NATIONAL CONTEXT
National context

Agriculture and the Sustainable Development Goals in the Lao PDR

Agriculture plays a central role as a foundation of the Lao PDR’s overall national economy and development, particularly for the rural majority of the country. As such, it intersects with a number of the internationally agreed Sustainable Development Goals (SDGs). The SDGs serve as a guide and rallying-point for development throughout the Global South. The Lao PDR, like many other countries, has set for itself a number of ambitious targets for achieving the SDGs by 2030 and beyond. Those that are closely related to agriculture are numerous, including SDG 1 - No Poverty, SDG 2 - Zero Hunger, SDG 3 - Good Health and Well-Being, SDG 5 - Gender Equality, SDG 10 - Reduced Inequalities, SDG 12 - Responsible Consumption and Production, SDG 13 - Climate Action and SDG 15 - Life on Land. Understanding the current conditions of agriculture and key trends through time is essential to enable decision-makers, development agencies and rural communities to make effective, evidence-based decisions toward the attainment of these goals in the Lao PDR. Toward this end, this atlas seeks to contribute toward this basis of evidence, not only at the national-level but also, by making this information spatially explicit at the local level, enable decision-making to more effectively target development interventions where they are needed most.

The analysis of the two Censuses of Agriculture of 1999 and 2011 revealed important shifts in the agricultural sector over the 12 years. Although the number of agricultural households increased by 17 percent, the increase in non-farm households was much greater (85 percent), pointing to a general decline of the agricultural sector in the overall economy. This is to a large extent due to the on-going industrialization and urbanization processes in and around the country’s main cities and towns, where many households successively transition from rural agricultural households to more households oriented toward commercial sectors outside of agriculture, continuously reducing the share of agricultural activities in their overall household economy. However, almost half of the households in areas classified as urban are engaged in farming activities.

Agricultural commercialization and exports

Although the total area of agricultural land in the Lao PDR increased by 53 percent between 1999 and 2011, from 976,000 ha to 1.49 million ha, the country still has a low portion of agricultural land compared to its neighbours, largely due to land topography, low population density, presence of unexploded ordnances (UXO), and the widespread use of forests for food collection by many rural residents.

With the increase of agricultural land and the consequent farmland availability, the average land holdings per farm household rose from 1.6 ha in 1999 to 2.4 ha in 2011. However, while only about 1 percent of households are landless, their number almost tripled between the two censuses. Among those agricultural households with land, there are important disparities in the area of holdings across Lao society. While the majority of households (65 percent) have land holdings between 0.5 and 3 ha, a disproportionate amount of land is concentrated among the top quarter of agricultural households who own more than 3 ha of agricultural land, together accounting for about 60 percent of total farmland in the country.

Although the census indicates that agriculture is mainly practiced for subsistence rather than commercial purposes, the number of households producing for the market raised considerably since 1999. The 2011 Agricultural Census revealed that 33 percent of all farm households are oriented mainly for market, compared to only 6 percent of farm households in 1999. Farm households in the south of Xayabouly Province and in the Bolaven Plateau area in the east of Champasak Province are particularly dedicated to market oriented agriculture. The main crops cultivated are maize in Xayabouly and coffee in the Bolaven Plateau. Agricultural modernization and the (partly) consequent productivity increment accompanied the commercialization of the agricultural sector in the Lao PDR between the two censuses. Farmers adopted modern farming practices compared with the previous LCA. The number of farm household using fertilizer increased from 29 to 42 percent of the total farm household even if regional differences remain pronounced. Farm households reported an increment in the use of pesticides as well, while only 11 percent of farm households made use of these chemicals in 1999, 18 percent had begun using pesticides by 2011.

Lao rice is relatively expensive compared to the quality and the prices in neighbouring countries, resulting in little incentives for rice exports – irrespective of the general rice export ban that was in place during the given period.

Exports of other agricultural products have grown over the years, though, accounting for 10 percent of the total export value of the country. While coffee was already an important export product of the Lao PDR in 1999, maize emerged as another major source of agricultural exports in the last decade. The expansion of maize as an export product – particularly in Xayabouly and Houaphan Provinces - is largely driven by the increase in the demand for animal feed from neighbouring countries such as Thailand, Vietnam and China.

Rice sufficiency and food security

As part of the agricultural and socio-economic transformation processes, reaching and maintaining food security for the nation’s population is a high priority for the Government of the Lao PDR, emphasized in Outcome 2, Output 2 of its 8th National Socioeconomic Development Plan (NSEDP) 2016-2020, as well as in the global Sustainable Development Goal (SDG) number 2 that aims at ending hunger, achieving food security and improved nutrition and promoting sustainable agriculture. One of the national indicators to measure progress towards this goal is enhanced food production systems and increased agricultural productivity. Food security, however, depends not only on the availability of food, but also on actual access to adequate food, utilization of available food, and the stability of the food supply. The results of the census 2011 provide insights into some of those aspects – particularly the first one. The agricultural crop production areas of the Lao farm households, and their livestock numbers provide good indicators for overall food availability.

One key advancement in the Lao agricultural sector in the years between the two censuses is the transition from a rice-deficient country to one with an overall rice surplus, reaching national rice sufficiency and even allowing for increasing rice exports. The significant increases in upland and lowland rice production areas are described and discussed in chapter C7, and illustrated in Maps I and II. Based on the census area statistics of rice, plus additional information such as average yields based on provincial statistics, total population based on household statistics for rice, plus additional information such as average yields based on provincial statistics, total population based on household statistics of the census, and minimum daily rice consumption per person to cover minimum calorie intake, local rice production and consumption balances at the village level were calculated. The results – shown in Map III, reveal the country’s rice deficit and surplus areas: The southern lowlands are the country’s primary rice surplus production areas, whereas rice deficit areas naturally include urban areas where most inhabitants grow no or very little rice, along with e.g. the Bolaven Plateau, which offers favourable agro-climatic conditions for the production of higher-value crops, and where therefore little rice is grown. Most of the country’s upland areas produce only a marginal rice surplus, if at all.

Map IV reveals the share of all households per village that produce enough rice for minimal domestic consumption needs. While the overall pattern largely mirrors the picture of overall rice sufficiency, the map reveals that even in areas with overall surplus rice production, there are many (farm and non-farm) households with rice deficits. Naturally, local rice sufficiency does not necessarily mean food security for all households in those locations, nor do local rice deficits necessarily mean local food insecurity: In many villages throughout large parts of the Lao uplands, just about enough rice is produced overall to cover the total household needs. Still, rice sufficiency at the village level is...
Change in upland rice area between 1999 and 2011 at village level

- > 100 - 424 ha
- > 20 - 100 ha
- 20 - 20 ha
- < 20 - 100 ha
- < -100 - 300 ha

Change in lowland rice area between 1999 and 2011 at village level

- > 100 - 1410 ha
- > 20 - 100 ha
- 20 - 20 ha
- < 20 - 100 ha
- < -100 - 715 ha

Local rice sufficiency at village level
Balance of production and minimal consumption needs kg per person per year

- > 1000 - 7195
- > 500 - 1000
- > 200 - 500
- > 20 - 200
- 20 - 20
- < 20 - 100
- < -100 - 146

Share of households with rice sufficiency at village level

- 0 - 25 %
- 25 - 50 %
- 50 - 75 %
- 75 - 90 %
- 90 - 99 %
- 99 - 100 %
Poverty and the potential in household agriculture

Closely linked to food-security is household welfare, and poverty. Ending poverty in all its forms everywhere as the first SDG in the UN development agenda is also a high priority at the national level in the Lao PDR, as stated in the country’s national socio-economic development plan.

Since the introduction of the economic reforms in the mid-1980s, the Lao PDR made important progress in poverty reduction, with the proportion of poor people falling from 39 percent of the population in the mid-1990s to 27.6 percent in 2010.

About half of the country’s poor live in mountainous areas and depend on agriculture and natural resources for survival (compare Map V).

Rice is the main crop for a majority of the – often poor – small farm households. As discussed in chapter B6, for the majority of the country’s households, rice is produced primarily to cover the household’s staple food needs, and only secondarily as a cash crop. An important question is therefore about the potential avenues for those farmers to increase income for improved livelihoods.

The agricultural census provides a detailed picture of farm household’s agricultural land use and production patterns.

Agricultural land use and production patterns

The two censuses of agriculture reveal important respective changes in the household-based agricultural production patterns over the 12 years period. While there was an overall increase in the diversity of annual crops grown by farmers, the diversity of perennial crops has decreased significantly (compare Maps VI and VII). Distinctive regional differences can be identified in those trends, though: the diversity of annual crops has increased in most villages of the northern and the central part of the Lao PDR, where poverty rates declined significantly in the first decade of the 21st century. That diversity decreased, however, in many villages of southern Lao PDR, particularly the eastern part of Savannakhet and Salavan Provinces, where poverty incidences remain high and the least progress in improving livelihoods has been made in recent years. Rice was the dominant annual crop throughout the Lao PDR in 1999. In many villages of the lowlands of the north, however, a shift from rice towards other annual crops can be observed between 1999 and 2011, particularly in southern Xayabouly, as well as in other smaller parts of the north, such as non-rice annual crops dominate the annual crop landscape in 2011, largely due to the increases in maize and Job’s tears. Pretty much the inverse happened throughout the southern Lao PDR (with the exception of the Bolaven Plateau, where rice is not a main crop), where rice became even more dominant within the annual cropping landscape.

The declining diversity in perennial crops is observable throughout the country, except for areas where there was already a very low diversity in 1999, such as in Luang Namtha Province and the Bolaven plateau. Overall, the share of land under perennial crops in total agricultural area has declined in favour of greater expansions in areas under annual crops. Significant exception to this trend can be observed in much of Luang Namtha Province (mainly rubber), and the northern and western parts of Bokeo (rubber) and Phongsaly (rubber, tea, and cardamom) Provinces respectively, in smaller parts of Oudomxai and Vientiane Provinces (rubber), as well as on and around the Bolaven Plateau (coffee), where the share of perennial crop land in total agricultural land strongly increased.

Since the early 1990s, Lao PDR agriculture has shifted from the production of rice to a multitude of other annual and perennial crops, due to increasing demand on exports and the need for higher income. The share of land under rice fell from 75.2 percent in 1999 to 59.9 percent in 2011. The share of land under perennial crops, by contrast, has increased from 24.8 percent in 1999 to 36.7 percent in 2011. Apart from the role of rice in the national food security, the nature of smallholder rice production is of utmost importance given its role in poverty reduction activities.

The agricultural census data also shows that, whilst rising, smallholder rice production remains agriculturally inefficient and of low value added. Smallholder farmers, who operate with limited access to off-farm income opportunities in the village and local markets due to low levels of education and low market prices, are the most vulnerable group in the rural Lao PDR community. This study attempts to provide smallholder farmers in the Lao PDR with an understanding of how they can increase their household income and move out of poverty by diversifying their production.
Atlas of Agriculture in the Lao PDR

Map VI

Change in diversity of annual crops between 1999 and 2011
Change in Simpson index of diversity

- > 0.25 - 0.84
- > 0.05 - 0.25
- 0.05 - 0.05
- < -0.05 - -0.25
- < -0.25 - -0.91

Map VII

Change in diversity of perennial crops between 1999 and 2011
Change in Simpson index of diversity

- > 0.25 - 0.92
- > 0.05 - 0.25
- 0.05 - 0.05
- < -0.05 - -0.25
- < -0.25 - -0.95

Map VIII

Main agricultural orientation and commercialization

- Cropping
  - Subsistence
  - Semi-commercialized
  - Highly commercialized
- Mixed crops and livestock
  - Subsistence
  - Semi-commercialized
  - Highly commercialized
- Livestock
  - Subsistence
  - Semi-commercialized
  - Highly commercialized