Rice Country Profile for Lao PDR

Lao PDR is landlocked between Thailand and Vietnam, bordering Cambodia in the South and Myanmar and China in the north. Most of the country is mountainous and covered in rainforest. The Mekong River forms a fertile valley through most of the country where agriculture, mainly rice farming is carried out.

During the wet season, planting is from May to July and harvesting is in November-December. During the dry season, planting is done in December-January while harvesting begins in April and ends in June.

The country’s total land area is 23.08 million hectares, only 7.2% is cultivable. Around 41% of the cultivable area has been brought under rice cultivation as of 2006. In 2007, rice area harvested reached 820 thousand hectares. Rice is the most important crop in the country, accounting for 90% of total crop production.

The most popular rice variety is TDK1, which was released in 1993, developed by IRRI, and grown in 34% of the area. The rest of the area is planted to RD6, released in 1977 from Thailand and other indigenous varieties.

Lao has a rich tradition of special rice varieties including the sticky rice, black rice, and glutinous rice. According to a report by the Swiss Agency for Development and Cooperation, glutinous rice, which has varieties with dark color (black rice), is grown extensively in Lao. The country is also the largest producer and consumer of glutinous rice which accounts for 85% of its rice production.

Production, Consumption and Trade

In 2008, Lao produced and consumed globally negligible amounts of rice. Its production of 2.8 million tons in 2007 was a 70% increase over the last 15 years. According to the USDA, Lao consumed a total of 1.6 million tons of rice in 2007. According to the IRRI, approximately 77% of Lao farm households are self-sufficient in rice.

With a population of 5.7 million, the country consumes approximately 180 kilograms per person per year. In 2007, it registered productivity of 3.50 tons per hectare and an average annual yield of 3.35 tons per hectare since 2003.

The average size of land holdings in Lao PDR is 1.57 hectares. The average rice area is 1.19 hectares per land holding. In the southern part of the country, the average farm size is 2.02 hectares while the largest average farm size of 2.17 hectares is found in Champasack province. The smallest average farm size of 0.87 hectare may be found in Phongsaly province.

The country’s rice production is based on a minimum input system. Fertilizer input is low and pesticide use is minimal. Mechanization is almost nonexistent. The farmers adopt to improved crop management practices like improved nursery bed preparations, use of machinery for land preparation, adoption of closer plant spacing, and organic and inorganic fertilizer application.
Of the total rice area in 2004-2006, only 8.3% is irrigated. Rainfed lowland accounts for 77.4% of the rice area and upland for 14.31% of the total rice area. According to IRRI, the total rice area planted with modern varieties increased from less than 5% in 1990 to 69% in 2004. Eighty percent of the surveyed households have adopted the new varieties with the central region having the highest adoption rate – over 98% of households growing new varieties on over 86% of the rice area.

**Labor Force**

Of the 5.28 million total population based on FAO 2000 census, 77% is rural population. Of the 5.79 million total population based on FAO 2004 census, 76% is agricultural population. Of the estimated 2.1 million labor force in 2006, 80% is in the agriculture sector.

In Lao, most of the holdings are operated under a single tenure form which accounts for 95.6% of the total land holdings. Over 93.1% of the total single-tenure lands are owned (or under owner-like possession), 1.9% rented, and 0.6% under other tenure forms.

In most cases, Lao farmers cultivate their own land. Ownership of land is usually acquired through family inheritance or directly buying the rights from an owner. The 1997 Land Use Law places the allowed area of land for use in agriculture per one labor force for the following: rice and fishery production – 1 hectare; industrial and annual crops – 3 hectares; fruit tree crops – 3 hectares; and pasture land for animals – 15 hectares.

**Who controls production and trade**

According to the Mekong Private Sector Development Facility (MPDF), only 5% of the country’s total rice production or approximately 110,000 tons is commercially marketed. This commercial trade is dominated by the State Enterprise and Food Crop Promotion (SEFCP) which is a state-owned enterprise. SEFCP controls 70% of the market. According to the Asian Development Bank, SEFCP has historically constrained the growth of trade and output growth by fixing the prices of food commodities (often below production costs) and restricting private sector trade between provinces.

The usual trade would be: small farms selling paddy to traders who visit rural areas. The farmers would also deliver paddy to mills located along the main road or near larger towns for consumption or direct sale in the village.

Prices are set by the traders based on the previous season’s price or production costs, and price fixing among traders is common. This is due to the predominance of spot markets. This opens the opportunity for traders to exploit small farmers.

According to the FAO, average annual productivity in 2004 was $235 per worker. The national average productivity (measured in terms of gross revenue from agriculture) is $0.14 per hour worked. High productivity can be found in the provinces due to the prevalence of contract farming and cross-border exports in those
provinces, suggesting the potential of market-oriented production to increase productivity and income.

According to the February 2008 report by the ADB, the lack of a functional marketing system is a major barrier to improving the productivity of agriculture in the country. Agricultural marketing in Laos has short marketing channels and is generally small-scale.

Collectivisation campaigns were promoted in Laos as early as 1978. These aimed to redistribute access to agricultural land but were not made mandatory. Most landowning farmers did not participate in these cooperatives such that by the late-1980s all cooperatives had dissolved, with the original landowning families retaining control of their family lands.

Most cultivators in Laos held no official land tenure documents in the 1980s because of the war in 1975. All lands were owned by the state while the distribution of use-rights was based on informal village-level institutions. In the 1990s a new plan was made. The land tenure in the 1990s had two reform policies: the extension of land titling and the allocation of state land to households or village collectives.

The Land and Forest Allocation Program (LFAP) provides villagers with collective rights to forest as well as to agricultural land. The 2003 paper by Peter Vandergeest, “Land to some tillers: development induced displacement in Laos”, the ‘eight-step’ allocation process in use since 1996 was developed through the Lao-Swedish Forestry Programme. According to Vandergeest, this program looks like a highly participatory approach to negotiating village boundaries and village zoning but has caused displacement to many farmers. Cases cited were villagers in the one ethnic Laos village included in National University of Laos (NUOL) research had twice lost paddy land due to the construction of dams without compensation. The villagers hoped that the land allocation process would prevent further uncompensated losses.

Preliminary data showed that implementation of the program resulted in substantial loss of access to resources. Aside from this, there was out-migration from two sites after the completion of the allocation program, including over a third of village families from a Hmong village took place.

**Government Role**

The government of Laos considers rice self-sufficiency as its highest priority when it comes to agricultural policy agenda. Irrigation has increased in scope in the last years and farmers are starting to grow new high-yielding varieties with increased inputs of inorganic fertilizers. With the programs on new varieties of rice, more and more farming communities are starting to grow dry season crops using newly introduced varieties for the first time.

In line with this objective, the government has various programs such as farmer training to intensify rice production in the irrigated lowlands. The Lao government recognizes the National Integrated Pest Management (IPM) Program also as a key government extension and education activity. The IPM is also absorbed by the recently established National Agriculture and Forestry Extension Service (NAFES).
However, government support has not yet been translated to financial support in the budget.

Meanwhile, the Lao Extension Approach (LEA) has been developed and adopted by the NAFES. The LEA policy framework includes the National Growth and Eradication Strategy, which includes key principles in approach: decentralised, pluralistic, participatory, needs-based, integrated, gender-sensitive, group-based, and sustainable. LEA has two major parts: the village extension system and the government extension service.

Experienced farmers are mandated by the village authorities to be the Village Extension Worker (VEW). These VEWs cooperate with groups of farmers where they interact, explore and develop new techniques for agricultural production. There are instances where groups are exploring storage and processing techniques or how to better market their produce. The District Agriculture and Forestry Office (DAFO) supports these production groups through processes of identifying their needs, training, coaching, and exchange activities.

On the other hand, the government has also made commitments to trade liberalization and regional economic integration along the guidelines of the ASEAN, Asean Free Trade Area, and World Trade Organisation. It has presented an optimistic scenario for a market-driven development, based on irrigation, new "science-based inputs", and better credit facilities for farmers. Some cash crops are being promoted, such as paddy, maize, groundnuts, soybean, cotton, sugarcane and coffee.

Status of GE rice

The Swiss Agency for Development and Cooperation supported Lao’s biodiversity preservation and helped in establishing a germ plasma bank, the Lao people’s bank on biodiversity. According to SDC’s report, over 15,000 samples with 3000 names, representing an estimated 8,000 rice varieties are included in the collection. These varieties will be used in future breeding programs. Lao is the second largest contributor to the International Rice Genebank.

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