

# Chapter 6

## **Agricultural Development, Trade, and Regional Cooperation in an Integrating and Industrializing East Asia The Case of Lao PDR**

**Leeber Leebouapao**

National Economic Research Institute

**Saykham Voladeth**

National Economic Research Institute

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## CHAPTER 6

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**LeeberLeebouapao and SaykhamVoladeth**

National Economic Research Institute

#### **1. Introduction**

##### **1.1. Background and rationale of the project**

Lao PDR is located in the center of Southeast Asia and shares borders with China in the north, Cambodia in the south, Viet Nam in the east, and Thailand and Myanmar in the west. The country has a total land area of 236,800 square km, on which about 5.6 million people are living.<sup>1</sup> Socioeconomically, Lao PDR is classified as a least developed country (LDC) with Gross Domestic Product (GDP) per capita of US\$924 in 2009.<sup>2</sup> Agriculture is an important economic sector, contributing approximately 29.9 percent of GDP in 2009.<sup>3</sup> The sector employs over 70 percent of the country's total labor force.

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<sup>1</sup> Population census, 2005

<sup>2</sup> The Ministry of Planning and Investment: Socioeconomic Development Plan 2009--2010.

<sup>3</sup> Ibid.

In 1986, Lao PDR adopted a comprehensive reform program called the New Economic Mechanism (NEM) to shift its central economic planning model to a market-oriented one. The program brought about open-door and integration policies in the following years. The open-door and integration policies had significant effects on the livelihood of the Lao people, including their production capacity.

There are a number of research studies and publications related to regional economic integration and agricultural production in Lao PDR. However, these materials provide only limited information and statistical data on integration and agricultural production in the country. They are not comprehensive and do not give a clear picture of the linkages between regional economic integration and the changes in Lao PDR's agricultural production. They also do not offer clear information on the impacts of improved agricultural production on economic growth and poverty reduction and on the risks and threats to agricultural development under the open-door and integration policies. A review done by the National Economic Research Institute (NERI) revealed that a number of questions related to regional economic integration and agricultural production remained unanswered.

In response to this need, NERI decided to conduct a study titled "Agriculture Development, Trade and Regional Cooperation" in cooperation with the Economic Research Institute for ASEAN and East Asia (ERIA). The goal of the study was to provide clearer and more comprehensive information on the issue. Additional details have been provided by the research team in the following subsection on research objectives and questions.

## **1.2. Objectives and Questions**

The overall objective of this research is to provide the public with clearer and more comprehensive information on the linkages between regional integration policies and changes in agricultural production as well as the impacts of improved agricultural production on economic growth and poverty reduction in Lao PDR. Specifically, this research focuses on:

- (1) reviewing regional economic integration policies and measures that affect agricultural production in Lao PDR
- (2) reviewing agricultural development policies in Lao PDR in the context of regional economic integration
- (3) providing some statistical data on agricultural production, investment, and trade
- (4) evaluating the impacts of agricultural production and exports on economic growth and poverty reduction at the community level
- (5) discussing how to maximize the benefits and minimize the cost of agricultural production under regional economic integration

### **1.3. Research Methodologies and Activities**

To attain the research objectives and answer the questions, the research team conducted the following activities:

- *Literature Review.* The research team collected various documents, including previous research publications related to regional economic integration, agricultural production, investment in the agriculture sector, socioeconomic development, poverty reduction plans and strategies. All publications used in this report have been properly cited.
- *Interviews with Key Informants.* To get more detailed information, the research team conducted individual interviews with key informants, especially representatives from concerned agencies, including the Ministry of Planning and Investment (MPI), Ministry of Agriculture and Forestry (MAF), Ministry of Industry and Commerce (MOIC), Land Management Authority (LMA), and the Water Resource and Environmental Authority (WREA). Interviews were also conducted with representatives from nongovernment organizations (NGOs) operating in Lao PDR, including the International Union for Conservation of Nature (IUCN) and World Vision.
- *In-depth Study:* To get in-depth information and statistical data on the impacts of agricultural production and trade on poverty, the research team conducted an in-depth study in the Sing district in Luang Namtha province located in the northern part of Lao PDR where sugarcane plantations are abundant. Sugarcane produced in this area is exported to China. We interviewed representatives from the provincial departments of agriculture and forestry,

planning and investment, industry and commerce and the Sing district offices for agriculture and forestry and for planning and investment. We likewise organized focused group discussions in two villages involved in sugarcane production and export in the Sing district.

## **2. Regional Economic Integration and Trade Facilitation Policies in Lao PDR**

### **2.1. Regional Economic Integration**

The regional economic integration policy of Lao PDR started in 1986 with the introduction of a comprehensive reform program called the NEM, which was intended to facilitate the shift from the central planned economic model to a market-oriented one and which would consequently lead to the open-door policy in the 1990s.

Since the introduction of the NEM, Lao PDR has been gradually promoting regional integration and cooperation and became a full member of the Association of Southeast Asian Nations (ASEAN) in 1997 together with Cambodia, Viet Nam, and Myanmar. Consequently, Lao PDR joined the ASEAN Free Trade Area (AFTA). It thus took on an obligation to facilitate trade with other ASEAN member countries.

The ASEAN expanded its cooperation and free trade area (FTA) by introducing several programs. The ASEAN+3 (ASEAN + Japan, South Korea, and China) program expands cooperation and free trade with China. In November 2001, the ASEAN and China agreed in Phnom Penh to launch negotiations for the ASEAN-China Free Trade Area (ACFTA). In 2002, the parties signed the Framework Agreement on Comprehensive Economic Cooperation, which aims to: (1) strengthen and enhance economic trade and investment cooperation between the ASEAN and China; (2) progressively liberalize and promote trade in goods and services as well as create a transparent, liberal, and facilitative investment regime; (3) explore new areas and develop appropriate measures for closer economic cooperation between both parties; and (4)

facilitate a more effective economic integration of newer ASEAN members and bridge the development gap among the parties.<sup>4</sup>

In 2004, the ASEAN and China signed the Agreement on Trade in Goods. According to this agreement, the six original ASEAN members (Thailand, Malaysia, Indonesia, the Philippines, Singapore, and Brunei) and China should reduce tariff on 90 percent of their products by 2010 while the new ASEAN members (Cambodia, Laos, Myanmar, and Viet Nam) will have to implement the agreement in 2015.<sup>5</sup>

The ACFTA will be fully implemented by 2015. However, Article 6 of the Framework Agreement requires the implementation of tariff reduction and tariff elimination on certain agricultural products ahead of schedule, supposedly to enable the parties to enjoy the early benefits of the FTA. The Early Harvest Program (EHP), for example, includes a total of 562 products. However, it allows for an exclusion list whereby a party can have certain products exempted from the program's coverage and a request list for the inclusion of certain products not covered by the program but mutually agreed upon by China and the concerned ASEAN member. Brunei and Singapore, whose economies are nonagricultural, fully subscribed to the provisions of EHP with no exemption. Viet Nam and Cambodia submitted their exclusion lists in 2002 prior to the signing of the framework agreement. Malaysia followed suit before the March 2003 deadline. Indonesia and Thailand had no exclusion list but had request lists. Indonesia's request list (as agreed upon with China) included coffee, palm oil, coconut oil, vegetable oil and fats, cocoa powder, soap, vulcanized rubber, glass for cathode-ray tubes (CRTs), and wooden furniture. Aside from including anthracite and coke of coal on its request list, Thailand earlier agreed with China in June 2003 to implement zero tariffs on fruits and vegetables. Lao PDR did not submit an exclusion list or request list. Consequently, the Lao-China EHP automatically includes all 562 agriculture product items. This means that reduced import tariffs will be imposed on Lao PDR's agricultural exports to China. Until recently, however, there has been no study on the effects of the EHP on the Lao-China trade flow.

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<sup>4</sup> Framework Agreement on Comprehensive Economic Cooperation between ASEAN and People's Republic of China, Phnom Penh, 5 November 2002.

<sup>5</sup> Bernardino, "ASEAN-China Free Trade Agreement."

In addition, Lao PDR is working toward its acceptance to the World Trade Organization (WTO). When it becomes a member of the WTO, it will gain access to foreign markets and opportunities to get more investments and technological advancements, which are important factors in stimulating economic growth and reducing poverty in the long term. However, to get the real benefits of WTO accession, the country has to stimulate its production capacities, enhance productivity, and improve the quality of its products in order to increase its competitiveness in the international market.

Moreover, Lao PDR signed a bilateral and multilateral trade and transportation agreement with Thailand, Viet Nam, and China. This includes the following:

*(1) Agreement to Exchange Traffic Rights and Implementation of the Customs Transit System in Lao PDR, Thailand, and Viet Nam on June 11, 2009.* This agreement facilitates cross-border transportation along the East-West Corridor (EWC). To ensure the continuity of the integration policy and facilitate cross-border transportation, the governments of Lao PDR, Thailand, and Viet Nam agreed on June 11, 2009 to: (a) facilitate a vehicle's passage across national borders through the exchange of traffic rights; (b) permit vehicles to forgo the need to unload and reload goods at each border crossing through the customs transit guarantee system; and (c) allow minimum inspection of goods at border checkpoints within a reasonable amount of time via a single-stop and single-window inspection facility.

*(2) Bilateral Transportation Agreement with Thailand, Viet Nam, China, Cambodia, and Myanmar.* Lao PDR signed a bilateral transportation agreement with its neighboring countries to facilitate the movement of people and goods. The bilateral transportation agreement allows trucks from Lao PDR entry to and exit from neighboring countries with reloading rights. The agreement allows trucks from neighboring countries the same privileges. The bilateral transportation agreement facilitates trade and cooperation between Lao PDR and its neighbors.

However, it should be noted that Lao PDR does not have any specific bilateral agreement on agricultural trade with foreign countries. Instead, its exports of agricultural products are

facilitated by regional and multilateral trade agreements. The lack of bilateral agreements on agricultural trade (which would facilitate the export of specific agricultural products to specific markets) seems to indicate that the country has no specific policy and strategy on agricultural trade. A specific policy and strategy would help agricultural development because the country has many constraints in agricultural production (e.g., land constraints, limited financial and human resources). It would also help Lao PDR enhance its productivity and competitiveness.

## **2.2. Trade Promotion Policies in Lao PDR**

Recognizing the role of external trade in the country's economic growth and poverty reduction efforts, the government facilitates exports and imports through several policies, such as the:

(1) *One-Stop Service Policy*. On October 13, 2004, the MOIC enacted Order Number 962 (Implementing Decree Number 205/PM on the Establishment of One-Stop Service) in an effort to facilitate exports and imports.<sup>6</sup> This policy directs all export- and import-related agencies in all provinces and the nation's capital, Vientiane, to establish offices at all border checkpoints and to abolish export-import licenses (except for gold, copper, vehicles, vehicle spare parts, petroleum, gas, diamonds, and other prohibited goods requiring import licenses from the MOIC). A study conducted by NERI in 2008 showed that the implementation of the One-Stop Service policy facilitates cross-border trade by reducing time and costs.

(2) *Border Trade Facilitation Policy*. In 2001, the MOIC issued Instruction Number 948 on the Management of Border Trade. This policy aims to promote small-scale commercial production and exports as well as create jobs and income-generating activities for people living on the country's borders. It also classifies border areas into two types: remote areas and nonremote areas. Remote areas have no access to, or have difficulty in accessing, domestic markets while nonremote areas have good access to domestic markets. People in remote areas can export and import all kinds of products necessary for production and consumption while those in nonremote areas can export all their products but import only the necessary production inputs. People living in nonremote areas have to buy consumer products from the domestic market.

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<sup>6</sup> Cross-Border Economy 2008.

(3) *Special Economic Zone and Border Trade Area Establishment Policy.* To facilitate trade and promote investment, the government implements policies governing special economic zones (SEZs) and establishing border trade. To date, one SEZ and three border trade areas have already been established. Additional incentives and facilitating measures are necessary to attract more investment and trade in the border areas and SEZs. For example, investors at the SAVAN-SENO SEZ enjoy privileges such as exemption from turnover and utilization and minimum tax and other incentives. These incentives include: (a) tax exemption during the early stages of investment and tax reduction based on sector and condition; (b) dividend tax of only 5 percent, which is lower than the normal rate; (c) profit tax of 5 percent, which is also lower than the normal rate; (d) transferable deficit within five years; (e) exemption from import taxes on raw materials, construction materials, equipment, machinery, transport vehicles, spare parts, and semifinished products and end products for use in or assembly at the SEZ; and (f) reduced minimum registration capital based on investment sector. Investors at the Lao-China border trade area also enjoy various incentives, including (a) exemption from taxes on profit and income for the first four years of operation and a 50 percent reduction in said taxes for an agreed period when the four years are up; (b) seven-year exemption from land taxes; and (c) 10 percent reduction in import tax. If investors use domestic raw materials in their production processes, the import tax levied on the final products coming from the border trade area into the Lao domestic market is reduced based on the percentage cost of the domestic raw materials used vis-a-vis the total production cost. For example, the import tax for an investor who uses domestic raw materials costing 30 percent of the total production cost will be reduced by 30 percent when the final products are imported into the domestic market.<sup>7</sup>

### **2.3. Development of Infrastructure Links with the External World**

The preceding subsection clearly shows that Lao PDR recognizes the important role of external trade and regional integration in its economic growth and poverty reduction efforts. The country has implemented many policies and measures to facilitate trade and investment. In addition, it is

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<sup>7</sup>The National Economic Research Institute (NERI), “*The Effect of Border Trade on Human Resource Development.*”

also working towards developing infrastructure and communication systems that will link it to neighboring countries. This includes upgrading the following public infrastructure: (1) EWC, which crosses Lao PDR from east to west and links the country with Viet Nam to the east and with Thailand to the west; (2) the North-South Corridor, which crosses Lao PDR from northeast to northwest and links the country with China to the north and with Thailand to the northwest; and (3) the First and Second Friendship Bridges in Vientiane and Savannakhet province, respectively. In addition, a number of international and local border gates have been opened to facilitate the movement of commodities and people. There are currently about fourteen international border gates in Lao PDR and a big number of local and informal border gates. The pictures below show infrastructure linking Lao PDR with neighboring countries.

**Picture 1: Savannakhet-Mudahan international border gate**



**Picture 2: Second Friendship Bridge**



**Picture 3: Road 9 (East-West Corridor)**



*Photo Credit:* NERI 2008.

Communication and information systems are also being developed. Mobile phone networks are present in all the cities and economic centers of the country. SIM cards from neighboring countries can be used at the border areas. Broadcasts from radio stations and television channels from Thailand, Viet Nam, and China are available everywhere in the country. The development of information and communication infrastructure facilitates the cross-border movement of trade and people.

Regional economic integration significantly affects agricultural production in the country. Details of this are discussed in the succeeding sections.

The government is also implementing various programs to develop road networks that will link the country to main roads in the regions and to the border areas in order to boost cross-border trade and facilitate the movement of people. The transportation sector received the biggest budget allocation from the government in the last decade. From fiscal years 2005—06 to 2009—10, the government allotted a total of US\$846 million to develop the domestic transportation system. This amount represented 39.1 percent of the total government budget during that period. Table 1 shows total expenditures for the development of the domestic transportation system for fiscal years 2005—06 to 2009—10.

**Table 1.** Budget Allocation for the Transportation Sector, 2005/06 and 2009/10 (in US\$ million)

Sectors	2005/06	2006/07	2007/08	2008/09	2009/10	2005/06- 2009/10
Transportation sector	235.9	198.8	159.2	119.5	128.2	841.6
Non-transportation sector	220.2	220.3	258.5	296.7	316.2	1,312.0
<b>Total</b>	456.1	419.1	417.7	416.2	444.4	2,153.6

*Source:* Ministry of Planning and Investment (MPI), Socioeconomic Development Plan 2009—10.

The budget allocation helped improve the quality and quantity of road infrastructure, increasing the total distance of road networks by 16.9 percent from 2005 to 2009, or a total of 33,861 km in 2005 to 36,831 km in 2007 and finally to 39,569 km in 2009 (see table 2).

**Table 2.** Statistical Data on Road Distance in Lao PDR, 2005/09 (km)

Sectors	2005	2006	2007	2008	2009
Concrete road	0	0	0	0	34
Asphalt concrete road	0	0	0	0	496
Tarred road	4,586	4,548	4,811	4,739	4,882
Graveled road	11,608	11,981	12,572	10,928	13,864
Earthen road	17,667	18,731	19,448	19,327	20,293
<b>Total</b>	33,861	35,260	36,831	34,994	39,569

*Source:* Statistical Year Book 2009.

The improvement of road infrastructure has lowered transportation costs and shortened travel time. For example, the transportation cost per truck on Road Number 9 (part of the EWC) from the Lao-Viet Nam border to the Lao-Thai border (which has total distance of 280 km) has gradually gone down from US\$1,012 in 2004 to US\$837 in 2006 and further to US\$526. Travel time has also decreased from 7.5 hours in 2004 to 4.6 hours in 2008 due to road upgrades and the completion of the Second Friendship Bridge. The transportation cost includes the border crossing fee and fees on the Lao border but excludes the fees collected at the Viet Nam and Thai borders.<sup>8</sup> The travel time involved includes time spent in crossing the borders.

The development of roads and lower transportation costs facilitate trade and investment, including trade and investment in the agriculture sector. However, due to geographical constraints, the roads are still relatively underdeveloped and transportation costs remain relatively high in Lao PDR compared to neighboring countries like Thailand, Viet Nam, and Cambodia. Road infrastructure and transportation costs remain a drawback to agricultural production and trade, especially in the remote areas in the northern and eastern parts of the country.

### **3. Agriculture Development in Lao PDR in the Context of Regional Economic Integration**

#### **3.1. Agriculture Promotion Policy and Measures in Lao PDR**

Developing the agriculture sector is crucial to stimulating economic growth and reducing poverty in Lao PDR. The government has been implementing policies and measures to spur development in this sector. These policies and measures include the following:

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<sup>8</sup> The National Economic Research Institute (NERI), “*Sharing the Benefits from Transportation Linkages and Logistics Improvement in the GMS: A Case Study of the East-West and North-South Corridor*,” Lao Country Report (Bangkok: Thailand Development Research Institute Foundation, 2009).

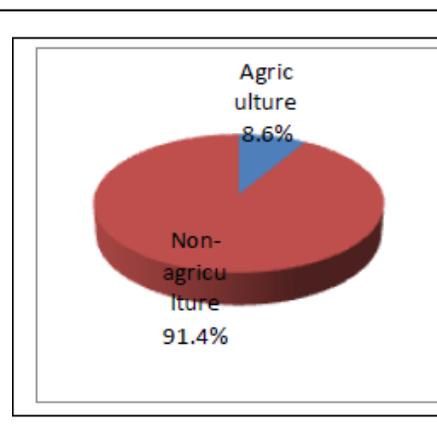
- **Fiscal Policy.** The government has been allocating a substantial budget for agricultural development for decades. From the fiscal years 2005—06 to 2009—10, the total budget allocated for the agriculture sector was approximately US\$184.8 million, corresponding to about 8.6 percent of the total national budget during the same period (see table 3).

**Table 3. Budget Allocation for the Agriculture Sector, 2005/06 to 2009/10 (in US\$ million)**

Sectors	2005/06	2006/07	2007/08	2008/09	2009/10	2005/06-2009/10
Agriculture	54.6	39.6	34.2	28.9	27.5	184.8
Non-agriculture	401.5	379.6	383.5	387.4	416.9	1968.8
<b>Total</b>	456.1	419.1	417.7	416.2	444.4	2153.6

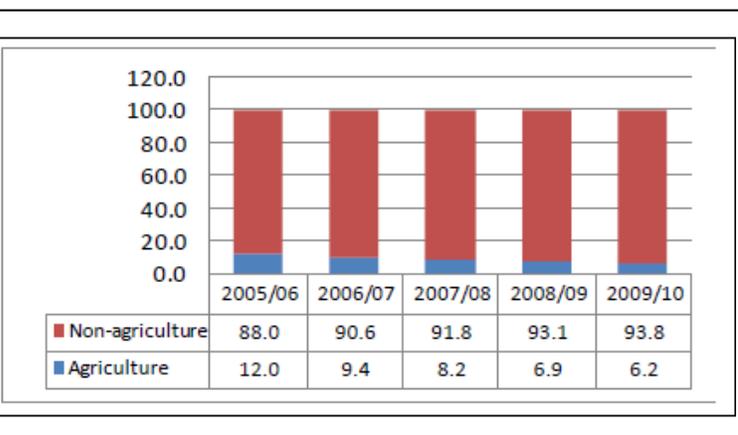
*Source:* Ministry of Planning and Investment (MPI), Socioeconomic Development Plan 2009—10.

**Figure 1.** Share of budget allocated to the agriculture sector, 2005/06 to 2009/10 (%)



*Source:* Estimated by NERI by using data provided by the MPI

**Figure 2.** Share of budget allocated to the agriculture sector, by year, 2005/06 to 2009/10



*Source:* Estimated by NERI by using data provided by the MPI

Thus, the agriculture sector is the third sector to receive the biggest budget allocation after the transportation and education sectors. About 80 percent of its budget is used for the development

of agricultural infrastructure, including irrigation systems. Only about 20 percent is used for technical undertakings, such as training and research and development (R&D).

Despite being the third-biggest allocation in the national budget, the agriculture budget is very limited relative to actual need, according to the MAF. Underdeveloped agricultural infrastructure, relatively low productivity, relatively low quality of agricultural products, lack of effective land-use planning, among others, indicate that agricultural development needs more capital and human resource input from the government.

Figure 2 shows the share of the budget allocated to the agriculture sector, which has been gradually declining from 12 percent in fiscal year 2005—06 to 8.2 percent in fiscal year 2007—08, and further to 6.2 percent in fiscal year 2009—10. On average, allocation for the agriculture sector has been reduced by about 1.6 percent per year because of the government's industrialization/modernization policies and strategies. The government is committed to transforming the economy from being agriculture based to being industry- and service based. Thus, it is constrained to allocate bigger budgets for the industry and service sectors, causing a decline in the budget for agriculture.

- **Monetary Policy.** To facilitate monetary requirements in agricultural production, the government established the Agriculture Promotion Bank (APB), a state-owned enterprise (SOE) specifically mandated to promote agricultural production in the country. The APB's headquarters is in Vientiane Capital. It has a branch in each province and a representative office in many districts in Lao PDR.

The APB, which receives funding and subsidy from the government, offers zero-interest or low-interest credit (i.e., between 7 percent and 10 percent per year) to support agricultural production. From 2006 to 2009, it provided credit amounting to US\$263.9 million to support activities related to agricultural production (see table 4).

The Policy Bank (PB), established in 2008, also provides financial support for agricultural production. The bank is not mandated to directly promote agricultural production but to

support the poverty reduction policy of the government. However, due to the high concentration of the poor in the agriculture sector and the fact that agricultural development is crucial to fighting poverty, the PB has indirectly become an agriculture promotion bank. The bank's headquarters is situated in Vientiane Capital, with branches in each province and a representative office in many poor districts in Lao PDR.

The PB obtains capital from government allocations, the poverty reduction fund, and financial assistance from local organizations, among other sources. It is mandated to offer low-interest or zero-interest credit to support poverty reduction activities, including agricultural production. Since its establishment in 2008, the bank has issued credit amounting to US\$95.8 million to support activities related to agricultural production (see table 4).

**Table 4.** Credit to Support Agricultural Production, 2006/09 (in US\$ million)

<b>Banks</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2006/09</b>
Agriculture Promotion Bank	27.6	38.7	92.5	105.1	263.9
Policy Bank			32.2	63.5	95.8
<b>Total</b>	27.6	38.7	124.7	168.7	359.7

*Source:* Estimated by NERI using data provided by the APB and the PB.

However, a manager at the APB claimed that the amount of credit the bank has provided was very small compared to actual need, meeting only about 10 percent of the demand for credit. The bank manager further said that most of the credits availed of were short-term credits and were provided to domestic agricultural production companies, including companies collecting and exporting agricultural products. Only a small share of the credit was provided directly to independent farmers due to several constraints, particularly reservations about the determination and capability of the farmers to develop a business plan required by the bank and their ability to pay. This indicates the need for appropriate training in this aspect for farmers.

There are also commercial banks that provide credit, including the Development Bank, the Banque Pour Le Commerce Exterier Lao (BCEL), and the Phongsavane Bank. However, these banks are purely commercial and charge relatively high interest rates (about 17 percent to 20 percent). Local farmers do not have easy access to credit because of their small income.

In conclusion, the agriculture sector (and small-scale farmers, in particular) in Lao PDR has to hurdle problems and difficulties related to access to credit.

- ***Agriculture Investment Promotion Policy.*** As previously mentioned, agricultural development is one of the key approaches to economic growth and poverty reduction in Lao PDR. The agriculture sector has been made accessible to all investors, including foreign investors. Investors in the sector enjoy a number of incentives, including:

(1) *Land Leasing.* Investors can avail themselves of large areas of land via concession agreement, at a reduced cost and for a long period of time. The provincial government is responsible for considering and leasing out lands of less than 100 ha to investors. The national government processes and leases out lands of less than 10,000 ha while lease applications for lands exceeding 10,000 ha are handled by the National Assembly. The concession fee depends on location and negotiation. The lowest yearly concession fee is US\$6 per ha. The longest concession period is 60 years.

(2) *Export and Import Facilitation.* Lower taxes levied on imported machinery, equipment, raw materials, and other commodities necessary for agricultural production facilitates importation. Import taxes are currently pegged at only 1 percent of the total value of the imported goods. Meanwhile, small-scale exports of agricultural products are tax-free (by virtue of border trade agreements). Large-scale exports of agricultural products, however, are levied an export tax of less than 1 percent of the total value of exported goods.

(3) *Business / Income / Profits Tax Exemption.* Investors in the agriculture sector get longer tax holidays and pay lower taxes compared to investors in other sectors. Investors who

choose to set up businesses in remote areas where road infrastructure is underdeveloped and access to market is difficult get a tax holiday of up to seven years after initial harvest. For example, investors in rubber plantations (where it takes typically seven to eight years before the first harvest) get 14 to 15 years' tax exemption.

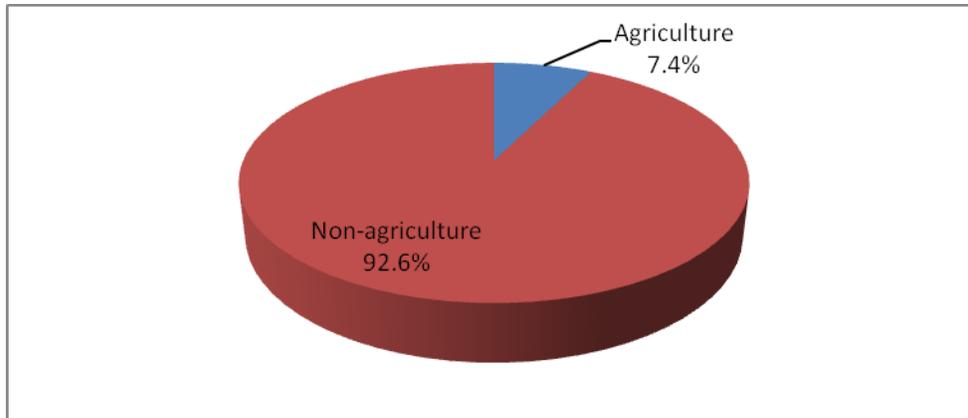
As a result of the vast incentives made available to investors, a significant number of foreign direct investments (FDI) flowed into the agriculture sector. Data from the MPI show that for the period 2005—09, the total amount of FDI in the agriculture sector was about US\$917.9 million, which represents approximately 7.4 percent of total FDI in the Lao PDR during the same period (see table 5).

**Table 5.** Foreign Direct Investment (FDI) in the Lao PDR, 2005/09 (in US\$ million)

<b>Sectors</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2005/09</b>
Electricity	1,065.3	1,776.7	360.5	640.0	218.2	4,060.7
Agriculture	17.4	458.5	183.8	78.5	179.7	917.9
Mining	93.5	73.8	115.3	102.1	2,142.4	2,527.1
Industry and handicrafts	14.6	123.0	134.2	156.9	192.1	620.8
Trade	7.8	86.0	13.9	12.9	10.0	130.6
Construction	1.6	1.8	0.0	66.6	22.2	92.2
Service	20.9	181.2	181.2	23.4	1,047.6	1,454.3
Hotel and restaurant	13.1	32.2	58.2	29.4	40.2	173.1
Telecommunications	0.0	0.0	0.0	32.5	80.0	112.5
Wood processing	5.7	1.0	57.0	21.0	0.0	84.7
Banking	5.0	0.0	25.0	43.0	50.0	123.0
Garments	0.3	3.9	5.5	5.1	1.2	16.0
Consultancy services	0.2	1.8	2.3	4.0	5.4	13.7
<b>Total</b>	<b>3,250.4</b>	<b>2,739.9</b>	<b>1,136.9</b>	<b>1,215.4</b>	<b>3,989.0</b>	<b>12,331.6</b>

*Source:* MPI

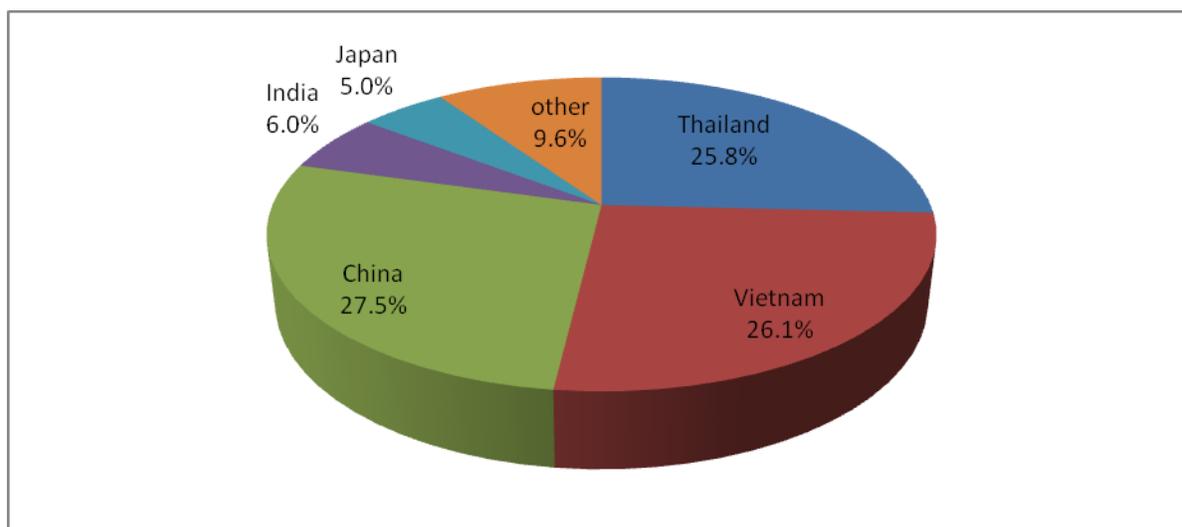
**Figure 3: Share of the agriculture sector in FDI, 2005/09**



*Source:* Estimated by research team by using data provided by the MPI.

The agriculture sector is the fourth-largest sector in terms of FDI, after electricity, mining, and the services sectors. The biggest share (27.5 percent) of FDI comes from China. A total of 26.1 percent comes from Viet Nam, while 25.8 percent is from Thailand (see figure 4).

**Figure 4.** Source of FDI in the agriculture sector, by investing country, 2005/09



*Source:* Estimated by research team by using data provided by the MPI.

Due to the lack of an efficient monitoring system, exact statistics on private domestic investments in the agriculture sector is not available. However, a case study done in the Savannakhet and Saravane provinces by the NERI in 2010 shows that the number of private domestic investments in the agriculture sector is also significant, accounting for over 35 percent of total private investments (private domestic and foreign investment). Total private investments were estimated to have reached over US\$1,230 million. Thus, the country's agriculture sector is one of the sectors with the most number of investors.

However, existing agricultural promotion policies and strategies focus mainly on promoting agricultural production to meet domestic demand, especially in terms of food security and poverty reduction. Until recently, the government had no clear policy and strategy to promote large-scale and export-oriented agricultural production. There are, as yet, no comprehensive plans on land use, no system for determining key products and standards, and no concrete marketing strategies. The larger and decidedly more export-oriented agricultural enterprises, such as rubber plantations, sugarcane plantations, and eucalyptus plantations, are driven more by global market demand than by government policies and strategies. The expansion of agribusiness

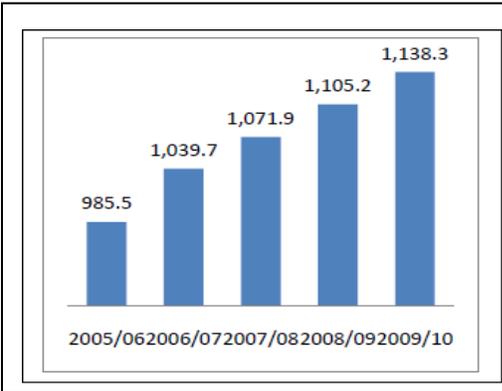
in the country is thus associated with risks and threats, especially of the social and environmental kind. For example, land concessions lacking detailed studies, land allocation, and land-use planning can affect forestry, biodiversity, and watershed areas. It can also produce serious land conflicts and a negative impact on the livelihood of the locals. Therefore, the effects of recent agribusiness expansion in the country bear watching.

### 3.3. Agricultural Production Value in Lao PDR

As a result of massive promotion policies and measures, agricultural production in the country has experienced a rapid increase. The total production value of agricultural production (at 2005 prices held constant) increased from US\$985.5 million for the fiscal year 2005—06 to US\$1,071.9 million for the fiscal year 2007—08 and then to US\$1,138.3 million for the fiscal year 2009—10. This represents an average increase of 3.1 percent per year. This rate of increase is small compared to the average increases posted by the industry and services sectors of 12.3 percent and 8.8 percent, respectively, during the same periods (see figures 5 and 6).

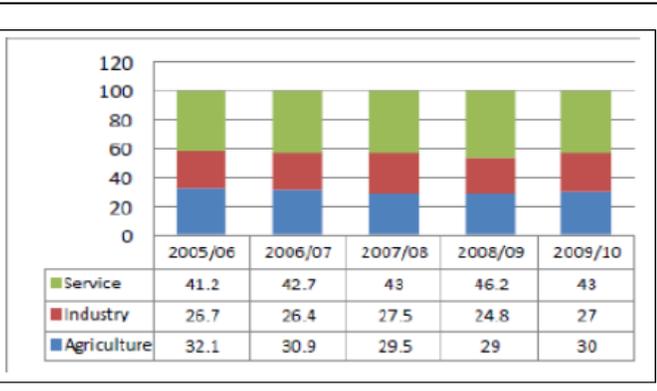
Despite only a slight increase, however, agricultural production remains an important economic sector. It contributed around 30 percent to the total production value (TPV) during the fiscal year 2009—10 (figures 5 and 6).

**Figure 5.** Total agriculture production value, 2005/06--2009/10 (in US\$ million)



Source: MPI

**Figure 6.** Share of agriculture production value in GDP in Lao PDR, 2005/06--2009/10 (%)



Source: Estimated by research team by using data provided by the MPI.

It should be noted that the share of agricultural production in TPV gradually declined from 32.1 percent in the fiscal year 2005—06 to 30 percent in the fiscal year 2009—10 because the industry and service sectors experienced higher growth rate during the last decade. Also, some crops like rubber had not yet produced yields during that period. The total land area devoted to rubber plantations in Lao PDR has reached more than 115,213.9 ha, of which only a small portion (300 ha) has started to produce rubber. A bigger harvest of rubber is expected within the next three years.

### 3.4. Key Agricultural Products of Lao PDR

The agriculture sector includes crop farming, livestock production, and fishery.

#### 3.4.1. Key crops

Crop farming is the biggest and most important subsector in the country's agriculture sector. Generally, there are two kinds of crop farming: food and industrial crop production. Food production in the Lao PDR remains basic, utilizing traditional production practices. Thus, food production is relatively low compared to food production in neighboring countries like Viet Nam and Thailand (see table 6).

**Table 6.** Production Area and Productivity of Key Food Items Produced in the Lao PDR, 2008/09

Items	2008			2009		
	Harvest (ha)	Production (ton)	Productivity (tons/ha)	Harvest (ha)	Production (ton)	Productivity (tons/ha)
Rice	825,545	2,969,910	3.6	872,869	3,144,800	3.6
Sweet maize	14,500	51,800	3.6	17,500	60,500	3.5
Starchy roots	24,295	396,259	16.3	28,506	323,737	11.4
Vegetables and beans	81,305	521,495	6.4	115,769	722,166	6.2
Peanuts	19,376	32,690	1.7	19,577	35,163	1.8

Soybeans	9,690	13,515	1.84	10,278	15,989	1.6
Mungbeans	2,920	3,890	1.3	2,430	3,686	1.5

Source: MPI

Table 6 shows that the major food item produced in the country is rice. In 2009, approximately 3.1 million tons of rice was produced from a total of 872,869 ha. This covers areas with seasonal, irrigated, and upland rice production. Rice productivity, especially upland rice production (with productivity of about 1.5 tons per ha), is quite small at 3.6 tons per ha compared to that of neighboring countries like Thailand, Viet Nam, and Cambodia. In Thailand and Viet Nam, the average rice productivity is 5 tons per ha.

The low rice yields indicate that the country's rice production needs to be given more support and development effort by concerned agencies, especially in the areas of high-quality seeds, irrigation systems, and training on rice production.

Vegetables and beans come in second on the list of key food items. In 2009, the country's output of vegetables and beans, produced from a total of 115,796 ha, reached 722,166 tons. Productivity is estimated to be 6.2 tons per ha. Starchy roots, peanuts, and sweet maize followed vegetables and beans in terms of output and productivity.

Rice production per capita in 2009 was estimated to be 561.6 kg per person. Vegetable and bean production per capita was about 129 kg per person per year in the same year (see table 7).

**Table 7.** Per Capita Food Production in Lao PDR, 2008/09

Food Items	2008		2009	
	Production (ton)	Production/person (kg/person)	Production(ton)	Production/person (kg/person)
Rice	2,969,910	530.3	3,144,800	561.6
Sweet maize	51,800	9.3	60,500	10.8
Starchy roots	396,259	70.8	323,737	57.8

Vegetables and beans	521,495	93.1	722,166	129.0
Peanuts	32,690	5.8	35,163	6.3
Soybeans	13,515	2.4	15,989	2.9
Mungbeans	3,890	0.7	3,686	0.7

*Source:* Estimated by the research team by using data provided by the MPI.

Figures presented in table 7 suggest that Lao PDR has produces sufficient rice and other food items for domestic consumption. However, over 1.5 million people, accounting for about 28 percent of the total population, still live below the poverty line. This means that these people have a monthly rice consumption of less than 16 kg per person. Most of these people live in the remote areas in the northern and eastern parts of the country where infrastructure is underdeveloped and access to market and food production are difficult. In these areas, food production is insufficient.

Lao PDR exports some food items including rice, vegetables, fruits, and livestock to neighboring countries like China and Viet Nam. It also imports from Thailand and China several food items, such as rice, vegetables, fruits that are not produced in the country, meats, and fish through border trade.

Industrial crop plantations experienced a significant change, gradually industrializing and using modern production systems, during the last decade due to the massive inflow of investments (see table 8).

Key industrial crops in Lao PDR are rubber, sugarcane, coffee, and maize (table 8).

**Table 8.** Key Industrial Crops in Lao PDR, 2008/09

Item	2008			2009		
	Production Area (ha)	Production (ton)	Productivity (ton/ha)	Production Area (ha)	Production (ton)	Productivity (ton/ha)
Tobacco	5,923.0	13,103.0	2.2	5,513.0	15,966.0	2.9
Cotton	1,796.0	1,196.0	0.7	2,522.0	2,036.0	0.8
Sugar cane	17,055.0	749,295.0	43.9	19,147.0	856,915.0	44.8
Coffee	57,875.0	31,125.0	0.5	46,758.0	37,252.0	0.8
Tea	1,930.0	2,500.0	1.3	1,000.0	890.0	0.9
Rubber	115,213.9	N/A	1.36	115,213.9	N/A	1.36
Maize	229,220	1,107,775	4.8	207,600	1,134,386	5.5

*Source:* Estimated by research team by using data provided by the MPI.

*Note:* N/A = not applicable

Maize is the most important industrial crop in Lao PDR in terms of production area (table 8). In 2009, the country's total maize production area was 207,600 ha, producing over 1.1 million tons. Estimated productivity was about 5.5 tons of maize per ha.

Rubber, the second-most important industrial crop in the country, owes its growth to FDIs, particularly from China and Viet Nam. The total area devoted to rubber plantations in 2009 was about 115,000 ha. A large number of rubber trees planted in 2006 and 2007 have not yet produced any yield, but a big harvest is expected within the next three years. Rubber is exported to neighboring countries, particularly China.

The total output for coffee, another important industrial crop, was over 37,252 tons in 2009, generated from over 46,758 ha. Coffee plantations are located mostly in the southern part of the country. Coffee productivity is estimated to be about 0.8 ton per ha. A large portion of output is exported.

Sugarcane, the next important industrial crop, had over 19,000 ha planted to it in 2009. There are two sugar factories in Savannakhet province established by Thai investors, which support sugarcane contract farming. The factories have over 15,000 ha of sugarcane plantations in the same province, accounting for the biggest share (over 15,000 ha) of the total number of sugarcane plantations in the country. There are also sugarcane plantations in the northern provinces, especially in Luang Numtha, Phongsaly, and Oudomxay provinces. The sugarcane produced in these areas is exported to China.

### **3.4.2. Livestock and Fishery Production**

Livestock production in Lao PDR is generally a small-scale affair that follows traditional production systems and is devoted mainly to meeting domestic demands. Only a small portion of output is exported to neighboring countries, especially Viet Nam. Key animals produced are buffaloes, cattle, pigs, goats, sheep, and fowl. Livestock production in Lao PDR has generally followed an increasing trend. In 2009, there were about 1.17 million heads of buffaloes and 1.51 million heads of cattle (see table 9).

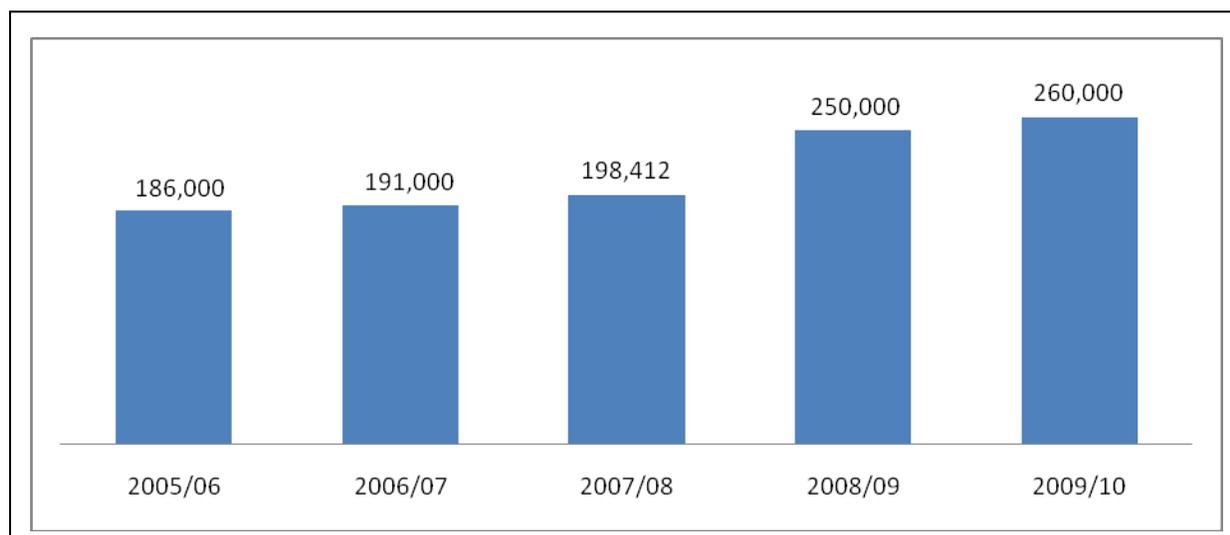
**Table 9.** Number of Livestock in Lao PDR, 2008/09 (heads, in millions)

Items	2008	2009
Buffalo	1.15	1.17
Cattle	1.50	1.51
Pig	2.60	2.92
Goats and sheep	0.30	0.40
Fowl	22.00	22.50

*Source:* MPI Socioeconomic Development Plan 2009/10.

Meanwhile, brisk production in the fisheries subsector has resulted in an average growth rate of about 8 a year. The output of 186,000 tons in fiscal year 2005—06 increased to 198,412 tons in fiscal year 2007—08 and then to 260,000 tons in fiscal year 2009—10 (see figure 7). The fisheries subsector serves mainly the domestic market. Per capita production in fiscal year 2009—10 was estimated to be 46.2 kg per person, sufficient to meet domestic demand.

**Figure 6.** Fish Production in Lao PDR, 2008/09—2009/10 (ton)



*Source:* MPI Socioeconomic Development Plan 2009/10.

### 3.4. Agricultural Products Exported by Lao PDR

As previously mentioned, most of Lao PDR's industrial crops are exported to neighboring countries, particularly China, Thailand, and Viet Nam. In addition, the country also exports some livestock to neighboring countries, especially Viet Nam (table 10).

**Table 10.** Agricultural Products Exported by Lao PDR, 2005/09

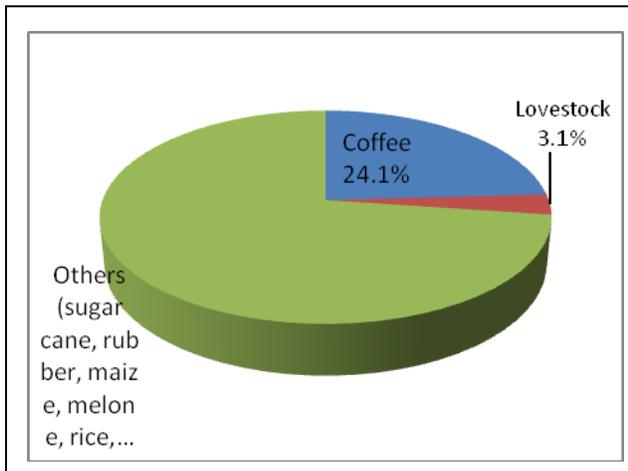
<b>Items</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>	<b>2009</b>	<b>2005/09</b>
<b>Agriculture products</b>	<b>32.3</b>	<b>38.2</b>	<b>61.2</b>	<b>56.0</b>	<b>57.7</b>	<b>245.4</b>
<i>Coffee</i>	9.6	3.0	15.6	16.0	15.0	59.2
<i>Livestock</i>	3.1	1.4	1.0	1.0	1.0	7.5
<i>Others (sugarcane, rubber, maize, melon, etc.)</i>	19.6	33.8	44.6	39.0	41.7	178.7
<b>Non-agriculture products</b>	<b>420.8</b>	<b>582.8</b>	<b>967.1</b>	<b>969.0</b>	<b>988.4</b>	<b>3,928.1</b>
<b>Total</b>	<b>453.1</b>	<b>621.0</b>	<b>1,028.3</b>	<b>1,025.0</b>	<b>1,046.1</b>	<b>4,173.5</b>

*Source:* MPI Socioeconomic Development Plan 2009/10.

Table 10 shows the export performance of agricultural products from 2005—09 (valued at more than US\$245.4 million) and accounting for about 5.9 percent of the country's total export value during the same period. This excludes the export of processed agricultural products like sugar. Lao PDR exported to the European Union (EU) via Thailand more than 37,000 tons of sugar in 2009. Exports of processed agricultural products is recorded under industrial product exports.

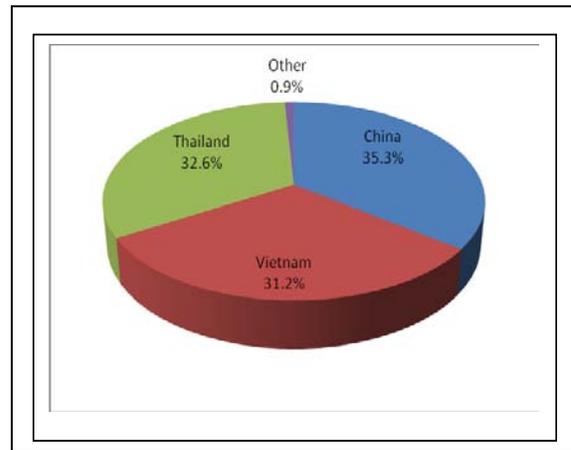
The most important agricultural export products are coffee, livestock, sugarcane, maize, watermelon, and rice (see figure 8).

**Figure 7.** Share of agriculture exports, by product, 2005/09



*Source:* Estimated by research team by using data provided by the MPI

**Figure 9.** Share of agriculture exports, by country, 2005/09



*Source:* Estimated by research team by using data provided by the MPI

From 2005—09, exports of agricultural products to China (the country’s biggest export market for agricultural products) reached a total of US\$86.6 million, accounting for about 35.3 percent of the total value of agricultural exports during the same period. Exports to Thailand, the second-biggest export market for the period 2005—09 reached more than US\$80 million, accounting for about 32.6 percent of total agricultural exports. Viet Nam is the third-most important export market for the country’s agricultural products (see picture 9).

#### **4. Impacts of Agricultural Production and Trade on Economic Growth and Poverty Reduction in Lao PDR: A Case Study on Sugarcane Plantation and Exports in the Sing District, Luang Numtha Province**

This subsection evaluates the impacts of agricultural production and exports on economic growth and poverty reduction at the community level. However, the researchers were not able to explore the impacts of all agricultural products and exports throughout the country because of constraints in budget, time, and human resources. The researchers instead conducted an in-depth study on sugarcane plantation and exports in the Sing district to see how agricultural production and

exports contribute to economic growth and poverty reduction in the area. There were many reasons for selecting this product and area for this study, one of which is the significant role of agricultural production and exports and the relatively high poverty level in the area. For these reasons, the researchers anticipated significant impacts of agricultural production and exports on poverty reduction in the Sing district.

In order to present in detail the effects of agricultural production and exports on poverty, an overview of the area’s geographical location, road infrastructure, and information links with the external world (i.e., China) would also need to be presented. The macroeconomic situation in the area, including poverty incidence and poverty reduction over time, is also discussed, followed by an analysis of the effects of sugarcane plantations and exports on poverty in the Sing district.

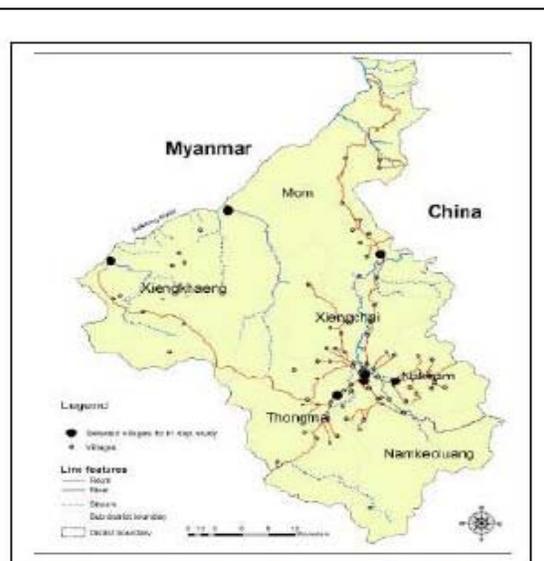
#### 4.1. Geographical Location, Infrastructure, and Communication Development in the Case Study Area

**Map 2.** Geographical location of case study area, Sing District, Luang Numtha province



Source: NERI

**Map 1.** Sing District, Luang Numtha province



Source: the National University of Laos

The Sing district is located in Luang Numtha province, about 60 km north of the provincial capital. The district covers an area of 1,430 square km (142,957 ha) and is bordered by the La district of China in the north, Long district in the south, Numtha district in the east, and Myanmar in the west (see maps 1 and 2). The most important specific characteristics of the district are its landscape, temperature, and soil fertility. Over 60 percent of the district's land area is endowed with pastures. The average temperature is estimated to be 25 degrees Celsius. The topographical and climatic conditions are excellent for agricultural production, including rubber and sugarcane plantations.

In addition, the district has good road and information links with China, especially with the La district, which further facilitates trade. A paved road crosses the district and connects the area with China while an international border gate serves as the main gate for trade with China. China SIM cards can also be used in the district. Total population is 30,548, over 60 percent of which is of working age (i.e., between 15 and 60 years old).<sup>9</sup>

#### **4.2. Macroeconomic Situation in the Case Study Area**

Socioeconomically, the Sing district has middle-income status, compared with other cities in the country. The district has a relatively high socioeconomic status compared to other districts in northern Lao PDR. In 2008, the average per capita income was US\$600, and poverty incidence was 11 percent.<sup>10</sup> During the last decade, the district experienced relatively high economic growth and a rapid decline in poverty level. According to the Sing district's Office for Planning and Investment, the district experienced yearly economic real growth of about 8 percent and poverty reduction of 1.6 percent per year during from 2004 to 2006. Based on per capita income and poverty incidence, the Sing district is considered a relatively more developed district in the Luang Numtha province.

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<sup>9</sup>2005 population census

<sup>10</sup> Sing District's Office for Planning and Investment

The main economic activity in the district is agriculture, which contributed about 70 percent of its total production value and employed over 80 percent of its labor force in 2008. The services sector, including trade and tourism, contributed about 20 percent of production value and employed about 15 percent of the labor force. The industry sector is undeveloped, contributing only about 5 percent of total production value in 2008. The district also has relatively good access to health and education services, compared to the entire Luang Numtha province. There are fifty-six primary schools in the entire district. The school attendance rate of children is about 85 percent, compared to 80.1 percent for the entire Luang Numtha province. Maternity mortality rate is 300 per 100,000 births. Mortality rate of children under five years old is 48 per 1,000 live births and that of infants, less than 1 is 32 per 1,000 live births. The rate for the entire Luang Numtha province was 306, 51, and 34 in 2008.

### **4.3. Sugarcane Plantations and their Impacts on Economic Growth and Poverty Reduction in the Sing District, Luang Numtha Province**

Favorable geographical and climatic conditions in the Sing district have enabled the locals to maintain their sugarcane plantations. However, before sugar became an export item to China, these plantations were mainly at subsistence levels and were using traditional production techniques. Only a small amount of produce was sold in the Lao-China border market.

**Picture 3.** A sugar cane plantation in the Sing district



**Source:** NERI field visit, 2010

In the mid-1990s, representatives from a Chinese sugar factory located in the Pong district, which borders the Sing district, approached local farmers to discuss the possibility of growing sugarcane commercially. The local government encouraged farmers to grow sugacane, while the factory provided technical assistance and financial support. The company also signed a purchase contract with villagers.

Initially, only a few villages and households joined the project. However, the factory's good business practices have encouraged more villages and households to join the sugarcane contract-

growing projects. Statistical data provided by the Office for Planning and Investment in the Sing district showed that, by 2008, sixty-five villages (covering 3,200 households) accounting for 67 percent of the total number of villages (or about 52.3 percent of total households in the Sing district), had joined the contract-growing project. In the same year, the project had a total production area of around 2,000 ha.

Techniques and technologies from China, including machinery, fertilizers, and seeds used by the sugarcane plantations as well as access to the Chinese market, have transformed the sugarcane industry from subsistence-level agricultural production to commercial production, which is characterized by the use of more sophisticated techniques and technologies, more intensive production, and higher productivity. According to the Sing district's Office for Agriculture and Forestry, the average productivity of sugarcane plantations in the area is about 45 tons per ha. It is a bit higher than the value of productivity in the entire country.

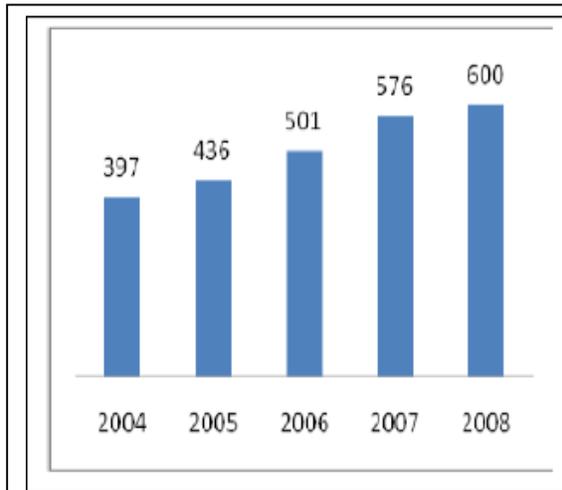
In 2008, the district exported 70,550 tons of sugarcane to China. With an average export price of US\$18 per ton, the total export value of sugarcane was estimated to be around \$1.6 million in 2008, corresponding to about 8.7 percent of the district's total export value.

Due to the active contribution of sugar production and exports, the Sing district has been enjoying high economic growth rate and reduced poverty levels during the last decade. Statistical data provided by the Office for Planning and Investment showed that the district's GDP per capita increased rapidly from US\$379 per person per in 2004 to US\$501 in 2006 and then to US\$600 in 2008 (see figure 10). During the same years, the district's average economic growth rate was 15 percent per year (nominal or equal to about 8 percent real GDP growth). This growth rate is significantly high compared with the growth rate of other districts in Lao PDR and especially with the other districts in the north. Figure 10 shows the increase in GDP per capita between 2004 and 2008.

In line with rapid economic growth, poverty incidence in the district has also been sharply reduced from 28.2 percent in 2004 to 25.4 percent and then to 20.1 percent in 2008 (see figure

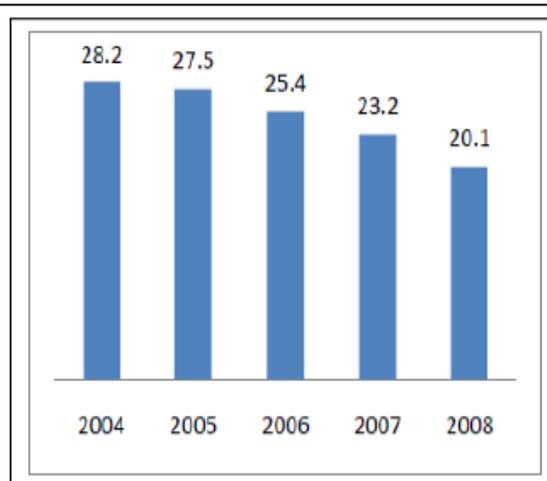
11). This corresponds to an average rate of decline of 1.6 percent a year, which is significantly high compared to that of other districts in Lao PDR.

**Figure 9.** GDP per capita in the Sing district, 2004/08 (in US\$)



Source: Office for Planning and Investment of Sing District

**Figure 11:** Poverty incidence in the Sing district, 2004/08 (%)



Source: Office for Planning and Investment of Sing District

Sugarcane plantations and exports to China contributed significantly to economic growth and poverty reduction in the Sing District.<sup>11</sup> However, some stakeholders, including sugarcane-producing households in the district and the Water Resource and Environmental Office of the Luang Numtha province, believe that the sugarcane industry negatively affects the environment, especially forest cover, watershed areas, soil quality and fertility, and biodiversity. The areas now devoted to sugarcane plantations used to be forests where the villagers grew rice, harvested nontimber forestry products (NTFP), and hunted wild animals, which were their main source of livelihood before sugarcane production became commercialized. The once-forested areas used to serve as protective watersheds. Thus, the conversion of forests into sugarcane plantations, the intensive land use, and the use of chemical fertilizers and insecticides to enhance productivity

<sup>11</sup>Sugarcane production and exports are just two of the various economic and income-generating activities that contribute to economic growth and poverty reduction in Sing district in Luang Namtha province. The locals grow rice, vegetables, chili peppers, watermelons, etc. They are also into trade and tourism services. Such economic and income-generating activities also contribute to economic growth and poverty reduction in the district.

have adversely affected the watersheds as well as soil quality and fertility. According to the Water Resource and Environmental Agency in Luang Numtha and Oudomxay provinces, the water level in several rivers in northern Lao PDR has dropped significantly during the period 2004—08. However, the researchers are not suggesting that sugarcane plantations alone are responsible for the reduced water level. There are many other plantations in the area, including rubber and bananas, all of which endanger forest cover and thus contribute to the drop in the water level in several rivers in the northern provinces. It should be noted that these plantations are involved in agricultural production and export.

In addition, farmers and sugarcane producers in the Sing district say that sugarcane plantations require ever-increasing amounts of chemical fertilizers to maintain productivity. According to them, about 0.3 tons of chemical fertilizers per hectare are needed to cultivate sugarcane. The amount of chemical fertilizers required increases by around 15 percent a year, which leads to increasing production costs of about 7 percent a year. If such an increase in production costs is sustained over the long term, the cost of maintaining sugarcane plantations may exceed revenues. Thus, there is the possibility of sugarcane plantations becoming unprofitable in the long run. Consequently, poverty and lack of food security in the area may recur and at increased levels, exacerbated by the destruction of forests and degraded soil fertility. These factors may render the planting of any crops impossible in the future.

## **5. Conclusion and Discussion on the Way Ahead for Agricultural Development in Lao PDR**

### **5.1. Conclusion**

The agriculture sector is one of the most important economic sectors in Lao PDR. In 2009, the sector contributed around 29 percent of total production value and employed over 70 percent of the labor force. However, for a long period of time, agricultural production remained at subsistence levels using traditional production techniques and characterized by low productivity.

In 1986, Lao PDR adopted a comprehensive reform program called the NEM to transform the central planned economic model to a market-oriented one, which consequently led to the open-door and integration policy in the following years. In 1997, Lao PDR together with Viet Nam, Cambodia, and Myanmar, became a full member of the ASEAN and joined the AFTA, which directs member countries to liberalize trade (i.e., promote the free movement of people and commodities among member countries). These steps resulted in a number of multilateral and bilateral cooperation agreements with ASEAN member countries and the development of road and communication infrastructure that now link Lao PDR with neighboring countries.

The country has determined agriculture to be one of the key approaches to economic growth and poverty reduction. Thus, it has implemented a number of policies and measures to promote this sector, including fiscal, monetary, investment promotion, land leasing, and taxation policies.

The regional economic integration and massive promotion policies boosted the agriculture industry in the country. It gradually moved from subsistence production using traditional production techniques to a more industrialized and modernized commercial approach. Total agricultural production value enjoyed an average annual growth rate of 3.1 percent, or an increase from US\$985.5 million in fiscal year 2005—06 to US\$1,071.9 million in fiscal year 2007—08 and further to US\$1,138.3 million in fiscal year 2009—10.

The case study on the Sing district in Luang Numtha province revealed that increasing agricultural production has contributed significantly to economic growth and poverty reduction at the community level. However, there are serious concerns that these recent developments (i.e., the development of agriculture in the context of regional economic integration and cooperation) have serious negative impacts on the environment and may have implications on the long-term sustainability of certain agricultural enterprises. Large forested areas have been converted to agricultural production areas. Also, the intensive use of chemical pesticides and fertilizers to enhance productivity damages soil quality, watersheds, and biodiversity.

## **5.2. Discussion on the Way Ahead for Agricultural Development in Lao PDR**

Findings from a number of previous studies tell of an increasing demand for agricultural products in the world market due to several factors, particularly: (1) increasing population and stronger economies of some countries, which lead to higher demand for food, biofuels, and other raw materials for industrial production; and (2) declining access to arable land in developed countries and in some developing countries such as Thailand.

The increasing global demand for agricultural products presents an opportunity for countries like Lao PDR, which has abundant land resources. However, to gain from this trend, Lao PDR first has to improve its agriculture sector. This will necessitate enhancing agricultural productivity, improving the quality of agricultural products, and boosting accessibility to markets.

The researchers recommend that Lao PDR develop specific policies and strategies to promote agricultural production for export. The policies and strategies should prioritize export-oriented agricultural production, which means specific agricultural products and specific locations and target markets should be determined accordingly (e.g., the output of rubber plantations in the northern provinces are for export to China; coffee from the Boliven Pasture is for export to the EU markets). This approach should help the country maximize its limited financial and human capital. In addition, identifying specific target markets will make standard product development easier.

The researchers further recommend the export of final or semifinished agricultural products. That means that the country should establish factories that will process agricultural products into final or semifinished products before such products are exported to other countries.

The strategies recommended here are expected to enhance the productivity and competitiveness of the country's agricultural products.

## References

- Arshad, Imran. 2003. "Economic Theory, Transition, and Alternatives: Application to Lao PDR." National Economic Research Institute (NERI): Vientiane: Lao PDR.
- ASEAN Secretariat. 2002. "Framework Agreement on Comprehensive Economic Co-operation between ASEAN and the People's Republic of China." <http://www.asean.org/13196.htm>.
- Bank of Lao PDR. 2007. "Annual Report 2007." Vientiane: Government of Lao PDR (GOL)
- Bernardino, Natividad Y. 2004. "The ASEAN-China Free Trade Area: Issues and Prospects." International Gender & Trade Network (IGTN).
- Chia Siow Yue. 2004. "ASEAN-China Free Trade Area." Paper presented at the AEP Conference, Hong Kong.
- CPC. 2002. "Foreign Aid Report 2000—2001." Vientiane: GOL.
- . 2002. "All Foreign Direct Investment in the Lao PDR: 1994—2002." Vientiane: GOL
- Government of Lao PDR and the Committee for Planning and Investment (CPI). 2004. "National Growth and Poverty Eradication Strategy (NGPES)." Vientiane: GOL.
- Government of Lao PDR and the Department of Statistics (DOS). 2008. "Statistic 2007." Vientiane: DOS and Ministry of Planning and Investment (MPI).
- Government of Lao PDR and National Statistics Centre (NSC). 2004. "Lao Expenditure and Consumption Surveys (LECS III)." Vientiane: NSC.
- Government of Lao PDR and United Nations Development Programme (UNDP). 2006. "National Human Development Report Lao PDR: International Trade and Human

Development.” Vientiane: Committee for Planning and Investment (CPI)--National Statistics Centre (NSC) and UNDP.

Haltmaier, Jane T., Shaghil Ahmed, Brahim Coulibaly, Ross Knippenberg, Sylvain Leduc, Mario Marazzi, and Beth Anne Wilson. 2007. “The Role of China in Asia: Engine, Conduit, or Steamroller?” International Finance Discussion Paper, Board of Governors of the Federal Reserve System. <http://www.federalreserve.gov/pubs/ifdp/2007/904/ifdp904.pdf>

Khontaphane, Sirivanh, Sathanbandith Insisiangmay, and Vanthana Nolintha. 2005. “The Impact of Border Trade on Local Livelihoods in the North of Lao PDR: A Case Study of Lao-Chinese Border Trade in Luang Namtha and Oudomxay Provinces,” Technical background paper for the Third Human Development Report, International Trade and Human Development. Vientiane: UNDP Lao PDR.

Lazarus, Kate M. 2009. “In Search of Aluminum: China’s Role in the Mekong Region.”

Leebouapao, Leebor, Darachanthra Souphit, Oraboune Syviengxay, and Chaleunsinh Chansathith. 2002. *Regional Economic Integration of Lao PDR*, Vientiane: NERI.

Lim, Tin Seng. 2008. “China’s Active Role in the Greater Mekong Sub-region: A Win-Win Outcome?” Singapore: East Asian Institute, National University of Singapore.

Limsakul, Kitti. 2008. Japan-ASEAN Comprehensive Economic Partnership Agreement.

Malaysian Institute Economic Research (MIER). 2000. “ASEAN Economic Integration,” Sazakawa Peace Foundation.

Motoyoshi, Suzuki Prof. 2003. “Cost and Benefit Analysis for Joining ASEAN,” Suzuka International University, June 3.

Syviengxay, Oraboune. 2005. "One District One Product Sample Survey: Rattan Works in Phone Village," MAPS II Project, NERI/JICA, 2003—2005.

———. . Statistics of Export and Import of Lao PDR, Ministry of Industry and Commerce, 2009.

———. . Statistics of FDI in Lao PDR, Department of Investment, MPI, 2009.

———. . Statistics of ODA in Lao PDR, Department of International Cooperation, MPI, 2009.

Universal Access to Competitiveness and Trade (U-ACT). 2004. "ASEAN-China Free Trade Agreement: A Primer." Makati City, Philippines: U-ACT.

United Nations Development Programme (UNDP) Lao PDR. 2001. "National Human Development Report: Lao PDR; Advancing Rural Development." Vientiane: UNDP Lao PDR.

Xingmin, Yin. 2009. "China's Trade and FDI to MRB Countries: An Advocacy Document." Chiba, Japan: Institute of Developing Economies-Japan External Trade Organization (IDE-JETRO).