels, Restaurants, and Cafes	865	377	488
Transport & Warehousing	3,730	3,611	119
Communications	556	457	99
Financial	411	271	140
Real Estate, renting Property	943	456	487
Public administration	3,602	2,672	930
Defense	2,979	2,573	406
Education	6,431	4,526	1,905
Health & Social Services	1,737	1,083	654
Community Services	2,292	1,603	689
Recreational, Cultural and Sporting Activities	344	111	233
Private Households	8,686	686	8,000
UN Agencies, Diplomatic	11,868	8,235	3,633
Not Stated	5,418	3,810	1,608
<b>Labor Force Total</b>	<b>314,422(60%)</b>	<b>180,670</b>	<b>133,752</b>
<b>Not in Labor Force</b>	<b>205,843(40%)</b>	<b>80,777</b>	<b>125,066</b>
<b>Total</b>	<b>520,265 (100%)</b>	<b>261,447</b>	<b>258,818</b>

Source: "Timor-Leste Census of Population and Housing 2004 Atlas",

Sectoral employment data by district is shown in Table 2-2-7. Seventy-eight percent (78%) of people considered active members of the active labor force, works in either agriculture and fishing or forestry. The public sector comprised of community services, public administration, education, health, social services, defense and security occupies second place, employing only 6% of the total labor force. Less than 1% of the total works in industries outside the home, mining, oil, manufacturing, construction and electricity service fields. Females dominate the home industry sector, which employ 7.4 % of women in the active labor force. Employment patterns are similar throughout the country except for Dili.

## **(2) Overview of the labor market**

In 2007, the total number of labor force was estimated to be around 329,200, of which 281,000 (or 85%) were working in agriculture, remaining in other private and public sectors. The labor force has been growing at around 4% annually, which gives a projection of 13,000 new entrants in each year. With 50 % of the population below the age of 18 years and rapid population growth rate, unemployment will remain a pressing challenge in the near future. (The State of the Nation Report, 2008, Chapter 5, Rural Development, etc)

### **2-2-4 Land Tenure**

Three types of property in the real estate, private, public and national ones are approved under the present law. People of the Timor-Leste can possess their own land. Rights to land are importance in this country. Especially, issue of land tile is important for further development of agriculture, especially for commercial crops such as coffee and other agro-industrial crops. There is no proper land registry, no recording or verification of land transactions, no transaction system for allocating or governing foreign interests in land use. Hence, historical background of land ownership and conflicts over the land has resulted in high land claims. Current land claims can be categorized into the following four categories; 1) claims based on traditional rights, 2) claims based on Portuguese titles, 3) claims based on Indonesian titles, 4) claims based on non-traditional long-term occupation (The State of Nation Report, MAF, 2008). These claims related to land tenure and ownership remains to be ascertained and or unresolved. Although legally framework on property rights was established with the assistance of USAID, there is no institutional system to progress land registry, recording and /or verification of land transaction.

Above mentioned situations on land tenure and land titles have obstructed proper agriculture development. To put it concretely, farmers have difficulties in accessing credit system that requires security.

On the basis of a proximate data, the SIP (2005) suggests that most of land in Timor-Leste has been distributed and the ownership is based on a variety of traditional tenure systems and only 6 % of rural households are landless. The average rural household owns 1.2 ha of lands (RDTL, SIP 2005).

### **2-2-5 Agriculture, Forestry and Fishery Sector**

According to the country's economic trend in key sectors, agriculture/ forestry and fishery sector dominates the country's economy, represent one-third of the non-oil GDP in 2007.

**Table 2-2-6 Non-oil GDP (2002-2007) and Agriculture Sector Performance**

Unit: US\$ millions

Sector/ Subsector	2002	2003	2004	2005	2006	2007
Public sector (excluding UN)	82.2	85.6	92.7	103.9	105.1	144.0
Agriculture, forestry and fishery	91.2	97.4	103.7	111.3	116.6	124.7
Mining & quarrying	3.3	2.7	2.7	2.9	1.9	2.2
Manufacturing	11.4	12.1	11.6	11.8	8.7	10.2
Private construction	15.5	14.9	14.5	15.0	14.9	19.0
Transport & communications	28.3	31.2	31.9	33.8	25.4	31.0
Wholesale & retail trade	24.5	25.1	24.5	24.9	25.4	31.0
Financial & other services	27.7	28.8	27.7	28.3	28.8	33.6
Total	284.1	297.8	309.3	331.9	326.8	395.5

Source: The State of the Nation Report (2008), Chapter 3 National Development Planning, BIDE for 2002-03; MAF for 2004-2006; IMF for 2007

Sector/ Subsector	2002	2003	2004	2005	2006	2007
Agriculture sector growth (%)		6.4	6.1	6.8	4.5	7.8
Average growth (%)						6.3
Agriculture sector share (%)	32	33	34	34	36	32
Sub-sector's share in Agriculture sector GDP (%)						
Crops						60
Non-food crops						34
Livestock/ Forestry/ Fisheries						6

Source: The State of the Nation, Agriculture and Fisheries, April 2008

In the agriculture sector, share of crop production reaches about 60%, Non-food production account 34%, while livestock, fisheries and forestry contributing the remaining 6%. About 23% of export earning comes from industrial crops, mostly from coffee exports. Agricultural production is important for food security.

Agriculture contributes the main economic activity of the rural population. About 80% of the population lives in rural areas, engages in agriculture, forestry and fishery production activities, and the livelihoods derives from this sector.

Table 2-2-7 Sectoral Employment by Sex and Industry

	Agriculture, Fishing, Forestry			Mining, Oil, Manufacturing, Construction, Electricity			Wholesale, Retail, Hotels, Restaurants, Cafes		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Aileu	13,035	5,938	7,097	21	4	17	91	32	59
Alinaro	19,224	9,415	9,809	239	44	195	431	234	197
Baucau	32,122	14,577	17,545	460	30	430	1,700	1,104	596
Bobonaro	22,241	7,961	14,280	460	67	393	1,275	596	679
Covalina	14,550	5,500	9,050	139	17	122	603	355	248
Dili	18,331	11,706	6,625	1,885	217	1,668	5,027	1,869	3,158
Ermera	27,131	8,977	18,154	235	5	230	862	279	583
Liquisa	16,153	6,323	9,830	98	6	92	1,187	795	392
Lautem	15,249	6,436	8,813	17	6	11	80	54	26
Manufahi	15,704	7,325	8,379	81	6	75	532	276	256
Manatuto	12,317	5,211	7,106	59	5	54	311	185	126
Oecusse	20,542	9,295	11,247	688	537	151	604	334	270
Viqueque	21,134	8,850	12,284	104	6	98	503	272	231
<b>Total</b>	<b>247,733</b>	<b>107,514</b>	<b>140,219</b>	<b>4,486</b>	<b>950</b>	<b>3,536</b>	<b>13,206</b>	<b>6,385</b>	<b>6,821</b>

	Finance, Real Estate, Transportation, Storage, Communications			Public Admi., Education, Health, Social & Community Services, Defense, Security			Home Industries		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Aileu	21	4	17	380	94	286	278	272	6
Alinaro	139	19	120	633	205	428	447	430	17
Baucau	423	37	386	1,980	581	1,399	937	892	45
Bobonaro	345	30	315	1,555	506	1,049	1,781	1,716	65
Covalina	292	23	269	903	208	695	1,408	1,361	47
Dili	3,183	386	2,797	6,520	1,785	4,735	879	533	346
Ermera	243	9	234	1,153	388	765	77	62	15
Liquisa	390	247	143	764	192	572	575	551	24
Lautem	27	4	23	427	79	348	30	18	12
Manufahi	110	10	100	737	199	538	659	633	26
Manatuto	89	10	79	495	142	353	34	28	6
Oecusse	214	52	162	937	258	679	1,550	1,479	71
Viqueque	164	14	150	901	180	721	31	25	6
<b>Total</b>	<b>5,640</b>	<b>845</b>	<b>4,795</b>	<b>17,385</b>	<b>4,817</b>	<b>12,568</b>	<b>8,686</b>	<b>8,000</b>	<b>686</b>

	UN Agencies, Diplomatic Missions			Not Stated			Total		
	Total	Female	Male	Total	Female	Male	Total	Female	Male
Aileu	479	158	321	100	25	75	14,405	6,527	7,878
Alinaro	262	83	179	179	49	130	21,554	10,479	11,075
Baucau	653	223	430	838	362	476	39,113	17,806	21,307
Bobonaro	622	209	413	400	111	289	28,679	11,196	17,483
Covalina	451	192	259	173	34	139	18,519	7,690	10,829
Dili	6,354	1,826	4,528	2,142	462	1,680	44,321	18,784	25,537
Ermera	241	58	183	428	146	282	30,370	9,924	20,446
Liquisa	229	87	142	98	38	60	19,494	8,239	11,255
Lautem	1,226	320	906	365	150	215	17,421	7,067	10,354
Manufahi	273	113	160	95	43	52	18,191	8,605	9,586
Manatuto	247	83	164	316	104	212	13,868	5,768	8,100
Oecusse	486	188	298	79	20	59	25,100	12,163	12,937
Viqueque	345	93	252	205	64	141	23,387	9,504	13,883
<b>Total</b>	<b>11,868</b>	<b>3,633</b>	<b>8,235</b>	<b>5,418</b>	<b>1,608</b>	<b>3,810</b>	<b>314,422</b>	<b>133,752</b>	<b>180,670</b>

Source; Tomor-Leste Census of Population and Housing 2004, National Statistic Directorate



## CHAPTER 3 PRESENT POLITICAL SITUATION RELATED TO AGRIBUSINESS

### 3-1 POLITICAL FRAMEWORK

#### 3-1-1 National Development Plan

##### (1) National Development Plan

After independence in 2002, first National Development Plan (NDP) was presented on May 2002, in which development goals, vision and strategies is formulated for the country to the year 2020. In this NDP, the following development goals are stated.

Development Goals
3. The people of East Timor have many expectations, but, these focus strongly on two-riding development goals: <ol style="list-style-type: none"> <li>a) To reduce poverty in all sectors and regions of the nation, and</li> <li>b) To promote economic growth that is equitable and sustainable, improving the health, education, and well being of everyone in East Timor.</li> </ol>

##### (2) Development Plan of Agriculture, Fisheries and Forestry Sector

In the NDP, the Agriculture, Fisheries and Forestry Sector put the vision, goals, development indicators and strategic policy directions which aim economic growth, export promotion, job creation and social welfare. The agricultural sector occupied 40% of the GDP, 85% of country's employment and 90% of acquisition of foreign exchange up to in the year 1999 before independence. It is stated as the vision by 2020 that this sector is sustainable, competitive and prosperous industry, as follows.

Vision
12.1 By 2020, East Timor will have sustainable, competitive and prosperous agricultural, fisheries and forestry industries that support improved living standards for the nation's people.

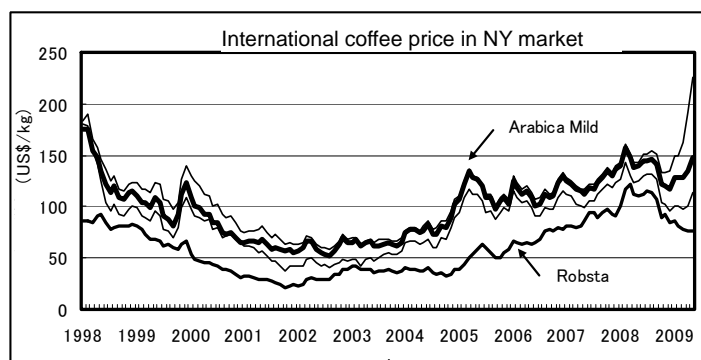
It is mentioned in the development plan that food security is the key issues since 18.6% of the population is under the shortage of food based on the poverty survey at the preparation time of National Development Plan.

Coffee is the traditional export products. Its international price dropped from later 2000 to beginning 2004. Considering such

fluctuation, it should be challenged to diversify export products and domestic consumption of agricultural products.

Private sector would play an important role in the agricultural development fields of the country. To achieve the development, it is expected to provide rural infrastructure, transportation, processing, marketing and trading under the cooperation with NGOs and other human resources.

NDP put the following mission and goals on the MAF, based on the various situations mentioned above.



<b>Mission</b>
12.12 MAF's mission is to efficiently services to agricultural, fishing and forestry communities in East Timor, services that support improved productivity, income generation earning potential and exports and that, therefore, support improved social welfare in rural areas of the nation, taking account of MAF's human, capital and financial resources.
<b>Goals</b>
12.13 The goals of MAF are to: <ol style="list-style-type: none"> <li>a) achieve food security and improve food self-sufficiency.</li> <li>b) diversify agricultural production and increase export earnings by the sector.</li> <li>c) develop agriculture predominantly on the basis of an integrated farming system approach.</li> <li>d) facilitate agro-industrial development leading to increased processing and value-adding in country.</li> <li>e) improve the quality of agricultural commodities produced in the nation.</li> <li>f) manage agriculture, fisheries and forestry resources in a way that supports sustainable production.</li> <li>g) increase rural incomes, generate employment in rural areas and, consequently reduce poverty and improve the welfare of rural communities.</li> </ol>

It is described that those goals might be attained in the principle of sustainability, effectiveness, equality, reliability, traditional values of Timorese cultures and participatory approaches. For promotion of development plan, the following key development indicators are set in the NDP. Those of rural incomes and per capita nutritional intakes, increased foreign exchange earnings from exports of quality agricultural and fisheries products, increased number of Agriculture Service Centers along with production and post-production infrastructure, quality standard improvement in agriculture and fisheries products, increased production and quality of fishery products due to training, improved harvest and post-harvest fish handling and infrastructure development are put as the key development indicators for processing and marketing fields.

<b>Key development indicators</b>
12.15 The key development indicators for the agricultural sector are as follows. <ol style="list-style-type: none"> <li>h) Increased food production, <u>rural incomes and per capita nutritional intakes</u>. The increase in food production is possibly the most critical indicator. It will be measured by both the overall amount of food production and food production per household.</li> <li>i) Increased total area (hectares) planned to new crop varieties.</li> <li>j) Higher incomes and employment among farmers adopting a farming system approach.</li> <li>k) <u>Increased foreign exchange earnings from exports of quality agricultural and fisheries products.</u></li> <li>l) Higher proportion of irrigated land relative to total arable land.</li> <li>m) Higher crop yields and productivity due to intensification, adoption of new varieties, farmer training, and improved genetic stock in livestock, aquaculture and fisheries.</li> <li>n) <u>Increased number of Agriculture Service Centers, along with production and post-production infrastructure.</u></li> <li>o) <u>Quality standard improvement in agriculture and fisheries products.</u></li> <li>p) Increased number of livestock volunteer workers, water user associations and other farmers' associations.</li> <li>q) New protected areas through improved resources management and development, terrestrial and marine parks, law enforcement and information dissemination.</li> <li>r) Enhanced forestry and fisheries products' utilization.</li> <li>s) <u>Increased production and quality of fishery products due to training, improved harvest and post-harvest fish handling and infrastructure development.</u></li> </ol>

Development constraints and problems which MAF might face in the development processes are pointed out in the NPD as follows.

- Lack of capacity of MAF staff to materialize the policy (the number of staff is increasing, but, capacity development should be done in future.)
- Lack of farm and fishing management capacity of farmers and fishermen
- A few data and information related with agriculture fields (low reliability of basic data such as productions and cropping areas)
- Lack of basic infrastructure for transportation, communication, marketing and processing of products
- Low yield (the yield of rice at the time of NDP preparation is low, 1.5ton/ha. But, it is being improved in the areas where ICM and qualified seed are introduced.)
- Low quality of agricultural products
- Lack of irrigation facilities (it is related with lack of operation and maintenance sense.)
- Problems related with land tenures (long term approach will be required to establish land tenure system including land registration and transaction.)
- Domestic products have no advantage in price compared with the imported one and it is difficult to find exportable products and not be diversified
- No law and regulation for fishery (fishermen has not a sense of fishing right with fishery resource management.)
- Devastating forest (slush and burn farming in some areas)
- Enactment of forest law
- Quarantine (it is important for export promotion, but research organization is not established yet.)

Under such problems and constraints, strategic policy directions are formulated as follows. In those policy directions, it is emphasized to promote export of new agricultural products except coffee. However, it would be difficult to realize it. On the other hand, increasing farm incomes through crop rotation and improvement of soil structure could be realistic subject for farmers.

#### Strategic policy directions

12.17 The overall strategic policy directions for MAF in the next five years are designed to overcome these problems and constraints. They include the following.

- a) Establish effective and efficient technical support services to assist farm communities to increase food (particularly rice and maize), livestock and vegetable production.
- b) Introduce and develop new and adaptable technologies such as new cultivars and other inputs to enhance farm productivity. Such technologies will be complemented with adaptive field experiments, field demonstrations and extensive training for farmers,
- c) Promote and develop diversification of agriculture through identification of potential niche markets for East Timor farm commodities in the region and in Europe and North America. This might include creating incentives to produce crops such as tropical fruits for both the domestic and export markets.
- d) Maintain and improve the existing irrigation systems for rice, along with other crops including horticulture and legumes.
- e) Promote the development of a sustainable fishing industry targeting both domestic and export markets. Such development will be supported by an appropriate regulatory framework, encouragement for local and foreign investment through appropriate fiscal arrangements, and protection of the nation's marine resources.
- f) Create services to assist farmers to develop and improve animal production (cattle, buffalo, goats and

<b>Strategic policy directions</b>
<p>poultry). A regulatory framework that enforces <u>appropriate sanitation standards in abattoirs and processing plants</u> will be formulated.</p> <p>g) Develop and implement an extensive vaccination and sanitation campaign to prevent disease and improve animal production.</p> <p>h) <u>Rehabilitate and improve infrastructure, including irrigation systems, silos, roads and markets.</u> Such activities will be undertaken in conjunction with the Department of Public Works and Transport.</p> <p>i) <u>Promote crop rotation as critical in crop production systems to maximize profitable use of agricultural land, thereby increasing farm incomes and also improving soil structure.</u></p> <p>j) Increase coffee production through the systematic renovation of coffee plantations by pruning, or <u>replacement of old trees with new Arabica plants</u> and, where appropriate, by expanding the area of plantings. Simultaneously, <u>niche markets will be sought in Asia, Europe and North America.</u></p> <p>k) Promote, develop and improve production from tree crops such as <u>candlenut and coconut for both domestic and export markets.</u></p> <p>l) Develop and expand the reforestation program to increase forest cover and the production of commercially valuable trees for the timber industry.</p>

### 3-1-2 Policy and Strategic Framework, MAF

MAF has prepared the Policy and Strategic Framework to provide a prospective and explanation for significant changes that will contribute more effectively to the objectives of the Nation Development Plan (2002), in which key strategies for implementation in three subsectors of Agriculture, Forestry and Fisheries are described, as follows. In those, development of market oriented agriculture and agro-industries are described with goals, policy objectives and proposed strategy of short, medium and long term. This development study is identified in consistency with those policy and strategic framework.

<b>Proposed Strategies (Policy and Strategic Framework, MAF, September 2004)</b>	
<b>Goal/ Policy Objectives</b>	<b>Proposed Strategy</b>
<b>1. Food Security</b>	
<u>Goal</u> Achieve higher level of food security <u>Policy Objectives</u> Improve food crop production efficiency Increase livestock production Improve cropping efficiency of irrigation systems	<u>Short Term</u> Focus more effort on upland and dry land areas Promote improved farming systems Improve market access for local crops Improve livestock management Improve access to high yield planting material Continue animal health programs Improve efficiency of water use Improve effectiveness of water user associations Commence integrated watershed development with Forestry, NGOs and communities Finalize Food Security Policy and establish emergency assistance strategy <u>Medium and Long Term</u> Establish planting material certification centers Promote agro-forestry systems Review role of irrigation in the national food security program Expand community-based and integrated land management Encourage private sector product distribution systems
<u>Goal</u>	<u>Short Term</u>

<b>Proposed Strategies (Policy and Strategic Framework, MAF, September 2004)</b>	
<b>Goal/ Policy Objectives</b>	<b>Proposed Strategy</b>
Reduce malnutrition <u>Policy Objectives</u> Increase consumption of protein	Increase use of diversified and improved crop systems Promote fruit and vegetable production Increase production of legume crops Improve livestock management Establish seed multiplication systems for high quality crop varieties <u>Medium and Long Term</u> Strengthen links with Min. of Health and Education to improve nutrition of rural people Increase livestock production through better forage management
<b>2. Market oriented-oriented agriculture and agro-industries</b>	
<u>Goal</u> Develop vigorous and profitable internal and export agriculture-based industries <u>Policy Objectives</u> Promote agricultural exports Promote substitution for agricultural imports Improve efficiency of internal agricultural marketing systems Increase incomes and employment in agro-industry	<u>Short Term</u> Promote rehabilitation of old coffee plantations Support development of product marketing systems Assist farmers to improve crop quality and post harvest handling Develop quarantine services to prevent entry of new weeds, pests and diseases <u>Medium and Long Term</u> Promote private sector investment in secondary processing and commodity export Improve farmer agribusiness capacity Develop export markets in conjunction with Min Trade Establish product quality standards Improve access to low interest loans for agricultural inputs
<b>3. Effective Planning</b>	
<u>Goal</u> Provide effective planning based on reliable data Improve capacity for policy analysis and planning <u>Policy Objectives</u> Increase advocacy role for rural sector with other ministries	<u>Short Term</u> Set up systematic data collection processes at MAF district offices Further develop ALGIS Develop a database management system at MAF Policy and Planning Services Expand capacity of Policy and Planning Services unit Liaise with other ministries on inter-sectoral issues Develop specific sub-sector policies (e.g. seeds) Analysis of commodity chains, competitive advantages and component costs of production Develop communication strategy <u>Medium and Long Term</u> Produce regular reports on selected aspects of MAF activities and agricultural sector progress. Carry out analyses of sector development as required
<b>4. Improved Service Delivery</b>	
<u>Goal</u> Improved service delivery <u>Policy Objectives</u> Improve the extent and quality of MAFF service	<u>Short Term</u> Increase MAF's presence at regional and district level Strengthen facilitation skills of MAF staff Establish coordination mechanisms with NGOs at central and local level Provide laboratory and research services

Proposed Strategies (Policy and Strategic Framework, MAF, September 2004)	
Goal/ Policy Objectives	Proposed Strategy
delivery activities Actively encourage NGO and the private sector to deliver high-quality services	Develop agricultural education strategy in cooperation with Ministry of Education Build linkages with existing training programs to include agricultural topics <u>Medium and Long Term</u> Gradually introduce cost recovery for established services Involve private sector in service delivery

Present grappling with the short term strategies of the four subjects listed in the proposed strategies are summarized as follows. Goals of the subjects are not attained yet. It is necessary to grapple with those subjects continuously.

**Table 3-1-1 Present Grappling with Short Term Strategies**

Goals	Short Term Strategies	Present Grappling and Future Subjects	
Food security (Achieve higher level of food security)	Focus more effort on upland and dry land areas	Seeds of upland crops such as legume, maize and sweet potato are distributed at free of charge. It is further required to promote seed multiplication and distribution, expansion of cropping system, nurturing traders of upland crops and encouragement of making processing products.	
	Promote improved farming systems	ICM method was introduced for rice cultivation. Future subject is the rehabilitation of irrigation facilities, stable supply of input materials such as fertilizers and smooth distribution of input/output materials.	
	Improve market access for local crops	It is urgent to rehabilitate main and rural roads. In rural areas, working peak of harvesting, collection and shipping of agricultural crops are overlapped each others. Then, it is necessary to promote crop diversification.	
	Improve livestock management	It will not be changed that livestock such as cattle, pig, sheep and chicken is generally reared in the natural free grazing style to save time and labor. But, some innovation farmers and women groups are trying an enclosure feeding.	
	Improve access to high yield planting materials	Access to seeds of major crops is being improved. For other purchasing materials such as chemical fertilizer, it is not improved yet.	
	Continue animal health programs	Veterinary service is not provided. Although epidemic of cattle is not reported, outbreak of chicken's epidemic is often reported.	
	Improve efficiency of water use, Improve effectiveness of water use associations	A water use association in Maliana of Bobonaro district becomes functional. Agricultural cooperative in Laga of Baucau district operate and manage cooperative water use style. Except the above two, there is no water use association.	
	Finalize Food Security Policy and establish emergency assistance strategy	It is urgent matter to grasp real situation of food supply and demand and establish monitoring and communication system for occurrence of natural disasters. Priority measure is to collect reliable information in village levels.	
	(Reduce malnutrition)	Increase use of diversified and improved crop systems	Diversification of vegetable is being developed in Ermera, Alinara and Bobonaro districts. Legume crops are introduced in the cropping system in some fields in Bobonaro and Covalina districts through cooperation with GIZ.
		Promote fruit and vegetable production	Vegetable production is widely active in western highland. But, tropical fruit production is not developed yet.
Increase production of legume crops		Its production is increasing. Future subject is the seed multiplication, storage, shipping method to West Timor, etc.	
Improve livestock management		Breeding of pig and chicken which are major animal protein foods is relatively easy livestock management for farmers. But, there is few commercial basis enclosure breeding.	

Goals	Short Term Strategies	Present Grappling and Future Subjects
	Establish seed multiplication systems for high quality crop varieties	High quality seed is being distributed through the Seed of Life project and assistance by NGOs. For future subject, it is necessary to establish seed multiplication mechanism in the country.
Market oriented agriculture and agro-industries	Promote rehabilitation of old coffee plantations	Selective breeding of coffee plants is the ancestor of Arabic variety. International trading price is high enough to promote rehabilitation. Coffee farmers are grappling with renewal of the old coffee plants in cooperation with CCT and NGOs.
	Support development of product marketing systems	Marketing of some products such as coconuts oil, candlenuts oil, SIPI products and handicraft products is developed under assistance by international aid agencies. There are some exporting products to West Timor such as bean and alive cattle.
	Assist farmers to improve crop quality and post harvest handling	Chemical fertilizer is generally not applied. Then, it is important to improve quality of crops through introduction of high quality seed and improvement of soil structure. It is required to provide technical know-how support in drying, milling and storage of post harvest processing.
	Develop quarantine services to prevent entry of new weeds, pests and diseases	There are many distributions of products on the land route from/to West Timor. Then, quarantine services should be done in the every entry points along the border, in addition to the spots such as airport and ports. Scientific analysis can not be done in quarantine system since there are no any inspection organizations for weeds, pests and diseases.
Effective Planning	Set up systematic data collection processes, Develop ALGIS and database, Liaise with other ministries, etc.	Reliability of collected data is low. Agricultural census will be conducted under the assistance from FAO. Related with cooperation with relevant administration organization, it is not easy to cooperate and adjust their task, for example, MTCI is responsible for market promotion of agricultural products including imports/ exports and MED is for rural development including production of agricultural products. Under the MAF, cooperation among Directorates is not easy due to lack of staff number and lack of capacities.
Improved Service Delivery	Increase MAF's presence, Strengthen facilitation skills, Establish coordination mechanisms with NGOs, Provide laboratory and research services, Education /training, etc.	Extension staff is allocated in village level in order to disseminate agricultural technology into farm level. But, concrete action for such staff is not taken yet. Capacity development is necessary for the staff to improve quality of extension skill and knowledge in their activities.

Source: JICA Study Team

### 3-1-3 Sector Investment Program

The Sector Investment Program (SIP) has been prepared in 2006 under the development direction of the Policy and strategic framework of MAF. It is to guide development direction in formulating action plan, incorporated in cooperation program with related donors. Investment to agricultural sector from 1999/00 to 2004/05 was accounted total 68.8 million US\$ (from USA 30.5%, Japan 23.0%, Timor Leste fund 21.8%, etc.). Investment from 2005/06 to 2009/10 is expected to be total 78.7 million US\$ (from EU 15.5%, USA 5.4% and Japan 3.2%). Its investment depends on outside countries for SIP.

The SIP shows the implementation scheme of three subsectors; agriculture/ livestock, forestry and fishery for coming 5 years (2006-2012), in which priority development fields, key programs for the medium term, supporting expenditure programs and expected role of donors, etc. are proposed.

In the agriculture/ livestock subsector, priority is given to the programs "Food security", "Policy to enhance vocational training" and "Market oriented agriculture development", and development components of each program are set as follows.

<b>Sector Investment Program (Agriculture and Livestock Subsector, MAF)</b>
<p><b>Program 1: Food Security</b></p> <p>Component 1: Farming Systems in upland areas</p> <p style="padding-left: 20px;">Subcomponent 1-1: Seed and plant introduction, evaluation, multiplication and distribution, plant protection</p> <p style="padding-left: 20px;">Subcomponent 1-2: Watershed-based farming systems</p> <p>Component-2: Improved Service Delivery</p> <p style="padding-left: 20px;">Subcomponent 2-1: Strengthening the extension and support services of MAF</p> <p style="padding-left: 20px;">Subcomponent 2-2: Integrated research</p> <p>Component-3: Capacity Development in Policy and Planning</p> <p style="padding-left: 20px;">Subcomponent 3-1: Policy, management and operational support service</p> <p style="padding-left: 20px;">Subcomponent 3-2: Policies and strategies for emergency assistance to communities</p> <p style="padding-left: 20px;">Subcomponent 3-3: Regulations, phyto-sanitary control and sanitary standards</p> <p>Component-4: Integrated Agricultural Development Program (IRAP)</p> <p style="padding-left: 20px;">Subcomponent 4-1: To prepare project staff and engage communities</p> <p style="padding-left: 20px;">Subcomponent 4-2: To increase food production and household income in selected areas of the three districts of Bobonaro, Covalima and Oecussi</p> <p style="padding-left: 20px;">Subcomponent 4-3: To build the capacity of MAF and other service providers in the three districts of Bobonaro, Covalima and Oecussi</p> <p style="padding-left: 20px;">Subcomponent 4-4: To manage the project efficiency</p> <p style="padding-left: 20px;">Subcomponent 4-5: BA AN RASIK Program (Human Security in Rural Timor-Leste)</p> <p><b>Program 2: Improvement of Vocational Schools</b></p> <p><b>Program 3: Promote Vigorous and Profitable Agricultural Industries</b></p> <p>Component 1: Agro-industry Development</p> <p>Component 2: Improving the Cropping Efficiency of Irrigated Areas</p> <p>Component 3: Livestock Industry Development</p> <p>Component 4: Agribusiness Development</p> <p style="padding-left: 20px;">Emphasizes:</p> <p style="padding-left: 40px;">Support for agribusiness education,</p> <p style="padding-left: 40px;">Further development and strengthening of rural producers groups, and</p> <p style="padding-left: 40px;">Expansion of the Agribusiness Division.</p>

In the Sector Investment Program mention above, agribusiness development is incorporated in the component 4 of the program 3, which emphasizes the subjects; support for agribusiness education, further development and strengthening of rural producers groups, and expansion of the Agribusiness Division. This development study is placed in line with the Sector Investment Program.

### **3-1-4 The 4th Constitutional Government Program**

The 4th Constitutional Government Program has been announced in 2007 by the Government to show the development of the each sector for year 2007-2012, until a new National Development Plan is established. Agriculture/ Livestock/ Fisheries sector' s program is stated as follows.

<b>The 4th Constitutional Government Program</b>
<p><b>Chapter 1 Economic Growth</b></p> <p><b>1. Agriculture</b></p>



### The 4th Constitutional Government Program

The objectives of this government are:

- To go from the subsistence agriculture level to a market agriculture.
- To go from the small production dispersion stage, to the regional specialization of products.
- To go from the constant cycle of droughts to the water reserve and irrigation channels infrastructure, assuring the production and thus stimulating, in an irreversible way, the agriculture development.
- To reduce the regional discrepancies, through the rehabilitation of rural extension centers, of roads and the dynamization of markets.

Related to agribusiness, the Government will promote the following way to follow the objectives:

- The production and promotion of products liable to be commercialized in the regional and international markets.
- The optimization of the rice, corn, sweet potato, manioc, yam, peanut, asparagus bean, soybeans production. the production of horticulture and the production of the industrial plantation such as coconut, coffee, etc.
- Infrastructure improvement such as roads, transports, markets and processing and extension centers.

#### (2) Livestock

The Government intends to:

1. Establish a livestock and veterinary development policy and review and create adequate legislation for sector development, namely: Quarantine law, about the import/ export of animals and derivative products, veterinary, livestock production and slaughterhouses Laws and Regulations.
2. Improve veterinary services.
3. Invest in reproduction and vaccination campaigns to enable number of animals to increase.
4. Promote the technical formation in the agriculture and cattle and veterinary area.
5. Develop pastures and promote agricultural research and information, contribution for the eradication of weeds that prejudice the healthy feeding of the animals in natural pastures.
6. Develop the establishment of small and medium agricultural- livestock industries.

#### (3) Fisheries

The Government intends to:

1. Develop small and medium industries in the sector and
2. Manage fisheries in a sustainable way.

Basic concept of agricultural sector is to go from the subsistence agriculture level to a market agriculture. Government program related with agribusiness so as to attain such situation mentions the production of products liable to be commercialized in the markets, the optimization of the production of rice, corn, etc. and improvement of infrastructure such as roads and markets. Contents of those programs are consistent with this study direction.

In the sector of Commerce, Industry, Private Sector and Services, promotion of agribusiness are stated as follows.

The Government intends:

#### 7. Commerce, Industry, Private Sector and Services

- To foster the training of national tradesmen on their knowledge level about capital and management capacity.
- To regulate trade practices in a logic of respect for the rules, promoting a healthy competitive market prone to eliminate speculative trade practices and as a way to safeguard most of the population still with a low purchasing power.
- To provide institutional support with more efficiency, mainly thinking how can it simplify the investor's life, by creating the conditions and the financing and incentive tools for the national companies, so that all can achieve the competitiveness objective.

### 3-1-5 Development Partner Meeting

In the Development Partner Meeting holding on April 2009, the catchphrase of “Goodbye Conflict and Welcome Development” was used for sustainable economic growth and poverty alleviation. Ministry of Finance stated the National Priorities for the year 2009; i) agriculture and food security, ii) rural development, iii) human resources development, iv) social protection and social services, v) security and public safety, vi) clean and effective government, vii) access to justice, and conducted working groups. In regards with agricultural post harvest and processing, the following action plans are given.

**Table 3-1-2 National Priorities 2009/10**

Strategy	Action Plan	Target
Agriculture and Food Security	Under coordination of MAF and MTCI, rice production will increase in terms of increase of cultivated areas, double cropping, high-yield variety seeds, mechanization, improvement of intensive farming management and extension staff. Furthermore, the actions of government purchasing of products, information management in district levels for deficit and surplus of foods and food storage by newly constructed warehouses will be taken.	Increase of rice production at 20% from 54,000 tons Purchase of 20,000 tons products
Rural Development	Under coordination of MED and MoI, the actions of facilitation to cooperatives, micro-financing, rural road construction, promotion of rural business, rehabilitation of rural marketplaces, water supply to 18,000 people, sanitary facilities to 3,000 households and power supply to 10,000 households will be taken.	Construction of 24 mini-markets Registration of 24 cooperatives Job creation for 40,000 people

Source: 2009 Government TLDPM Background Paper, Ministry of Finance, April 2009

The minister for agriculture and fisheries expressed to establish Food Security Early Warning System aimed at grasp of information for kinds of disasters, exact damaged places, numbers of victims and urgent required foods. As well, the minister pointed out the issues of rapid increase of local population in mountain areas, deforestation and land degradation due to surface soil runoff, which finally affect on deterioration of security in Dili by jobless youths. The minister for economic development was aware of importance of agribusiness including processing activities.

The country director of WB warned depletion of the petroleum funds of government revenue, and insisted the importance of consideration on resistance veterans and women and job creation for youths for social stability, increase of productivities of rain-fed crops, not only for rice, such as maize and tubers for food security and promotion of small scale private sector.

### 3-1-6 Strategic Development Plan

The strategic Development Plan is developed with long term economic vision for Timor-leste by 2030. In agriculture sector, four sectors of Crops and Horticulture, Plantation Husbandry Sub-Sector and Fisheries Sub-Sector are stated. Policy Direction, Working Plan and Project Implementation of each sector are described. Policy Direction of Crops and Horticulture is picked as follows.

Target term	Policy direction
Short Term (2011-2015)	<ul style="list-style-type: none"> <li>- Increase national food crops production capacity through the utilization of 30,000 ha of field which requires irrigation scheme rehabilitation.</li> <li>- Provide subsidy for input materials of food crops and horticultures.</li> <li>- Improve human resources competency of agriculture apparatus.</li> <li>- Improve extension services.</li> </ul>

Target term	Policy direction
	<ul style="list-style-type: none"> <li>- Develop agriculture mechanized and extension centers.</li> <li>- Increase the capacity of farmers in terms of agricultural skills and farming management.</li> <li>- Develop the facility and infrastructure.</li> <li>- Improve agricultural data and information management.</li> <li>- Establish zoning for crops and horticultures commodity.</li> <li>- Begin the integration of farm activities with small industry, In this case, the agricultural product processing industry and agricultural waste industry for organic fertilizers and fodder need to be introduced.</li> <li>- Develop regulation for operation and maintenance of agriculture machineries.</li> </ul>
Medium Term (2016-2020)	<ul style="list-style-type: none"> <li>- Ensuring food security and stocks availability.</li> <li>- Increase diversification of production and consumption on bases of local resources.</li> <li>- Develop technology and innovation of agricultural technology.</li> <li>- Establish and develop paddies agribusiness areas.</li> <li>- Develop institution and partnership which are mutually beneficial especially in relation to financing, processing and marketing.</li> <li>- Expand business scale and managerial capacity of farmers intended to direct the farmers in order to conduct business-oriented agricultural activities.</li> <li>- Develop industrial cluster for superior commodities.</li> <li>- Promote farmers to be extension workers.</li> </ul>
Long Term (2021-2030)	<ul style="list-style-type: none"> <li>- Manage sustainable land resources. Within this period, it is possible to develop organic agriculture.</li> <li>- Establish and develop rural agribusiness area.</li> <li>- Increase private investment by providing business incentives and investment in the field of agriculture.</li> <li>- Develop and implement agriculture product processing technology to support off-farm activities.</li> <li>- Provide significant contribution toward the economic growth through export, job creation and increase of income.</li> </ul>

Target related to the agribusiness development is stated in this development plan.

## **3-2 GOVERNMENT ORGANIZATIONS RELATED TO THE PROMOTION OF AGRIBUSINESS**

### **3-2-1 Ministry of Agriculture and Fisheries (MAF)**

#### **(1) Organization**

MAF is responsible for planning and executing the policies covering agriculture, forestry, livestock, fisheries, rural development and irrigation development, which is the largest sector in the socio-economic activities of Timor-Leste. Related to the agribusiness mentioned above, MAF targets to shift from subsistence agriculture to market oriented agriculture and reduce regional disparities on agriculture production through strengthening of extension services in rural areas and rural feeder roads and marketing.

The MAF is divided into three Secretaries of State for Agriculture/ Arboriculture, Livestock and Fisheries. The Director General is the head of the civil service of the Ministry, with 12 National Directorates and 13 District Directorates. Organization of the MAF is show in Figure 3-2-1.

#### **(2) Workforce**

Since the beginning of 2008, staff was recruited at the Ministry. As the result, in 2009, the total number

has increased to a total 1,825 staff in national and district offices. Out of them, 1,037 staff is stationed in Central office. All directorates have average 2 to 5 staff in the districts.

**Table 3-2-1 Number of Staff and Workforce of MAF**

**Number of staff in 2009**

	Professional	Technical	Non-Technical	Total
Headquarters	109	850	78	1,037
District	44	712	32	788
Total	153	1,562	110	1,825

Source: National Directorate for Administration and Policy & Planning

**Workforce of MAF (as of April 2008)**

Employment Category	Level							Total	%
	L1	L2	L3	L4	L5	L6	L7		
Status of employment	53	105	206	253	109	26	1	753	
Permanent staff	5	32	75	122	60	21	1	316	42
Temporary	48	73	131	131	49	5	0	437	58
Duty Station	<u>Permanent</u>			<u>Temporary</u>					
Central office	232			357				589	78
District office	84			80				164	12

Source: Analysis of MAF Human Resource Data, 2008 (Exclude the recruited staff in beginning of 2008)

**(3) Annual Budget**

State budget for MAF including support from donors are shown as follows.

**Table 3-2-2 Current State Budget for MAF and Confirmed Donor's Funding 2008-2011 (US\$'000)**

Allocation	2008	2009	2010	2011
Recurrent expenses				
Salary and wages	1,688	1,778	1,839	1,900
Good and services	8,029	8,386	9,023	9,664
Minor capital	1,702			
Transfers	2,000			
Sub-total	13,419	10,164	10,862	11,564
Capital and development	3,249			
Total stage budget allocation	16,668	10,164	10,862	11,564
Confirmed donor funding				
Recurrent expenses	12,117	13,405	5,199	2,794
Capital expenses	1,117	415	277	221
Total commitment funds from other sources	13,234	13,820	5,476	3,015
Total Combined Sources	29,902	23,984	16,338	14,579

Source: The State of the Nation Report, RDTL-MAF, 2008, General State Budget

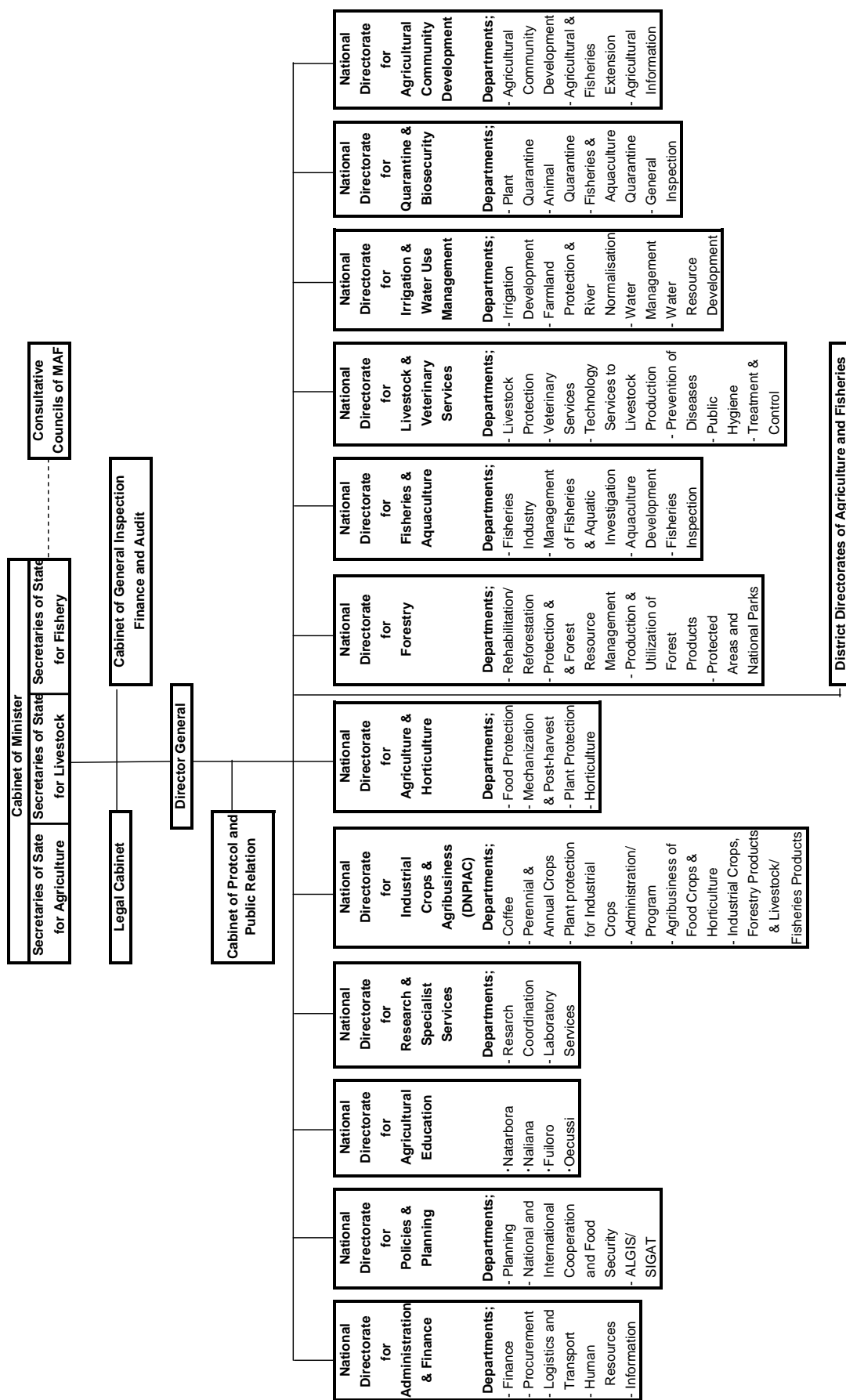
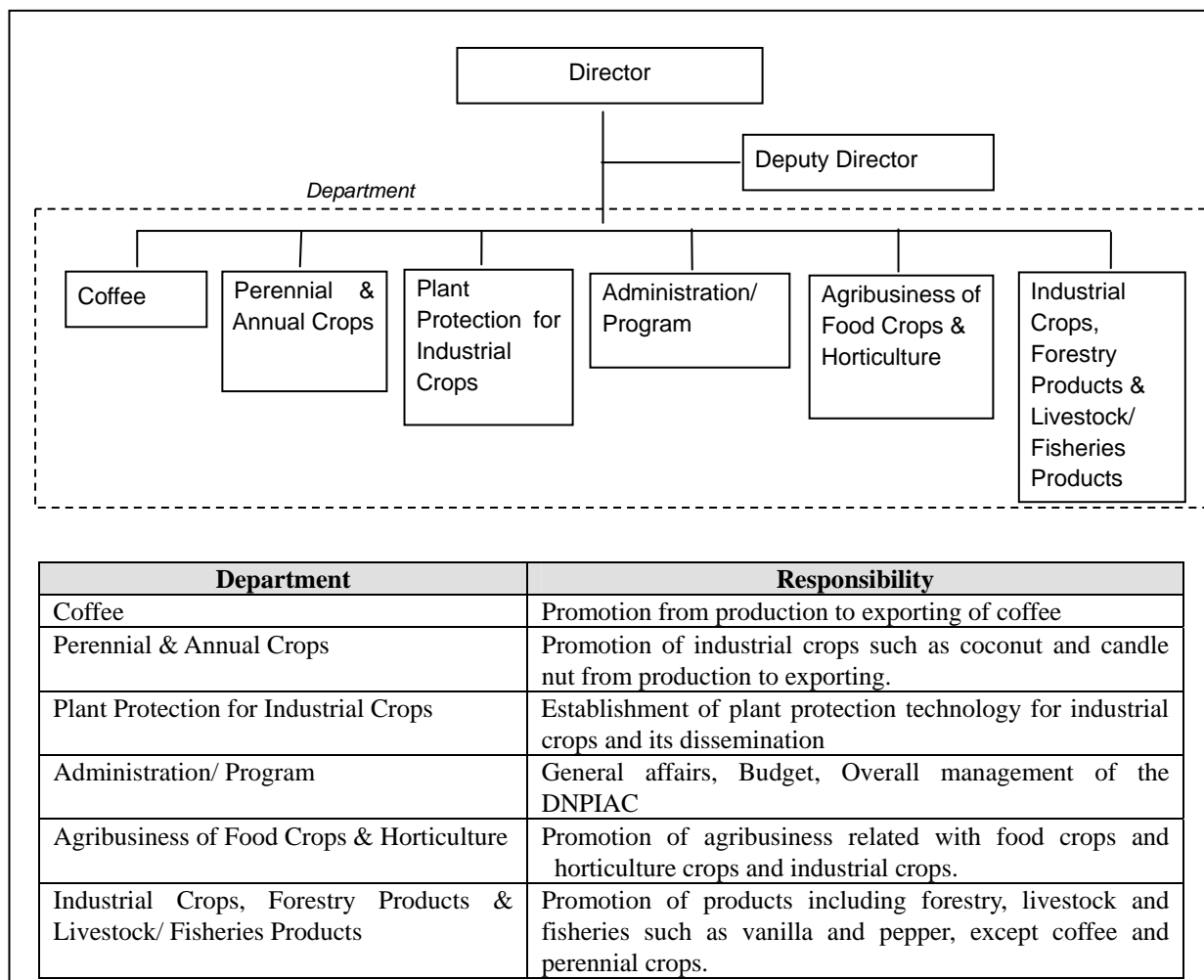


Figure 3-2-1 Organization Chart of Ministry of Agriculture and Fisheries (MAF)

### 3-2-2 National Directorate for Industrial Crops and Agribusiness (DNPIAC)

The National Directorate for Industrial Crops and Agribusiness is responsible for promotion of industrial crops such as coffee, coconuts, cashew, candlenut and cloves and promotion of agribusiness of commodities such as rice, maize, beans and meat products. The Directorate consists of six departments (Department organization is not fixed. It may be changed according to the change of policy).



Note) Responsibility is based on the interview survey since there is no any document on term of reference.

**Figure 3-2-2 National Directorate for Industrial Crops and Agribusiness**

Total 27 staff is allocated for this National Directorate, of which 21 staff is the temporary staff. Total 28 staff is allocated for the districts, of which 3 staff in each of Baucau and Bobonaro districts and 2 staff in the remainder 11 districts (as of June, 2009).

**Table 3-2-3 Current Workforce and Budget Plan of DNPIAC**

Department	Permanent	Temporary
Coffee	1	2
Perennial & Annual Crops	1	3
Plant Protection for Industrial Crops	1	3
Administration/ Program	1	2
Agribusiness of Food Crops & Horticulture	1	5
Industrial Crops, Forestry Products & Livestock/ Fisheries Products	1	6
Total staff	6	21

Allocated budget is as follows.

**Allocation Budget (2009) (US\$'000)**

Salary and wages	102,000
Good and services	366,000
Minor capital	-
Transfer	-
Capital and development	224

### 3-2-3 Other Relevant Government Organizations

Other government organizations related to the promotion of agribusiness and their duty are summarized as follows.

**Table 3-2-4 Other Relevant Government Organizations**

Duty	Related Government Organizations
Register of enterprise	- Ministry of Justice - National Directorate of Domestic Trade, Ministry of Tourism, Commerce and Industry
Customs	- Custom Office, Ministry of Finance
Taxation (import/ export taxes)	- National Directorate of External Commerce, Ministry of Tourism, Commerce and Industry
Land Tenure	- National Directorate of Land and Property, Ministry of Justice
Road	- Ministry of Infrastructure
Public Market Facility	- Ministry of Economy and Development - Ministry of Tourism, Commerce and Industry
Cooperatives/ Farmers' organization	- National Directorate for Cooperatives, Ministry of Economy and Development
Food safety	- Ministry of Health

## 3-3 PRESENT LEGAL AND REGULATORY FRAMEWORK

### 3-3-1 Laws and Regulations Governing Agriculture Sector

Legislations enacted so far as well as those being prepared drafted are listed as follows. These are to tend to define a standard and procedure and ensure the compliance with it.

**Table 3-3-1 Current Status of Agriculture Legislation**

Sector/ Subsector	Relevant Legislation	Status
MAF	Decree Law No.4/2004 on the Structure and Role of the Ministry of Agriculture, Livestock, Fishery and Forestry, Promulgated on 13 November 2004.	Promulgated, November 2004
Crops	Food Security Policy	Promulgated 16/9/'05
	Water & Irrigation Policy	Under preparation
	Decree Law on the Use of Pesticide	Under preparation
	Pesticide Regulation	Under preparation
	Seed and Fertilizer Policy	Under preparation
	Land Use and Land Management	Under preparation
Livestock	National Extension Policy	Under preparation
	Decree Law on Quarantine	Promulgated, 2003
Fisheries	Livestock Regulation	Under preparation
	Decree Law for Fisheries	Promulgated, 21/4/'04
	Decree No.5/2004 – General Fisheries Regulations	Promulgated, 28/7/'04
	Ministerial Diploma No.04/115/G[M]/Iv/'05 – List of Protected	Promulgated, 2005

Sector/ Subsector	Relevant Legislation	Status
	Aquatic Species	
	Ministerial Diploma No.06/42/GW/'05 – Penalties for Fishing Infringements	Promulgated, 2005
	Ministerial Diploma No.02/04/GW/I/'05 on Principal Fishing	Promulgated, 2005
	Ministerial Diploma No.05/116/GW//I/'05 on Size, Minimum Weight of Captured Species	Promulgated, 2005
	Ministerial Diploma No.03/05/GW/I/'05 – Percentage of Tolerated Catching	Promulgated, 2005
	Ministerial Diploma No.01/03/GW/I/'05 – Definition of Fishing Zones	Promulgated, 2005
	Fishery Strategic Plan for 2007/'12	Under Preparation
	Monitoring Vessel Legislation and Fishing Quarantine Legislation	Under Study
Forestry	Resolution No.7/2007 on National policy and Strategic Framework for Forestry	Promulgated, 2007
	Resolution No.7/2007 on National policy and Strategic Framework for Forestry, Promulgated on 1 August 2007	Promulgated, 2007
	Resolution No.8/2007 on the Establishment of the National Park of Nino Coni Santana	Promulgated, 2007
	Directive No.3/2002/UNTAET, Exemptions to Regulation No.17/2000 on the Prohibition of the Export of Wood from East Timor	Promulgated, 2002
	Regulation No.19/2000/UNTAET on Protected Areas in Timor-Leste, Promulgated in 2000, and declared 15 “Protected Wild Areas#” in addition to the selected endangered species, coral reefs, wetlands, mangroves as well as historical, cultural and artistic sites	Promulgated, 2000
	Regulation No.17/2000/UNTAET on the Prohibition of logging Operations and Export of Wood from Timor-Leste	Promulgated, 2000

Source: Policy and Planning Directorate, MAF. The State of Nation Report, 2008

### 3-3-2 Other Related Laws and Regulations

In addition to the legislations under the MAF as mentioned above, the following relevant laws and regulations are listed related to the promotion of agribusiness.

**Table 3-3-2 Other Relevant Laws and Regulations**

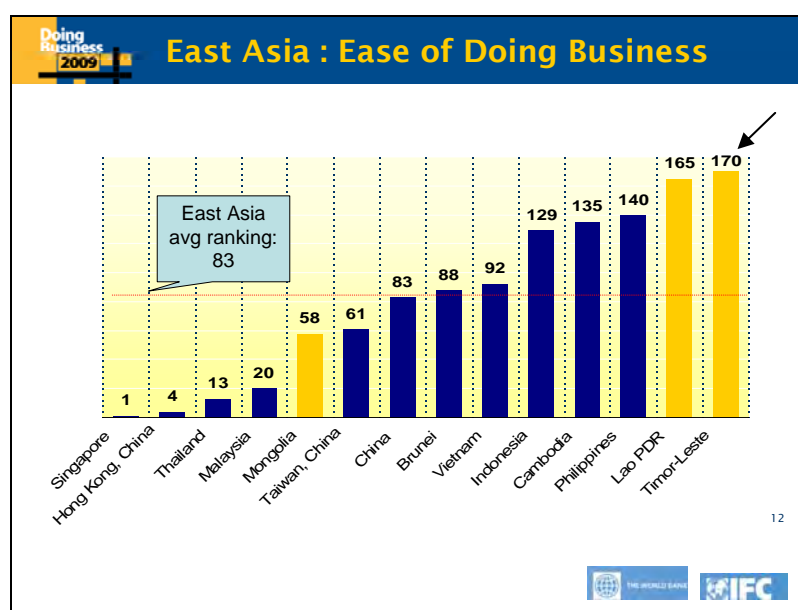
Legislation	Status
Commercial law	Promulgated, 2004
Cooperative law	Promulgated, 2004
National investment law	Promulgated, 2005
Foreign investment law	Promulgated, 2005
Land law	Drafted, but enacted yet.

### 3-3-3 Regulatory Framework and Licensing

A nation's regulatory framework has a direct impact on enterprise development. Depending on laws, regulations and licensing requirements, business operations can be enhanced or constrained. The World Bank's International Finance Corporation (IFC) annually measures a set of 10 factors affecting a nation's business environment and publishes the results in its report, “Doing Business”. The areas monitored include; starting a business, dealing with construction permits, employing workers, registering property, obtaining credit, protecting investors, paying taxes, trading across borders,



enforcing contracts and closing a business. In 2009 data was gathered throughout the world from 181 economies. Singapore was ranked as the number one country in the world for ease of doing business followed by New Zealand, USA and Hong Kong. Very good regional results were also posted to by Japan, Australia, Thailand and Malaysia. Unfortunately, Timor-Leste did not fare so well - ranking well down the list at number 170 out of 181. While Timor-Leste's ranking appears to be overly pessimistic, it does clearly indicate that the country has significantly more regulatory barriers than any of its Pacific and Asian neighbors (See Figure 3-3-1).



Source: World Bank/IFC, Doing Business 2009

**Figure 3-3-1 East Asia: Ease of Doing Business**

an extremely prickly problem in regard to land tenure. No doubt this is as a result of overlapping the right of ownership generated at various periods by Timorese, Portuguese and Indonesian authorities. A similar problem with disparate indigenous, Indonesian and Portuguese legal systems also exists. Another significant constraint is the difficulty of resolving commercial disputes through the nascent judicial system, which survives on a very limited human resource base.

Problems begin with starting a business. Timor-Leste's cumbersome and time consuming entry procedures are a hindrance to incorporating and registering a new firm. Perhaps, this is a throw back to colonial times, as Indonesia is ranked as one of the most difficult countries in the world to start a new business (171 out of 181). In Timor-Leste, it takes on average completion of 10 procedures over a period of 83 days to incorporate and register a company. This can be contrasted with New Zealand where only one procedure and 1.0 day is needed to form a firm, or the Marshall Islands where everything can be done in 5 procedures over 17 days. On the positive side, the cost to start a business at 6.6% of per capita income is relatively low. However, this is more than made up for by the hefty minimum capital requirement for a firm of \$5,000, which is equivalent to 331% of per capita income. In many countries, such as Papua New Guinea, there is no requirement for a minimum capital contribution, and even in the US only a minimal amount (i.e., +/- \$100) is required.

Obtaining construction permits is also a complex procedure requiring navigation through a myriad of

bureaucracies. Just to build a simple, general warehouse requires 22 permits and an average waiting time of 208 days. While permits are certainly required to insure protection of people and environment, long drawn out procedures are helpful to no one and costly to the economy. Most countries surveyed were able to complete similar permitting within 100 days. However, Indonesia needs a long time 176 days to complete a similar process. Happily, costs to obtain construction permits appear quite reasonable, equivalent to 63% of income per capita. This is less than found in most other countries.

Timor-Leste is relatively well in regards to employment. Like governments everywhere, Timor-Leste faces the challenge of finding the right balance between worker protection and labor market flexibility. Analysis across economies shows that while employment regulation generally increases the tenure and

**Table 3-3-3 Regional Country Rankings Listed With Indicators**

Indicator	Australia	Laos	Mongolia	Papua New Guinea	Timor-Leste
Starting a business	3	92	59	92	150
Dealing with constr. permits	57	110	103	124	100
Employing Workers	8	85	71	31	78
Registering property	33	159	20	73	177
Getting credit	5	145	68	131	178
Protecting investors	53	180	24	38	126
Paying taxes	48	113	79	87	75
Trading across borders	45	165	156	89	79
Enforcing contracts	20	111	38	162	181
Closing a business	14	181	108	102	181
Ease of Doing Business	9	165	58	95	170

Source: World Bank/IFC, Doing Business 2009

wages of incumbent workers, overly rigid regulations have undesirable side effects. These include less job creation, smaller company size, less investment in research and development, longer spells of unemployment and reduction of productivity growth. Hiring flexibility is conditioned by rules on worker contracts, minimum wages, work hours, weekend/night work restrictions, leave off and firing/dismissal procedures. The country ranks globally in the mid range at 78 out of 181 countries studied. Certainly, it is far better positioned than either Indonesia at 157 or Portugal at 164.

Formal property titles help promote transfer of land, encourage investment and provide access to formal credit markets. Eliminating obstacles to registering and transferring property is important for economic development. Unfortunately, property tenure is a major concern in Timor-Leste. This problem is caused by both as a result of overlapping ownership rights generated at various periods by Timorese, Portuguese and Indonesian authorities and a lack of titles with proper land surveys. Timor-Leste government is taking the processes for clarifying tenure rights with the assistance of donors. However, the process is expected to be complex and lengthy. Lack of secure land tenure has a detrimental impact on most all aspects of Timor-Leste’s economic development, and will need to be adequately addressed for the nation’s growth. It certainly hinders access to credit, which is often based on use of land titles for collateral in the agriculture sector.

Access to credit is one of the most important drivers of economic growth. Efficient credit disbursement depends on (i) legal environment, (ii) credit reference facilities, and (iii) credit providers. Timor-Leste

has to possess general legal basis for a functional credit system. However, collateral, banking and bankruptcy laws as well as related enforcement procedures are not strong enough to provide confidence to either lenders or borrowers. Also the nation is lacking both public and private credit reference facilities. Most importantly, credit institutions are not capable of widely servicing the credit. There are a limited number of banks located in urban areas mostly serving companies and richer individuals. Even bank branches can only be found in urban centers. In rural areas, there is only a limited number of government and donor sponsored credit programs. The result is that, except for the urban permanently employed, credit is not available. Rural areas are poorly served with most households either running without credit or using informal and expensive money lender systems.

Companies start and then grow by raising capital, either through bank loans, or by attracting equity investors. Selling shares allows companies to expand without the need to provide collateral and repayment bank loans. Timor-Leste does have adequate investor protection laws. However, as a new small nation it does not, and probably will not, provide a functioning stock exchange in the short term. Access to investors is, therefore, inevitably very limited.

Tax collection is necessary for the government to provide social services, but places a financial burden on individuals and businesses. A compromise is necessary to simultaneously insure adequate provision of tax revenues and minimum encumbrance on producers and firms. Simple, moderate taxes and fast, cheap administration does mean less difficulty for businesses, and also more revenue collected and better public services. If the time and financial costs become too high, then firms and individuals seek to avoid taxes by only operating subrosa informal sector. Timor-Leste's total tax rate (as a % of profit) at 28.3% and the number of payments per year at 15 are considered quite moderate, ranking in the middle of the surveyed countries. However, the number of days required to complete the tax filing requirements at 80 (640 hours) is excessive. In Solomon Islands, it only takes about 10 days to complete all tax filings, and even taxpayers in Indonesia and Papua New Guinea can complete their tax forms in a third of the time it takes people in Timor-Leste.

Cross border trade, especially with Indonesia and Australia, is critical for Timor-Leste. The country needs imports since it produces little in the way of manufactured goods. It even purchases a significant amount of food from foreign countries. It also exports large amounts of gas/oil and coffee. Despite the generally limited road network in only fair repair, the country does relatively well done in management of its cross border trade. The tariffs and duties imposed are relatively small. There are no restrictive quotas. However, the procedures are often cumbersome. Many times, export documents are required from Dili. While this is often not a problem for shipments between mainland Timor-Leste and West Timor since access to Dili is possible, it is a serious constraint to cross border trade from Oecussi. For example, there is substantial cattle trade between Oecussi and West Timor. However, nearly all of it is currently completed without documentation. If documents are in order and quarantine not required, most commonly customs and clearance documents can be completed in a few hours. The roads between Dili and West Timor are amongst the best in the country so product can be physically moved quite easily.

However, overseas shipment either by ship or air to other destinations is extremely costly and a real barrier to economic development. Usually products can be either imported or exported within 25 days of

request, which is about average for the region. The most serious difficulty encountered for international trade by sea or air is costly. The costs for documents, customs clearance fees and terminal handling charges are expensive amounting to about \$1,010 per 20 foot container for exports and \$1,015 for imports. This is about 30% higher than the comparable cost in Indonesia. In addition, in case of small shipping volumes, freight charges are very expensive and space limited especially for air shipments.

Timor-Leste is a new nation. Then, legal environment is still evolving. In general, commercial law is in its infancy. Resolution of commercial disputes, contract enforcement, bankruptcy proceedings and business closures through the judicial system is only just beginning. Codes of civil procedure and other court regulations are still in development. At present, it takes an impractical 1,800 days to recover a commercial debt through the courts. The same process in Singapore takes less than 10% of that time (i.e., 150 days). Furthermore, on average the court costs average more than the claims (163% of claims), so to bring a claim through the courts is just not worth the effort. By comparison, Singapore court costs average only about 25% of claims.

### 3-3-4 Taxation

Country's taxes are administered by the Ministry of Finance, National Directorate, Timor-Leste Revenue Service (TLRS). The day-to-day administration of the taxation system is done through the TLRS District Offices located in Dili, Baucau and Maliana. All persons, both resident and non-resident with permanent establishment, are subject to tax. A person is defined as either natural (individual, sole proprietorship) or legal (i.e., corporations, partnerships, NGOs, un-incorporated organizations.). Plus distinction is made between (i) residents, (ii) Timor-Leste permanent establishments of non-residents, and (iii) non-residents without permanent establishment in Timor-Leste.

There are six main categories of taxes; (1) services, (2) excise, (3) sales, (4) import, (5) wage income, and (6) income. Details of the tax rules can be found in the Taxes and Duties Act, Decree Law No.: 8/2008. The general conditions and terms listed in the Act are:

Services: Services Tax is a tax on monthly basis of certain designated services. Designated services include sales generated by; (i) hotels, (ii) restaurants/bars, and (iii) telecommunications. The rate of 5% of total receipts is levied on all persons with gross sales in excess of \$500/month.

Excise: Excise tax is charged for specific categories of goods manufactured in Timor-Leste according to a published schedule. The published schedule covers a range of goods. Those relevant to the agriculture sector can be seen in Table 3-3-4.

**Table 3-3-4 Excise Tax Rates**

Class Number	Category	Rate
2203	Beer	\$ 1.90/liter
2204 – 2206	Wine, Other Fermented Beverages	\$ 2.50/liter
2207, 2208	Ethyl Alcohol, Other Alcoholic Drinks	\$ 8.90/liter
2401 – 2403	Tobacco, Tobacco Products	\$ 9.00/kg

Source: Taxes and Duties Act, Decree Law No.: 8/2008

Excise Tax for domestic producers is calculated by multiplying the fair market value of the goods at the time of removal of the goods from manufacturer's warehouse by the applicable rate. For importers, it is

the customs value of the goods plus the import duty with the applicable rate.

Sales: Sales Tax of 2.5% is applied on all goods imported into Timor-Leste. Locally produced goods and services are exempt from this Sales Tax.

Import: Unless exempt, an Import Duty of 2.5% is applied to all goods imported into Timor-Leste. There are only a few items exempt for import duties. These exempt goods include; (i) items of a non-commercial nature accompanying a person upon entry to the country, (ii) goods for use by UN, donor and charitable organizations, (iii) infant formulas, and (iv) women's sanitary items.

Wage Income: A resident natural person is taxed on wages received as an employee in respect of employment in Timor-Leste. Wage income is defined as gross income less allowable deductions. It is calculated on an annual basis running from 1 January to 31 December, and paid prior to 31 March each following year. Wage Income Tax is paid monthly by employers.

Wage Income Tax rates for resident natural persons are (i) not taxed on wages less than \$500/month, and (ii) taxed at a rate of 10% on wages above \$500/month. Non resident natural persons are charged at a rate of 10% on all wages.

Wage Income tax rates for contractors are subject to a special schedule. Wage Income tax rates for contractor resident natural persons are (i) taxed 10% on wages less than \$550/mo, and (ii) taxed at a rate of \$55 plus 10% on wages above \$550/mo. Contractor non resident natural persons are charged at a rate of 20% on all wages. Other contractor employees are charged at a wage Income tax rate of 30%.

Income Tax: For legal persons and non employee natural persons, the taxable income is calculated as gross income reduced by the total amount of deductions. It is calculated on an annual basis running from 1 January to 31 December, and paid prior to 31 March of the following year. Businesses need to pay Income Tax in either monthly or quarterly installments. Income Tax rates for resident natural persons are (i) not taxed on wages less than \$6,000/year, and (ii) taxed at a rate of 10% on income above \$6,000/year. Non resident natural persons and legal persons are charged at a rate of 10% on all income.

Average Timor-Leste per capita income in 2008 is well below the minimum taxable income level of \$6,000/year. More than 80% of the population live in rural areas and derive their livelihoods from agriculture, livestock, forestry and fisheries. Farming is the sole source of income for about 85 percent of rural households. Most of which is engaged in subsistence farming producing no saleable surplus and generating no off-farm income. Consequently, most all farmers have low incomes and so are not subject to any wage or income taxes.