

# **DEVELOPING THE AGRIBUSINESS POTENTIAL IN THE LAOS-CHINA RAILWAY CORRIDOR**

*Opportunities and  
Challenges*



June 30, 2022

*Currency Equivalents (March 1, 2022):*

\$1 = 11,480 Lao kip

\$1 = 6.31 Chinese renminbi

\$1 = 32.73 Thai baht

© 2022 International Bank for Reconstruction and Development / The World Bank  
1818 H Street NW  
Washington DC 20433  
Telephone: 202-473-1000  
Internet: [www.worldbank.org](http://www.worldbank.org)

This work is a product of the staff of The World Bank with external contributions. The findings, interpretations, and conclusions expressed in this work do not necessarily reflect the views of The World Bank, its Board of Executive Directors, or the governments they represent.

This work was originally published by The World Bank in English as *Developing the Agribusiness Potential in the Laos-China Railway Corridor* in 2022. In case of any discrepancies, the original language will govern.

The World Bank does not guarantee the accuracy of the data included in this work. The boundaries, colors, denominations, and other information shown on any map in this work do not imply any judgment on the part of The World Bank concerning the legal status of any territory or the endorsement or acceptance of such boundaries.

### **Rights and Permissions**

The material in this work is subject to copyright. Because The World Bank encourages dissemination of its knowledge, this work may be reproduced, in whole or in part, for noncommercial purposes as long as full attribution to this work is given.

Any queries on rights and licenses, including subsidiary rights, should be addressed to World Bank Publications, The World Bank Group, 1818 H Street NW, Washington, DC 20433, USA; fax: 202-522-2625; e-mail: [pubrights@worldbank.org](mailto:pubrights@worldbank.org).

Cover design: Circle Graphics, Inc.

# TABLE OF CONTENTS

Acknowledgements .....	iii
List of Abbreviations .....	v
Executive Summary .....	1
<b>CHAPTER 1</b> INTRODUCTION.....	25
<b>CHAPTER 2</b> AGRICULTURE EXPORT MARKETS ALONG THE REGIONAL ECONOMIC CORRIDORS.....	31
<b>CHAPTER 3</b> FOOD SAFETY AND QUALITY STANDARDS FOR EXPORT .....	47
<b>CHAPTER 4</b> OVERVIEW OF AGRICULTURE EXPORT VALUE CHAINS .....	53
<b>CHAPTER 5</b> CONCLUSIONS AND RECOMMENDATIONS.....	61
References .....	75
APPENDIX A. Lessons Learned from Rural Poverty Alleviation in Northern Laos ...	77
APPENDIX B. Relevant Enabling Policies and Strategies in Agriculture Sector.....	79
APPENDIX C. Smallholders in Laos .....	81
APPENDIX D. Results of Key Informant Interview of Four Value Chains.....	83
APPENDIX E. Overall SWOT Analysis of Agriculture Export Value Chain .....	115
APPENDIX F. Value Chains Analysis: A Synthesis .....	125
APPENDIX G. Insights from Key Informant Interviews on Compliance with Chinese Technical Requirements.....	129
APPENDIX H. Lessons Learned from International and Laos Experiences for Smallholder Inclusion in Value Chain Development .....	139

**LIST OF TABLES**

Table 1.	Overview of Transport Price by Geographic Location and Actual Price (by Weight and Volume vs. vehicle Weight and Volume Capacity (in LAK per ton-km), 2018. ....	34
Table 2.	Export Agreements Between Laos and China .....	39
Table 3.	List of Prioritized Crops for Further Trade Negotiations Between Laos and China .....	40
Table 4.	Export Agreements Between Laos and Thailand .....	41
Table 5.	Export Agreements for Crop Exports from Laos to Vietnam. ....	45
Table 6.	Market Shares of Domestic Producers, Product Level .....	46
Table 7.	Institutional Framework of SPS and Constraints .....	51
Table 8.	Summary of Recommendations .....	71

**LIST OF FIGURES**

Figure 1.	Laos Agricultural Exports, 2018-2021 .....	25
Figure 2.	Change in Poverty Rate by Province Between 2013-2019 .....	26
Figure 3.	Agriculture Exports by Region. ....	27
Figure 4.	Analytical Framework of the Study .....	30
Figure 5.	Map of Main Roads, Railway and Dry Ports in Laos .....	33
Figure 6.	Changes in Agriculture Export Share by Product, 2016-2020 .....	36
Figure 7.	Major Export Markets for Lao Agricultural Products, 2016-2020. ....	36
Figure 8.	Lao Agriculture Product Exports to China .....	37
Figure 9.	Export Volumes Through Northern Economic Corridors by Region and by Product, 2019-2020 .....	38
Figure 10.	Estimated Potential Cassava Exports to the China Market .....	39
Figure 11.	Lao Agriculture Product Exports to Thailand, 2016-2020 .....	41
Figure 12.	Export Volumes Exported Through Western Economic Corridors by Region and by Product, 2019-2020 .....	42
Figure 13.	Potential for Exports of Selected Agricultural Products to Thailand .....	42
Figure 14.	Lao Agriculture Product Exports to Vietnam, 2016-2020 .....	43
Figure 15.	Export Volumes Through Eastern Economic Corridors by Region and by Product, 2019-2020 .....	44
Figure 16.	Food and Beverage Market Size .....	45
Figure 17.	Segments of a Typical Agricultural Export Value Chain .....	53
Figure 18.	Productive Alliance Model .....	64

**LIST OF BOX ARTICLES**

Box 1.	Agricultural Development Strategy to 2025 and Vision 2030 .....	28
Box 2.	Lessons Learned from Laos and Global Experiences for Inclusive Value Chain Development .....	63

# ACKNOWLEDGEMENTS

This report was produced by a team led by Mio Takada (Senior Agricultural Economist) and Chitlatda Keomuongchanh (Agricultural Economist), and comprised of Binh Thang Cao (Senior Agricultural Specialist), Chanin Manopiniwes (Senior Infrastructure Economist), Konesawang Nghardsaysone (Economist), Mekbib Haile (Agricultural Economist), Sitaramachandra Machiraju (Senior Agriculture Economist), Sombath Southivong (Senior Infrastructure Specialist), Aka Kyaw Min Maw (Consultant), with a research team led by Dr. Thiphavong Bouppha, National Value Chain Specialist, Dr. Aloun Phonvisay, Livestock Specialist and Dr. Simone Vongkhamho, NTFP Specialist. The report builds on the sectoral analytics for the Lao PDR agriculture and food sector, which were prepared for the Lao PDR Country Economic Memorandum (2021) by Ashesh Prasann and Konesawang Nghardsaysone with inputs from Tanida Arayavechkit and Phouphet Kyophilavong. The study was undertaken under the guidance of Dina Umali-Deininger, Practice Manager, Agriculture and Food Global Practice for the East Asia and Pacific. Special thanks go to Deborah Davis (Consultant) for editing the report and Vatthana Singharaj (Program Assistant) and Tram Nguyen (Program Assistant) for excellent logistical and administrative support.

The team would like to thank Mariam Sherman (Country Director for Myanmar, Cambodia and Lao PDR), Alexander Kremer (Country Manager), and Mark Austin (Program Leader) who provided guidance and valuable comments. The team is grateful to Christopher Ian Brett (Lead Agribusiness Specialist), Sergiy Zorya (Lead Agricultural Economist), and Marta Zaklina Bogdanic (Senior Operations Officer, IFC) for their thoughtful comments that helped to improve the report. During the preparation of the study, the team received valuable inputs and guidance from Mr. Xaysomphet Norasingh, Director General of Department of Trade Promotion, Ministry of Industry and Commerce, Dr. Phommy Inthichack, Deputy Director General of Department of Planning and Finance, MAF and their colleagues.

Finally, the team would like to express its sincere thanks to the Department of Agriculture (DOA), National Agriculture and Forestry Research Institute (NAFRI), Department of Technical Extension and Agricultural Processing (DTEAP), Department of Rural Development and Cooperative (DRDC), Provincial and District Agriculture and Forestry Offices (PAFOs and DAFOs), Provincial Industry and Commerce Offices (PICOs), Provincial Chamber of Commerce and Industry Office (PCCIOs), Laos-China Cooperation Committee, as well as various stakeholders including producers, collectors, processors, exporters, wholesalers and retailers among others for their time and for sharing information during the study preparation. The team also would like to sincerely thank the development partners including the Asian Development Bank (ADB), the Food and Agriculture Organization (FAO), the Swiss Agency for Development and Cooperation (SDC), the European Union (EU), the International Finance Corporation (IFC), International

Fund for Agriculture Development (IFAD), International Center for Tropical Agriculture (CIAT), Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ), United States Agency for International Development (USAID), World Bank-Lao Agriculture Competitiveness Project (LACP), Lao Upland Rural Advisory Services (LURAS), and the Green Community Development Association (GCDA) for their advice on and inputs to the study.

# LIST OF ABBREVIATIONS

ADB	Asian Development Bank	LACP	Lao Agriculture Competitiveness Project
ADS	Agriculture Development Strategy	Lao PDR	Lao People's Democratic Republic
ASEAN	Association of South-eastern Asian Nations	LCB	Lao Certification Body
CNCA	Certification and Accreditation Administration of China	LECS	Lao Expenditure and Consumption Survey
CSA	Climate Smart Agriculture	LURAS	Lao Upland Advisory Service
DAFO	District Agriculture and Forestry Office	MAF	Ministry of Agriculture and Forestry
DLF	Department of Livestock and Fishery	MOH	Ministry of Health
DOA	Department of Agriculture	MOIC	Ministry of Industry and Commerce
DOI	Department of Irrigation	NAFRI	National Agriculture and Forestry Research Institute
DOPF	Department of Planning and Finance	NTFPs	Non-Timber Forest Products
FAO	United Nations for Food and Agriculture Organization	OIE	World Organization for Animal Health
FDD	Food and Drug Department	PAFO	Provincial Agriculture and Forestry Office
FDI	Foreign Direct Investment	PICO	Provincial Industry and Commerce Office
FMD	Foot and Mouth Disease	POs	Producer Organizations
FOs	Farmer Organizations	PPC	Plant Protection Center
FPGs	Farmer Production Groups	PQF	Pre-export Quarantine Farm
GAP	Good Agriculture Practice	SDC	Swiss Agency for Development and Cooperation
GDP	Gross Domestic Product	SMEs	Small-Medium Enterprises
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit	SPS	Sanitary and Phytosanitary
GMP	Good Manufacture Practice	SWOT	Strengths, Weaknesses, Opportunities, and Threats
IEC	International Electrotechnical Commission	USAID	United States Agency for International Development
IFAD	International Fund for Agriculture Development	VC	Value Chain
IFC	International Finance Corporation	WITS	World Integrated Trade Solution
ISO	International Organization for Standardization	WTO	World Trade Organization
ITC	International Trade Centre	WB	World Bank
IWMI	International Water Management Institute		





# EXECUTIVE SUMMARY

Agriculture represents more than one-fifth of Lao exports. Between 2018 and 2021, these exports grew by about 23 percent a year and had a yearly average value of \$982 million. Enhanced agriculture performance and regional exports have demonstrated their potential to drive poverty reduction. Poverty declined sharply, from 24.6 to 18.3 percent, between 2013 and 2019, due to rising incomes from agricultural exports, even as GDP and agriculture sector growth were slowing. Poverty declined faster in the northern and southern provinces, which had diversified their production systems, adopted modern practices and commercialized their products by becoming more integrated in regional value chains. By contrast, poverty reduction has stagnated in central Laos, previously the wealthiest region. The Lao experience points to the importance of transitioning from subsistence rice cultivation to diversification and the commercial production of cash crops.

Agricultural production in Laos is dominated by low-productivity smallholders, the majority of whom are poor.<sup>1</sup> Most smallholders reside in the central region, particularly in Savannakhet (17.2 percent), Champassak (9.1 percent) and Salavan (6.9 percent). Smallholder farmers face a wide range of supply-side challenges that affect their farm-level productivity and market participation. These challenges include: (a) lack of access to climate-smart technologies such as improved (drought and heat-resilient) seeds; (b) low use and poor application of fertilizers; (c) declining soil fertility in areas with poor farming practices; (d) limited access to and effectiveness of farm advisory and animal health services; (e) poor access to irrigation and drainage services; and (f) insecure land tenure. Smallholders' market participation and access are further hampered by: (a) high transaction costs associated with the lack of aggregation due to the absence of farmer groups; and (b) high transport costs due to inadequate rural infrastructure and connectivity in remote areas. Women face even greater challenges in access to markets, market information, finance, technology and other productive resources, which undermine the ability of female farmers and entrepreneurs to participate in value chains and develop their export potential.

Connective infrastructure is rapidly improving in, as shown by the opening of the Laos-China Railway and the development of trade corridors with neighboring countries. This provides Laos with an opportunity to transform the country from an isolated, landlocked nation to one that is linked to other countries in the East Asia region through infrastructure that fosters trade and integration. These trade linkages also represent an opportunity for Laos to develop

---

<sup>1</sup> The latest agriculture census nationwide in 2019/2020 marks Lao PDR as a nation of smallholder farmers among whom 52% of total agricultural households are smallholder farmers.

high-value agricultural production and processing value chains by partnering with agro-processing firms along the economic corridors.

This study explores the potential of agribusiness in Laos to integrate smallholders, particularly in the central region, into agriculture export value chains. It looks at smallholders' access to transportation and logistics along the corridors to China, Thailand and Vietnam, and assesses the potential for Laos to increase its exports to each of those markets. Given the need for compliance with each market's sanitary and phytosanitary (SPS) and good agricultural practices (GAP) requirements, the study analyzes those requirements and the capacity to meet them.

## **Regional connectivity and logistics**

Export potential depends on the efficiency of regional and national transport networks. High transport costs limit smallholders' access to farm inputs and markets, which constrains their integration into the regional marketplace. The Government of the Lao PDR has made significant investments to improve regional connectivity. The northern corridors, including the Laos-China Railway, connect with China, while the western corridors connect with Thailand, and the eastern corridors with Vietnam.

While these new transport connectivity investments are expected to drive development of the logistics sector, logistics services are still nascent. The country's freight and logistics industries are small, and there is no operator in Laos that can offer integrated logistics services (transport, warehousing, cold storage, inventory, information and control, last-mile connectivity with farms). Furthermore, remote areas may not be able to benefit from the economic corridors until rural connectivity issues, particularly access to rural roads, are resolved.

## **Regional markets along the regional economic corridors**

The major destinations for Lao's agricultural exports are regional neighbors China, Thailand and Vietnam, which together account for more than 90 percent of those exports. All three countries have a growing middle-class population, representing a strong and increasing demand for quality agriculture products. In 2020, Lao agriculture exports to China increased by 37 percent compared to 2016, with bananas accounting for more than half the agriculture exports during that period. This expansion was supported in part by Chinese investments in agribusinesses in the northern provinces. China is also a major destination for Lao maize and rice exports. Most of these exports pass through the northern corridors (Laos-China Railway and the main highway). There remains considerable room to increase exports to China, especially for cassava (fresh and starch) and fresh fruits.

Agriculture exports to Thailand increased by 51 percent in 2020 compared to 2016. The primary driver of growth was cassava, accounting for more than 40 percent of total agriculture

exports to Thailand between 2016 and 2019, and for 60 percent in 2020. Laos also has untapped export potential to Thailand for maize, live bovine animals and unroasted coffee beans. Most agriculture exports passing through the western corridors (connecting Vientiane, Savvanakhet and Pakse with Bangkok) originate in the south, while the northern and central regions contribute just modest volumes.

Vietnam is another important market for Lao agriculture exports, which doubled between 2016 and 2020, driven mainly by animal exports. Another major export is unroasted coffee, which accounts for 12 percent of Lao exports to Vietnam, and more than two-thirds of total coffee exports. Vietnam is also a potential market for cassava. Products passing through eastern corridors are mostly sourced from the southern and central regions, and export volumes are smaller compared to the northern and western corridors.

Laos also has a growing domestic market for agriculture products. The economic corridors will likely ease agri-food transactions within the country and help to meet the demand of the growing urban population. Even domestic connectivity, however, remains a major constraint for farmers in remote areas.

## **SPS compliance with regional markets and capacity constraints**

Sanitary and phytosanitary (SPS) requirements remain major challenges for smallholders, traders and processors in Laos. Agriculture products are subject to several sanitary, phytosanitary sanitary and food safety concerns. Food products are quality sensitive from a pricing perspective, are typically highly perishable and can transmit pests and diseases. Animal-sourced products in particular have these attributes. Consequently, Laos often faces challenges in meeting the SPS requirements imposed in its major export markets.

China's stringent SPS standard requires a comprehensive traceability and inspection system from production to export, including close inspection of farm registration, farm management, packing house management, pre-departure quarantine, entry quarantine and compliance inspection. These standards conform with China's good agriculture practices (ChinaGAP), which set production and farm-level standards and compliance criteria. The SPS standards in Thailand and Vietnam are less stringent. The basic requirement for both Thailand and Vietnam is an SPS certification issued by Department of Agriculture (DOA) of the Ministry of Agriculture and Forestry (MAF), certifying that the export consignment does not include quarantine pests.

The institutional framework for SPS in Laos is limited, with insufficient analytic and diagnostic capacity to conduct basic functions. No laboratory in Laos has ISO 17025 accreditation. Lack of staff and operational funding are key constraints for the operation of the laboratories and for the development of testing and analytical skills. Moreover, laboratories are not available in the provinces and districts, resulting in higher transaction costs for traders outside the capital. There is no digital system in place for SPS or traceability, which must be managed through paper documents.

## **Agriculture export value chains – constraints to smallholder participation**

Value chains in Laos are fragmented and poorly organized, which are major factors leading to higher transaction costs, lower profitability and poor employment conditions in the sector. Agriculture value chains include large numbers of isolated, small-scale producers; poorly capitalized intermediaries and processors; and relatively few agribusinesses with the capacity to invest in digital systems or modern production infrastructure. Consequently, all segments of the value chain – production, aggregation, processing and distribution for export and the domestic market – lack organization and scale, limiting commercialization and income in the sector.

The sector's fragmentation also makes it difficult for small producers and traders to comply with the food safety standards – particularly Chinese standards – necessary for participation in formal trade. Further, an inadequate institutional framework to support SPS compliance translates to higher transaction costs for exporters, who face high logistics and regulatory costs. At the production level, a number of issues related to poor use and integrated pest management (IPM) hamper the efforts of farmers to comply with Chinese standards. Furthermore, export procedures are burdensome.

Another constraint is the lack of an enabling environment for private sector investment. The private sector plays an important role in facilitating backward and forward linkages in value chains, yet the legal and regulatory environment is not conducive to private sector investment in agriculture. The development of value chains is also hampered by the limited access to credit.

## **Conclusions and recommendations**

There is considerable potential to increase agriculture exports, as the demand for Lao's agriculture products is likely to continue to grow with improved regional connectivity, but it will require addressing a number of constraints. In regional markets, demand is growing for high-quality, consumer-safe, and environmentally sustainable foods and agriculture products. At the same time, improved connectivity within the country is likely to stimulate domestic demand. However, there are some major infrastructure, institutional and policy issues that still need to be addressed before smallholders can capitalize on this greater connectivity to integrate into export and domestic value chains. This study provides some recommendations to promote greater smallholder integration into regional and international value chains. These include: (i) strengthening horizontal and vertical coordination for smallholder inclusion; (ii) improving productivity and commercialization to help smallholders integrate into export value chains; (iii) strengthening trade facilitation and SPS-related services to promote agriculture exports; (iv) improving last-mile connectivity with farms, and related logistics and trade facilitation services; and (v) promoting increased private sector investments.

## Strengthening horizontal and vertical coordination for smallholder inclusion

Organizing farmers into producer groups, promoting contract farming and the productive alliance approach offer opportunities to enable smallholder farmers to have improved access to markets and agriculture services.

**Promoting horizontal coordination through producer organizations.** Organizing smallholder farmers into producer organizations (POs), including cooperatives and self-help groups can assist members to access markets, credit, and advisory and technical services. The aggregation of smallholders into producer organizations has a number of potential benefits. For example, it permits the supply of larger quantities than would be otherwise possible. While processors and other buyers are looking for farmers who can reliably deliver sufficient quantities of produce at the right time and with the quality required, they do not want to have to deal with hundreds or thousands of individual farmers. POs can offer a central point of contact, which reduces transaction costs for buyers and can also provide intermediate activities, such as transport, storage, quality control and first stage processing (e.g. paddy drying). This type of aggregation can also improve logistics and reduce transport costs. Harvests can be scheduled so that losses are not incurred while harvested produce waits for transport to arrive. Similar improvements can be made for the timely supply of inputs. However, to have sustainable POs, it is important to support their professionalization, particularly their governance, management, and delivery of services. Diagnostic tools have been developed and applied to gauge the status of POs, including for purposes of benchmarking capacity and screening loan applications for PO joint investments. Effective capacity building of POs requires considerable time and re-enforcement. The IFC's Agribusiness Leadership program is one example which integrates PO diagnostics, training, and coaching.

**Promoting vertical integration through contract farming.** Contract farming is one way to reduce the transactions cost involved in sourcing agriculture products and getting them to market. While contract farming is primarily led by the private sector, government support can facilitate such arrangements, by improving the enabling environment (the rule of law, the quality of infrastructure, financial markets, etc.), facilitating interactions and brokering transactions among potential counterparts, establishing the legal framework for farming contracts, putting economic incentives in place, building technical and institutional capacity and educating counterparts about the potential benefits and risk. Morocco, Thailand, and Vietnam offer useful experiences in contract farming. Contract farming has been implemented in Laos, but the results remain mixed. While it has contributed to increased productivity, some farmers report that their tenure has shifted to becoming plantation labor. These weaknesses in existing arrangements point to the need for some review of current arrangements to ensure they are implemented in a socially and environmentally sustainable way.

**Promoting horizontal and vertical coordination through productive alliance.** Productive Alliance model is another approach to consolidating large numbers of small holders and at the same time linking them to buyers and processors. It involves three core actors: a group of organized smallholder producers, one or more agro-enterprise buyers, and the public sector. The approach aims to promote horizontal alliances among the producers as well as a vertical alliance

between the producers and the buyer(s). Typically, a business agreement is signed between the agency in charge of the program or project (for example, a government ministry), the commercial partner, a service provider, and a producer organization. The agreement specifies product characteristics (such as varieties to be grown), the quantity to be purchased, production methods, and logistical arrangements (such as how and when the product will be delivered). It also defines how the price is set and payment made and indicates any contributions of the buyer, such as input provision and technical assistance. Most programs include some provision of grant resources, usually for technical assistance to address technical issues, build relationships between the farmer groups and company, and sometimes also to help co-finance infrastructure and equipment (for example, related to irrigation or commodity storage) (World Bank 2020d). The ongoing Lao Agriculture Competitiveness Project (LACP; P161473) uses the productive alliance approach and demonstrates that smallholder farmers can be successfully integrated into value chains for rice, vegetables, and maize. The project includes support to farmers to organize into associations and promote agribusiness activities through matching grants. These experiences of horizontal and vertical integration have the potential for further scale up in Laos.

### Improving agriculture productivity and commercialization to help smallholders integrate into export value chains

**Scaling up the adoption of climate-smart agriculture (CSA) practices among smallholders.** There is a need to support increased adoption by smallholder farmers of CSA practices and technologies tailored to the agro-economic zones (AEZ). The adoption of drought-resilient varieties in the north and the rehabilitation of damaged irrigation structures in the south and central regions are critical to strengthen the capacity of small farmers to adapt to climate-related hazards (e.g. droughts and floods). Furthermore, the scale-up of climate-smart practices such as agroforestry, sustainable land, and water management and IPM would enable smallholders to sustainably address the challenges of soil erosion, declining soil fertility and pests. The National Agricultural and Forestry Research Institute (NAFRI) should continue to invest in related research, including on ways to reduce greenhouse gas emissions from rice production.

**Strengthening agriculture extension service capacity for CSA, Good Agriculture Practices (GAP), and SPS compliance.** Building on some initial successes in e-extension services and the rapid growth of cellphone and mobile internet penetration in Laos, these digital platforms offer mechanisms to strengthen extension service delivery. As in China, Korea and Kenya, traditional public investments in agricultural research and development (R&D) and extension services can be powered by off-the-shelf and affordable digital tools (soil and water testing sensors, disease and pest mapping through GPS and spatial technologies, e-advisory and data-driven decision support systems) to accelerate the transformation to a more productive, sustainable, inclusive and profitable agri-food system.<sup>2</sup> It is also important

---

<sup>2</sup> World Bank. 2020b. Beyond the pandemic: harnessing the digital revolution to set food systems on a better course. <https://www.worldbank.org/en/news/immersive-story/2020/08/06/beyond-the-pandemic-harnessing-the-digital-revolution-to-set-food-systems-on-a-better-course>.

for the government to provide sufficient resources and qualified staff to strengthen its GAP certification capacity, especially at the provincial level. In addition, there is a need for extension staff to be trained in the latest GAP practices, so they can in turn provide training to small farmers in complying with Lao Certification Body (LCB) standards. This is essential for smallholders to meet the growing demand in both domestic and export markets for food safety and compliance with SPS. Implementing GAP at the farm level could also improve employment conditions for farmers and agri-food processing workers.

**Improving smallholders' access to irrigation services.** In the short-term, the repair, rehabilitation and upgrading of irrigation schemes and canals that are poorly functioning or have been damaged by the 2018 and 2019 floods are urgently needed. Over the long-term, some areas for action include: (i) strengthening irrigation management to ensure adequate resources are provided for operations and maintenance of irrigation systems and (ii) the modernization of system, including the development of an integrated system between open irrigation canals and ditches with pressurized or semi-pressurized systems; integration of either on-farm ponds or groundwater into existing canal systems which would enable smallholder farmers to have more efficient water control and more options on crops to produce during the off-season and dry season; and the promotion of solar powered systems that could reduce costs in lowland pumped schemes, thereby contributing to both the economic viability of schemes and potentially facilitating greater flexibility in the use of pumps.<sup>3</sup>

**Supporting smallholders access to organic markets and linking organic agriculture with agro-tourism.** Laos has an opportunity to tap into niche organic export and domestic markets. The Government can facilitate this through strategic investments to enable farmers to access niche organic markets; including investments in: (a) promoting the use of improved seed varieties; (b) incorporating into the extension services the increased use of GAP/organic farming methods; and (c) strengthening the associated certification system. In the medium term, when both vertical and horizontal coordination are advanced, stallholders can be supported by their own producer organizations, to invest in the inputs, skills, and post-harvest equipment necessary for organic farming. Green and organic agriculture could be linked with the Government's efforts to develop eco-tourism and agrotourism. Agrotourism, sometimes known as "farm-stay" or "community-based tourism," allows visitors to experience life on a farm.

## Strengthening trade facilitation and SPS-related services to promote exports

**Simplification of processes through a National Single Window.** Trade facilitation services need to be more efficient, particularly for border clearances. Efficiency can be improved by simplifying procedures, reducing document requirements, and improving the system of pre-export clearance and inspection at farms and warehouses to reduce delays at border checkpoints. Enabling SPS agencies to use the National Single Window System (NSW) will reduce document processing times and eliminate duplication in regulatory and border controls. The maximum time for issuing release documents should be specified.

---

<sup>3</sup> IWMI and DOI, 2019. Irrigation Subsector Review.



**Digitization of SPS processes.** Digitization and electronic connectivity of the SPS process would allow for easier access to agricultural records and databases (producer/trader profiles, types of farm inputs); efficient traceability of agricultural production and trade; and issuance of SPS certificates at border checkpoints. Digitalization of value chains will also enable increased integration and traceability from production to export to distribution; rapid identification of problem sources, when pest is detected, and their location in the supply chain; efficient response to new market opportunities; and regular updating of information on the Lao Trade Portal about technical requirements and market and price information.

**Capacity building of SPS staff and investment in SPS testing facilities.** Building the capacity of laboratory facilities for chemical analysis of food and agrochemicals is critical for meeting international standards (ISO 17025) for SPS certification. These facilities should be accessible to farmers and traders in provinces. Provincial and district agriculture staff need to be trained in plant and animal inspection and in SPS certification.

**Improving Coordination through NTFC.** Inter-ministerial coordination should be promoted through the National Trade Facilitation Committee (NTFC), which determines regulatory reforms, and promotes streamlining and digitizing the application and approval processes of the regulatory agencies.

### Improving last-mile connectivity with value addition and trade facilitation services

**Investing in last-mile connectivity, logistics and value addition services.** Given that rural connectivity remains one of the major constraints for connecting farms with markets along the economic corridors, there is a need for investments to be made, with private sector participation, to develop the logistics services and facilities (dry ports and logistics parks) critical for cargo consolidation. In addition to traditional logistics, there is a need to promote more private investment in value-added services such as cold chain, processing, and packaging. Demand for value-added services is expected to increase, and many services will need to be customized for types of products.

### Promoting Increased private sector investment

**Improving the Policy framework for private sector participation in value chains.** To support the development of value chains and improve productivity and quality, Laos needs to establish adequate regulations and practices for supplying seeds, registering fertilizers, sustaining livestock, and increasing ease of access to finance. At the same time, it is important for the Government to improve its monitoring of private sector investment in agriculture value chains from an environmental and social safeguards perspective. Building on some successful experiences with public-private dialogue (PPD) in major cities, PPDs are needed at the provincial/district level to offer opportunities for value chain stakeholders to meet, identify needs and obstacles and explore partnership opportunities.



**Promote access to agri-finance for smallholders.** The Government's current efforts of modernizing land administration and scaling up land registration to extend the benefits of recognized land rights should be expanded and expedited by learning from the early phases of implementation. Improved tenure security would enable farmers to use their land as collateral to increase their access to credit. On demand side, farmers who lack financial literacy should be supported in making application for loans.

## Summary of Recommendations

Priority	Recommended actions	Responsible ministries/agencies
<b>1</b> <b>Strengthening horizontal and vertical coordination for smallholder inclusion</b>	<p><b>Promote development of producer organizations</b>            Support the scaling up of POs and support their professionalization. Diagnostic tools and guideline can be developed covering such topics as business and financial management, human resources, community and stakeholder engagement and member services delivery. (Short Term-ST)</p> <hr/> <p><b>Promote contract farming</b>            Improve the enabling environment for contract farming by facilitating interactions and brokering transactions between farmers and buyers, establishing a legal framework for contract farming, putting economic incentives in place, building technical and institutional capacity, and educating farmers and buyers about potential benefits and risks. (ST)</p> <hr/> <p><b>Promote scaling up of the Productive Alliance Model</b>            Promote coordination of three core actors: a group of organized smallholder producers, one or more agro-enterprise buyers, and the government. The government should organize an information campaign to raise awareness about the productive alliance program among POs and companies and facilitate the establishment of the tri-partite agreements with the farmer groups and buyers. The provision of matching grants by the government helps in PO capacity building and in co-financing needed infrastructure and equipment (e.g. irrigation storage). (ST)</p>	Ministry of Agriculture and Forestry (MAF), Provincial Agriculture and Forestry Office (PAFO), and District Agriculture and Forestry Office (DAFO)

(table continues on next page)

Priority	Recommended actions	Responsible ministries/agencies
<b>2</b> <b>Improving productivity and commercialization to help smallholders integrate into export value chains</b>	<b>Strengthen agriculture research in climate-smart agriculture</b> Continue to invest in CSA research, through National Agricultural and Forestry Research Institute (NAFRI), including on ways to reduce greenhouse gas emissions from rice production and development of the climate-resilient varieties (drought, flood, pest resistant varieties). In order to address the challenges of erosion, declining soil fertility and pests, CSAs practices such as agroforestry, sustainable land and water management, integrated pest management, alternative wet-dry system of irrigation management, should be further scaled up through extension services.	NAFRI, PAFO and DAFO
	<b>Strengthen agriculture extension service capacity for CSA, GAP and SPS compliance</b> Promote use of digital platforms to strengthen extension service delivery, including off-the-shelf and affordable digital tools (soil and water testing sensors, disease and pest mapping through GPS and spatial technologies, e-advisory and data-driven decision support systems. Extension services should include measures and approaches tailored to women's needs. Government can partner with private sector/non-governmental organizations to offer gender-sensitive extension services to both male and female farmers. (ST)  Strengthen staff capacity for GAP certification, especially at the provincial level and extension staff to be trained in the latest GAP practices, so they can in turn provide training to small farmers in complying with Lao Certification Body (LCB) standards. (ST)	MAF (LCB,DOA), Ministry of Natural Resources and Environment (MONRE), PAFO and DAFO, Ministry of Technology and Communication(MTC)  Private Sector/ non-governmental organizations
	<b>Improve smallholders' access to irrigation services</b> Repair, rehabilitate and upgrade the irrigation schemes and canals that are poorly functioning or have been damaged by floods and other disasters. (ST)  Over the medium-term, (a) strengthen irrigation management to ensure adequate resources are provided for operations and maintenance of irrigation systems and (b) support modernization of systems through adoption of irrigation new technologies (presurized systems, solar pumping). (Medium Term-MT)	Department of Irrigation (DOI), MAF
	<b>Promoting smallholder access to organic markets and linkages to agro-tourism</b> Invest in: (a) promoting the use of improved seed varieties; (b) ensuring extension services provide training on the use of GAP/organic farming methods; and (c) strengthening the LCB and provincial level certification system. (ST)  Link green and organic agriculture linked with the Government's eco-tourism and agrotourism program. (ST)	MAF (LCB,DOA), Extension departments of DAFO and PAFO

(table continues on next page)

Priority	Recommended actions	Responsible ministries/agencies
<b>3</b> <b>Strengthening trade facilitation and SPS-related services to promote agriculture exports</b>	<b>Simplify SPS processes through a National Single Window (NSW)</b> Complete the process for MAF and MOH to enter into MOUs for the NSW, and introduce the NSW to their relevant SPS agencies (DOA/DLF of MAF and Food and Drug Department-FDD- of MOH) in order to reduce document processing times and eliminate duplication in regulatory and border controls.	MAF (DOA and DLF), MOH (FDD), MOIC (Lao Customs Department, Department of Import and Export), MPWT (Department of Transport)
	<b>Digitize SPS processes</b> Support the digitization and electronic connectivity of the SPS processes to improve access to agriculture records, market and price information; enable traceability and production monitoring; and issuance of SPS certificates at border checkpoints. (ST)	MAF, PAFO and DAFO, MOIC (Lao Customs Department, Department of Import and Export), Ministry of Technology and Communications (MTC)
	<b>Capacity building of SPS staff and investment in SPS testing facilities</b> Build capacity of Provincial and district agriculture staff should on plant and animal inspection and in SPS certification. The staff should receive training on increasingly strict GAP and other technical requirements, in partnership with the private sector. (ST-MT)  Build capacity of laboratory facilities for chemical analysis of food and agrochemicals to meet international standards (ISO 17025) for SPS certification. Provincial and district agriculture staff should be trained in plant and animal inspection and in SPS certification. (ST-MT)	DOA of MAF, DAFO and PAFO  Plant Protection Center and Animal Health Laboratory, MAF Food and Drug Department of MOH
	<b>Improve Coordination through NTFC</b> Promote Inter-ministerial coordination should be promoted through the National Trade Facilitation Committee (NTFC), which determines regulatory reforms, and promotes streamlining and digitizing the application and approval processes of the regulatory agencies. (ST)	NTFC, MAF (DOA/Plant and Animal Quarantine Division; and DLF), MOIC (Lao Customs Department – LCD, Department of Import and Export – DIMEX)  Ministry of Public Work and Transport (MPWT) (Department of Transport), Ministry of Health (Department of Food and Drug)

(table continues on next page)

Priority	Recommended actions	Responsible ministries/agencies
<b>4</b> <b>Improving last-mile connectivity with farms, and related logistics and trade facilitation services</b>	<p><b>Invest in last-mile connectivity, logistics and value addition services</b></p> <p>Increase public investments to address last-mile connectivity gaps (e.g rural roads, improved road maintenance). Promote private investment in value-added services such as cold chain, processing and packaging, including through the productive alliance program. (ST-MT)</p>	Ministry of Public Work and Transport
<b>5</b> <b>Promoting Private Sector Investments</b>	<p><b>Improve the policy framework for private sector participation in value chains.</b></p> <p>Remove barriers to the supply of seeds, simplifying fertilizer registration, access to finance. Government to improve its monitoring of private sector investment in agriculture value chains from an environmental and social safeguards perspective. (ST)</p>	MAF, PAFO, MOIC, Ministry of Planning and Investment (Department of Investment Promotion and Special Economic Zone Promotion and Management Office)
	<p><b>Promote agri-finance for smallholders</b></p> <p>Scale up land registration program to enable farmers to use their land as collateral to increase their access to credit.</p>	MONRE

Note: ST = Short Term, MT = Medium Term.

# ບົດສະຫຼຸບສັງລວມ

ການສົ່ງອອກກະສິກໍາ ຂອງ ສປປ ລາວ ໄດ້ກວມເອົາຫຼາຍກວ່າ 1 ສ່ວນ 5 ໃນລະຫວ່າງປີ 2018 ຫາ 2021, ການສົ່ງອອກນີ້ ໄດ້ເພີ່ມຂຶ້ນປະມານ 23 ເປີເຊັນຕໍ່ປີ ແລະ ມີມູນຄ່າສະເລ່ຍຕໍ່ປີ 982 ລ້ານໂດລາສະຫະລັດ. ການປັບປຸງປະສິດທິພາບດ້ານກະສິກໍາ ແລະ ການສົ່ງອອກ ໃນພາກພື້ນໄດ້ສະແດງໃຫ້ເຫັນຄວາມສາມາດ ດັ່ງກ່າວໃນການຂັບເຄື່ອນ ການຫຼຸດຜ່ອນຄວາມທຸກຍາກ. ຄວາມທຸກຍາກໄດ້ຫຼຸດລົງຢ່າງຫຼວງຫຼາຍ ຈາກ 24.6 ຫາ 18.3 ສ່ວນຮ້ອຍ, ໃນລະຫວ່າງປີ 2013 ຫາ 2019, ເນື່ອງຈາກລາຍຮັບທີ່ເພີ່ມຂຶ້ນຈາກການສົ່ງອອກກະສິກໍາ, ເຖິງແມ່ນວ່າ GDP ແລະ ການຂະຫຍາຍຕົວ ຂອງຂະແໜງການກະສິກໍາ ຈະເຕີບໂຕຊ້າລົງ. ຄວາມທຸກຍາກໄດ້ຫຼຸດລົງໄວວາ ຢູ່ບັນດາແຂວງພາກເໜືອ ແລະ ພາກໃຕ້, ເຊິ່ງໄດ້ເຮັດໃຫ້ລະບົບການຜະລິດມີຄວາມຫຼາກຫຼາຍ, ໄດ້ນໍາໃຊ້ວິທີການທີ່ທັນສະໄໝ ແລະ ການຜະລິດກະສິກໍາເປັນສິນຄ້າຂອງເຂົາເຈົ້າ ໄດ້ກາຍເປັນການຜະລິດຮອບດ້ານ ຢູ່ໃນລະບົບຕ່ອງໂສ້ມູນຄ່າຂອງພາກພື້ນ. ໃນທາງກົງກັນຂ້າມ, ການຫຼຸດຜ່ອນຄວາມທຸກຍາກໄດ້ຢຸດສະຖັກຢູ່ໃນພາກກາງ ຂອງ ສປປ ລາວ, ເຊິ່ງໃນເມື່ອກ່ອນແມ່ນເຂດທີ່ຮັ່ງມີທີ່ສຸດ. ປະສິບການຂອງ ສປປ ລາວ ຊຶ່ງໃຫ້ເຫັນເຖິງຄວາມສໍາຄັນຂອງການຫັນປ່ຽນ ຈາກການປູກເຂົ້າແບບພໍຢູ່ພໍກິນ ໄປສູ່ຄວາມຫຼາກຫຼາຍ ແລະ ການຜະລິດພືດເປັນສິນຄ້າ.

ການຜະລິດກະສິກໍາ ຢູ່ໃນ ສປປ ລາວ ແມ່ນຄອບງໍາໂດຍຜູ້ປະກອບການຂະໜາດນ້ອຍ, ສ່ວນຫຼາຍແມ່ນຜູ້ທຸກຍາກ ແລະ ໄດ້ຜົນຜະລິດຕໍ່າ. ຜູ້ປະກອບການຂະໜາດນ້ອຍສ່ວນຫຼາຍແມ່ນອາໄສຢູ່ພາກກາງ, ໂດຍສະເພາະແຂວງສະຫວັນນະເຂດ (17.2 ເປີເຊັນ), ຈໍາປາສັກ (9.1 ເປີເຊັນ) ແລະ ສາລະວັນ (6.9 ເປີເຊັນ). ຊາວກະສິກອນຂະໜາດນ້ອຍ ໄດ້ປະເຊີນໜ້າຫຼາຍຢ່າງ ສິ່ງທ້າທາຍເບື້ອງການສະໜອງ ເຊິ່ງສິ່ງຜົນກະທົບຕໍ່ຜົນຜະລິດ ຢູ່ໃນລະດັບທຳນາຂອງພວກເຂົາ ແລະ ການມີສ່ວນຮ່ວມຂອງຕະຫຼາດ. ສິ່ງທ້າທາຍເຫຼົ່ານີ້ລວມມີ: (ກ) ຂາດການເຂົ້າເຖິງເຕັກໂນໂລຊີ ອັດສະລິຍະ ດ້ານດິນຟ້າອາກາດ ເຊັ່ນ: ແນວພັນທີ່ໄດ້ຮັບປັບປຸງ(ທົນທານຕໍ່ໄພແຫ້ງແລ້ງ ແລະ ອາກາດຮ້ອນ); (ຂ) ການນໍາໃຊ້ຜູນນ້ອຍ ແລະ ໃຊ້ຜູນທີ່ບໍ່ຖືກຕ້ອງ; (ຄ) ຄວາມອຸດົມສົມບູນຂອງດິນເຊື່ອມໂຊມ ໃນເຂດທີ່ເຮັດການຜະລິດທີ່ບໍ່ຖືກຕ້ອງ, (ງ) ການເຂົ້າເຖິງຄໍາແນະນໍາ ທີ່ມີປະສິດທິພາບດ້ານການຜະລິດກະສິກໍາ ແລະ ການບໍລິການ ສຸຂະພາບສັດ ຍັງຈໍາກັດ; (ຈ) ການເຂົ້າເຖິງ ການບໍລິການຊົນລະປະທານ ແລະ ການລະບາຍນໍ້າ ຍັງບໍ່ທັນໄດ້ດີ; ແລະ (ສ) ການຄອບຄອງທີ່ດິນຍັງບໍ່ມີຄວາມໝັ້ນຄົງ. ການມີສ່ວນຮ່ວມ ແລະ ການເຂົ້າເຖິງຕະຫຼາດຂອງຊາວກະສິກອນຂະໜາດນ້ອຍ ແມ່ນຖືກກົດຂວາງຕື່ມອີກ ຄື: (1) ຄ່າໃຊ້ຈ່າຍທີ່ສູງໃນການເຮັດທຸລະກໍາ ທີ່ກ່ຽວຂ້ອງກັບການຂາດການລວມຕົວກັນ ເນື່ອງຈາກຍັງບໍ່ມີກຸ່ມຊາວກະສິກອນ; ແລະ (2) ຄ່າໃຊ້ຈ່າຍໃນການຂົນສົ່ງທີ່ສູງ ເນື່ອງຈາກໂຄງສ້າງພື້ນຖານໃນຊົນນະບົດ ແລະ ການເຊື່ອມຕໍ່ໃນເຂດຫ່າງໄກສອກຫຼີກຍັງບໍ່ພຽບພ້ອມ. ແມ່ຍິງຕ້ອງປະເຊີນກັບສິ່ງທ້າທາຍຫຼາຍກວ່າເກົ່າ ໃນການເຂົ້າເຖິງຕະຫຼາດ, ຂໍ້ມູນຕະຫຼາດ, ການເງິນ, ເຕັກໂນໂລຊີ ແລະ ຊັບພະຍາກອນການຜະລິດອື່ນໆ, ເຊິ່ງເປັນບ່ອນທໍາລາຍຄວາມສາມາດຂອງຊາວກະສິກອນ ແລະ ຜູ້ປະກອບການຍິງ ໃນການມີສ່ວນຮ່ວມຢູ່ລະບົບຕ່ອງໂສ້ມູນຄ່າເພີ່ມ ແລະ ການພັດທະນາທໍາແຮງສົ່ງອອກຂອງເຂົາເຈົ້າ.

ການເຊື່ອມຈອດກັນຂອງພື້ນຖານໂຄງລ່າງແມ່ນໄດ້ຮັບການປັບປຸງຢ່າງໄວວາ, ອັນເຫັນໄດ້ຊັດເຈນແມ່ນການເປີດເສັ້ນທາງລົດໄຟລາວ-ຈີນ ແລະ ການພັດທະນາແລວທາງການຄ້າ ທາງພາກເໜືອ, ພາກກາງ ແລະ ພາກໃຕ້ ກັບປະເທດເພື່ອນບ້ານ. ມັນໄດ້ເຮັດໃຫ້ ສປປ ລາວ ໄດ້ມີໂອກາດຫັນປ່ຽນປະເທດຈາກປະເທດທີ່ບໍ່ມີຊາຍແດນຕິດຈອດກັບທະເລ ກາຍມາເປັນປະເທດທີ່ເຊື່ອມຈອດກັບປະເທດອື່ນໆໃນພາກພື້ນອາຊີຕາເວັນອອກ ໂດຍຜ່ານໂຄງລ່າງພື້ນຖານ ທີ່ສົ່ງເສີມການຄ້າ ແລະ ການເຊື່ອມໂຍງ. ການເຊື່ອມໂຍງທາງດ້ານການຄ້າເຫຼົ່ານີ້ ຍັງເປັນໂອກາດໃຫ້ ສປປ ລາວ ພັດທະນາການຜະລິດກະສິກໍາທີ່ມີມູນຄ່າສູງ ແລະ ຕ່ອງໂສ້ມູນຄ່າເພີ່ມໃນການປຸງແຕ່ງ ໂດຍການເປັນຮ່ວມມືກັບບັນດາບໍລິສັດປຸງແຕ່ງກະສິກໍາ ຕາມທາງແລວເສດຖະກິດ.

1 The latest agriculture census nationwide in 2019/2020 marks Lao PDR as a nation of smallholder farmers among which 52% of total agricultural households are smallholder farmers.

ການສຶກສາສໍາຫຼວດ ທ່າແຮງຂອງທຸລະກິດກະສິກໍາ ໃນ ສປປ ລາວ ເພື່ອການລວມຕົວຂອງຜູ້ເຮັດຜະລິດຂະໜາດນ້ອຍ, ໂດຍສະເພາະໃນພາກກາງ, ເຂົ້າໃນຕ່ອງໂສ້ມູນຄ່າການສົ່ງອອກກະສິກໍາ. ພິຈາລະນາການເຂົ້າເຖິງການຂົນສົ່ງ ແລະ ການສົ່ງເຄື່ອງຂອງຜູ້ເຮັດຜະລິດຂະໜາດນ້ອຍ ຕາມແລວທາງໄປຍັງ ປະເທດຈີນ, ໄທ, ຫວຽດນາມ, ແລະ ຕີລາຄາຄວາມສາມາດບົ່ມຊ້ອນ ຂອງສປປ ລາວ ໃນການເພີ່ມການສົ່ງອອກໄປຍັງແຕ່ລະຕະຫຼາດດັ່ງກ່າວ. ເນື່ອງຈາກຄວາມຈໍາເປັນໃນການປະຕິບັດທາງດ້ານ ສຸຂານາໄມພືດ ແລະ ສັດ (SPS) ແລະ ການປະຕິບັດກະສິກໍາທີ່ດີ (GAP) ຂອງແຕ່ລະຕະຫຼາດ, ການສຶກສາໄດ້ວິເຄາະຄວາມສາມາດຂອງລາວທີ່ຈະຕອບສະໜອງໄດ້ຄວາມຕ້ອງການຕ່າງເຫຼົ່ານັ້ນ.

### ການເຊື່ອມຕໍ່ພາກພື້ນ ແລະ ການຂົນສົ່ງ

ທ່າແຮງການສົ່ງອອກ ຂອງ ສປປ ລາວ ແມ່ນຂຶ້ນກັບປະສິດທິພາບຂອງເຄືອຂ່າຍການຂົນສົ່ງໃນພາກພື້ນ ແລະ ລະດັບປະເທດ ຕົ້ນທຶນຄ່າໃຊ້ຈ່າຍໃນການຂົນສົ່ງທີ່ສູງຂອງລາວ ຈໍາກັດການເຂົ້າເຖິງຕະຫຼາດຂອງຊາວກະສິກອນຜູ້ຜະລິດຂະໜາດນ້ອຍ ແລະ ຈໍາກັດການເຊື່ອມໂຍງກັບຕະຫຼາດພາກພື້ນ. ລັດຖະບານແຫ່ງ ສປປ ລາວ ໄດ້ລົງທຶນຢ່າງຫຼວງຫຼາຍເພື່ອປັບປຸງການເຊື່ອມກັບພາກພື້ນ. ຕາມແລວທາງພາກເໜືອ ລວມທັງທາງລົດໄຟ ລາວ-ຈີນ ເຊື່ອມຕໍ່ ສປປ ລາວ ກັບ ສປ ຈີນ, ແລວທາງທິດຕາເວັນຕົກ ເຊື່ອມຕໍ່ກັບປະເທດໄທ, ແລະ ແລວທາງຕາເວັນອອກກັບຫວຽດນາມ.

ໃນຄະນະທີ່ການລົງທຶນເຊື່ອມຕໍ່ການຂົນສົ່ງຄັ້ງໃໝ່ນີ້ ຄາດວ່າຈະຊຸກຍູ້ການພັດທະນາຂະແໜງການຂົນສົ່ງ, ການບໍລິການຂົນສົ່ງແມ່ນຫາກໍ່ລິເລີ່ມ. ອຸດສາຫະກໍາຂົນສົ່ງ ແລະ ປ່ຽນທ່າຍສິນຄ້າ ຂອງປະເທດມີຂະໜາດນ້ອຍ ແລະ ໃນ ສປປ ລາວ ບໍ່ມີຜູ້ປະກອບການ ທີ່ສາມາດໃຫ້ບໍລິການຂົນສົ່ງສິນຄ້າ ແບບຮອບດ້ານ (ການຂົນສົ່ງ, ສາງ, ສາງເຢັນເກັບສິນຄ້າ, ບັນຊີລາຍການສິນຄ້າ, ຂໍ້ມູນ ແລະ ການຄວບຄຸມ, ການສົ່ງມອບໂອນສິນຄ້າ ລະຫວ່າງຜູ້ກັບຊື້ ແລະ ຜູ້ຜະລິດ). ນອກຈາກນັ້ນ,ເຂດທ່າງໄກສອກຫຼີກ ອາດຈະບໍ່ໄດ້ຮັບຜົນປະໂຫຍດຈາກແລວທາງເສດຖະກິດ ຈີນກ່ວາບັນຫາການເຊື່ອມຕໍ່ໃນຊຸມນະບົດຈະໄດ້ຮັບການແກ້ໄຂ ໂດຍສະເພາະເສັ້ນທາງໄປສູ່ຊຸມນະບົດ.

### ຕະຫຼາດພາກພື້ນ ລຽບຕາມແລວທາງເສດຖະກິດພາກພື້ນ

ຈຸດໝາຍປາຍທາງຫຼັກ ສໍາລັບການສົ່ງອອກສິນຄ້າກະສິກໍາຂອງລາວ ແມ່ນປະເທດເພື່ອນບ້ານໃນພາກພື້ນ ເຊັ່ນ: ຈີນ, ໄທ ແລະ ຫວຽດນາມ ເຊິ່ງກວມເອົາຫຼາຍກວ່າ 90% ຂອງການສົ່ງອອກດັ່ງກ່າວ. ທັງສາມປະເທດມີປະຊາກອນ ຊົນຊັ້ນກາງເພີ່ມຂຶ້ນ, ທີ່ສະແດງໃຫ້ເຫັນຄວາມຕ້ອງການ ສິນຄ້າກະສິກໍາທີ່ມີຄຸນນະພາບເພີ່ມຂຶ້ນ. ໃນປີ 2020, ການສົ່ງອອກກະສິກໍາຂອງ ສປປ ລາວ ໄປ ສປ ຈີນ ເພີ່ມຂຶ້ນ 37% ເມື່ອທຽບໃສ່ປີ 2016, ໝາກກ້ວຍກວມເອົາຫຼາຍກວ່າເຄິ່ງໜຶ່ງຂອງການສົ່ງອອກກະສິກໍາໃນໄລຍະນັ້ນ. ການຂະຫຍາຍຕົວດັ່ງກ່າວແມ່ນໄດ້ຮັບການສະໜັບສະໜູນສ່ວນໜຶ່ງ ໂດຍການລົງທຶນຂອງຈີນ ໃນການເຮັດທຸລະກິດກະສິກໍາຢູ່ບັນດາແຂວງພາກເໜືອ. ຈີນຍັງເປັນຈຸດໝາຍປາຍທາງທີ່ສໍາຄັນຂອງການສົ່ງອອກສາລີ ແລະ ເຂົ້າ ຂອງ ສປປ ລາວ. ສິນຄ້າສົ່ງອອກສ່ວນໃຫຍ່ຈະຜ່ານແລວທາງພາກເໜືອ (ທາງລົດໄຟລາວ-ຈີນ ແລະ ທາງດ່ວນສາຍຫຼັກ) ການສົ່ງອອກໄປຈີນ ແມ່ນຍັງມີຄວາມເປັນໄປໄດ້ຫຼາຍຢ່າງ ໂດຍສະເພາະ ແມ່ນ ມັນຕົ້ນ (ມັນສິດ ແລະ ແປ້ງ) ແລະ ໝາກໄມ້ສັດ.

ສປປ ລາວ ສົ່ງອອກສິນຄ້າກະສິກໍາໄປ ປະເທດໄທ ເພີ່ມຂຶ້ນ 51% ໃນປີ 2020 ທຽບໃສ່ປີ 2016. ສິນຄ້າທີ່ພາໃຫ້ມີການເຕີບໂຕຫຼັກແມ່ນມັນຕົ້ນ, ເຊິ່ງກວມເອົາຫຼາຍກວ່າ 40% ຂອງການສົ່ງອອກສິນຄ້າກະສິກໍາທັງໝົດ ໄປຍັງປະເທດໄທ ໃນລະຫວ່າງປີ 2016–2019 ແລະ ໃນປີ 2020 ເພີ່ມຂຶ້ນ 60%. ສປປ ລາວ ຍັງມີທ່າແຮງ ທີ່ຍັງບໍ່ທັນຖືກຈັດຕັ້ງປະຕິບັດສົ່ງອອກໄປຍັງ ປະເທດໄທ ແມ່ນ ສາລີ, ໂຕງົວ ແລະ ເມັດກາເຟທີ່ຍັງບໍ່ທັນຂີ້. ການສົ່ງອອກສິນຄ້າກະສິກໍາສ່ວນໃຫຍ່ຜ່ານແລວທາງຕາເວັນຕົກ (ເຊື່ອມຕໍ່ວຽງຈັນ, ສະຫວັນນະເຂດ ແລະ ປາກເຊ ກັບ ບາງກອກ) ທີ່ມີຖິ່ນກໍາເນີດ ມາຈາກພາກໃຕ້, ໃນຂະນະທີ່ພາກເໜືອ ແລະ ພາກກາງ ມີພຽງສ່ວນເລັກນ້ອຍ.

ຫວຽດນາມ ແມ່ນອີກຕະຫຼາດໜຶ່ງທີ່ສໍາຄັນໃນການສົ່ງອອກຜະລິດຕະພັນກະສິກໍາຂອງລາວ, ເຊິ່ງໄດ້ເພີ່ມຂຶ້ນເປັນສອງເທົ່າລະຫວ່າງປີ 2016 ຫາ 2020, ຕົ້ນຕໍແມ່ນການສົ່ງອອກສັດ. ການສົ່ງອອກທີ່ສໍາຄັນອີກອັນໜຶ່ງແມ່ນກາເຟທີ່ບໍ່ທັນໄດ້ຂີ້ ເຊິ່ງກວມເອົາ 12 ເປີເຊັນ ການສົ່ງອອກສິນຄ້າຂອງລາວໄປຫວຽດນາມ ແລະ ຫຼາຍກວ່າ 2/3 ຂອງການສົ່ງອອກກາເຟທັງໝົດ ຂອງລາວ. ຫວຽດນາມ ກໍ່ແມ່ນຕະຫຼາດທີ່ມີທ່າແຮງສໍາລັບມັນຕົ້ນ. ສິນຄ້າຜ່ານແລວທາງຕາເວັນອອກສ່ວນຫຼາຍແມ່ນມາຈາກພາກໃຕ້ ແລະ ພາກກາງ, ປະລິມານການສົ່ງອອກແມ່ນຍັງນ້ອຍກວ່າ ເມື່ອທຽບໃສ່ແລວທາງພາກເໜືອ ແລະ ພາກຕາເວັນຕົກ.

ສປປ ລາວ ຍັງມີຕະຫຼາດພາຍໃນປະເທດ ທີ່ກຳລັງເຕີບໂຕສຳລັບສິນຄ້າກະສິກຳ. ແລວທາງເສດຖະກິດອາດຈະເຮັດໃຫ້ການຈັດສົ່ງອາຫານທາງດ້ານກະສິກຳ ພາຍໃນປະເທດມີຄວາມສະດວກສະບາຍ ແລະ ຊ່ວຍຕອບສະໜອງຄວາມຕ້ອງການ ຂອງປະຊາກອນໃນຕົວເມືອງທີ່ເພີ່ມຂຶ້ນ. ເຖິງຢ່າງໃດກໍຕາມ, ການເຊື່ອມຕໍ່ພາຍໃນປະເທດຍັງຄົງເປັນຂໍ້ຈຳກັດ ທີ່ສຳຄັນ ສຳລັບຊາວກະສິກອນຢູ່ເຂດຫ່າງໄກສອກຫຼີກ.

## ການປະຕິບັດດ້ານ ສຸຂານາໄມ (SPS) ກັບຕະຫຼາດພາກພື້ນ ແລະ ຄວາມສາມາດທີ່ຈຳກັດ

ຄວາມຕ້ອງການດ້ານສຸຂານາໄມ ພືດ ແລະ ສັດ (SPS) ຍັງຄົງເປັນສິ່ງທ້າທາຍອັນໃຫຍ່ຫຼວງ ສຳລັບຜູ້ຜະລິດຂະໜາດນ້ອຍ, ຜູ້ຄ້າຂາຍ ແລະ ຜູ້ປຸງແຕ່ງ ໃນ ສປປ ລາວ. ຜະລິດຕະພັນອາຫານກະສິກຳ ແມ່ນຕ້ອງໄດ້ຄຳນຶງ ເຖິງດ້ານສຸຂານາໄມ ພືດ ແລະ ສັດ ແລະ ຄວາມປອດໄພດ້ານອາຫານ. ຜະລິດຕະພັນອາຫານ ແມ່ນມີຄວາມສ່ຽງທາງຄຸນນະພາບ ເມື່ອພິຈາລະນາທາງດ້ານຂອງລາຄາ. ໂດຍທົ່ວໄປອາຫານ ແມ່ນສາມາດເຮັດເນົາເສັ້ນໄດ້ງ່າຍ ແລະ ສາມາດແຜ່ລະບາດສັດຕູພືດ ແລະ ພະຍາດຕ່າງໆໄດ້, ໂດຍສະເພາະແມ່ນຜະລິດຕະພັນທີ່ມາຈາກສັດ ເຊິ່ງມີລັກສະນະດັ່ງທີ່ກ່າວມານີ້. ດັ່ງນັ້ນ, ສປປ ລາວ ຈະປະເຊີນກັບສິ່ງທ້າທາຍໃນການປະຕິບັດດ້ານສຸຂານາໄມ (SPS) ທີ່ໄດ້ວາງອອກ ໃນຕະຫຼາດສົ່ງອອກທີ່ສຳຄັນຂອງຕົນ.

ມາດຕະຖານທີ່ເຂັ້ມງວດ ດ້ານສຸຂານາໄມ ພືດ ແລະ ສັດ (SPS) ຂອງຈີນ ຮຽກຮ້ອງໃຫ້ມີລະບົບການກວດກາ ແລະ ການກວດສອບຄົນ ທີ່ຄົບຖ້ວນ ຈາກການຜະລິດ ຈົນເຖິງການສົ່ງອອກ, ລວມທັງການກວດກາຢ່າງໃກ້ສິດຂອງການລົງທະບຽນພື້ນທີ່ການຜະລິດກະສິກຳ, ການຈັດການຟາມ, ການຈັດການໂຮງເຮືອນຫຸ້ມຫໍ່, ການກັກກັນກ່ອນສົ່ງອອກ, ການກັກກັນເວລານຳເຂົ້າ ແລະ ການປະຕິບັດຄົບຖ້ວນຕາມລະບົບກວດກາ. ມາດຕະຖານເຫຼົ່ານີ້ ຕ້ອງສອດຄ່ອງກັບການປະຕິບັດ ກະສິກຳທີ່ດີ ຂອງຈີນ (China GAP). ສະນັ້ນ ລະບົບການຜະລິດ ແລະ ໃນບ່ອນເຮັດການຜະລິດ ຕ້ອງໄດ້ປະຕິບັດຖືກຕາມມາດຕະຖານ ດ້ານສຸຂານາໄມ. ດ້ານສຸຂານາໄມ ພືດ ແລະ ສັດ (SPS) ໃນປະເທດໄທ ແລະ ຫວຽດນາມ ແມ່ນເຂັ້ມງວດໜ້ອຍກວ່າ. ຂໍ້ກຳນົດພື້ນຖານຂອງທັງສອງປະເທດ ໄທ ແລະ ຫວຽດນາມ ແມ່ນການອອກໃບຢັ້ງຢືນ SPS ທີ່ອອກໃຫ້ໂດຍກົມປູກຝັງ (DOA) ຂອງກະຊວງກະສິກຳ ແລະ ປ່າໄມ້ (MAF), ເຊິ່ງຮັບຮອງວ່າສິນຄ້າສົ່ງອອກບໍ່ລວມເອົາການກັກກັນສັດຕູພືດ.

ໂຄງສ້າງຂອງສະຖາບັນ ດ້ານສຸຂານາໄມ SPS ໃນລາວ ແມ່ນຍັງຈຳກັດ. ຄວາມອາດສາດໃນການວິເຄາະ ແລະ ວິນິດໄສ ບາງມາດຖານພື້ນຖານ ແມ່ນຍັງບໍ່ທັນພຽງພໍ. ໃນ ສປປ ລາວ ບໍ່ມີຫ້ອງທົດລອງໃດ ທີ່ໄດ້ຮັບການຮັບຮອງ ISO 17025. ຍັງຂາດເຂີນພະນັກງານ ແລະ ເງິນທຶນໃນການດຳເນີນງານ, ນີ້ແມ່ນຂໍ້ຈຳກັດທີ່ສຳຄັນ ສຳລັບການເຮັດວຽກຂອງຫ້ອງທົດລອງ ແລະ ການພັດທະນາທັກສະການກວດສອບ ແລະ ການວິໄຈ. ຍິ່ງໄປກວ່ານັ້ນ, ຫ້ອງທົດລອງຍັງບໍ່ມີຢູ່ໃນແຂວງ, ເມືອງ, ເຮັດໃຫ້ເກີດມີຄ່າໃຊ້ຈ່າຍໃນການເຮັດທຸລະກຳ ຂອງພໍ່ຄ້າທີ່ບໍ່ໄດ້ຢູ່ໃນນະຄອນຫຼວງ. ບໍ່ມີລະບົບດິຈິຕອນໃນພື້ນທີ່ ສຳລັບດ້ານສຸຂານາໄມ SPS ຫຼື ລະບົບກວດສອບຄົນ, ເຊິ່ງມີແຕ່ການຄຸ້ມຄອງໂດຍຜ່ານເຈ້ຍເອກະສານ.

## ຕ້ອງໂສ້ມູນຄ່າການສົ່ງອອກກະສິກຳ – ຂໍ້ຈຳກັດໃນການມີສ່ວນຮ່ວມຂອງຜູ້ຜະລິດຂະໜາດນ້ອຍ

ລະບົບຕ້ອງໂສ້ມູນຄ່າໃນ ສປປ ລາວ ມີຄວາມກະແຈກກະຈ່າຍ ແລະ ການຈັດຕັ້ງບໍ່ຄ່ອຍດີ, ເຊິ່ງເປັນປັດໃຈຫຼັກທີ່ພາໃຫ້ຕົ້ນທຶນທຸລະກຳສູງຂຶ້ນ, ຜົນກຳໄລແມ່ນລົດລົງ ແລະ ສະພາບການຈ້າງງານທີ່ບໍ່ດີໃນຂະແໜງການ. ຕ້ອງໂສ້ມູນຄ່າກະສິກຳລວມເຖິງການແຍກໂຕອອກຈາກກັນເປັນຈຳນວນຫຼາຍ, ເປັນຜູ້ຜະລິດຂະໜາດນ້ອຍ; ຜູ້ເຮັດການປຸງແຕ່ງລະຫວ່າງກາງບໍ່ມີທຶນຮອນພຽງພໍ ແລະ ຂ້ອນຂ້າງໜ້ອຍທຸລະກິດກະສິກຳ ທີ່ມີຄວາມສາມາດໃນການລົງທຶນ ໃນລະບົບດິຈິຕອນ ຫຼື ໂຄງສ້າງພື້ນຖານການຜະລິດທີ່ທັນສະໄຫມ. ດັ່ງນັ້ນ, ທຸກພາກສ່ວນຂອງລະບົບຕ້ອງໂສ້ມູນຄ່າ - ການຜະລິດ, ການລວບລວມ, ການປຸງແຕ່ງ ແລະ ການຈຳໜ່າຍເພື່ອສົ່ງອອກ ແລະ ຕະຫຼາດພາຍໃນ - ຂາດການຈັດການ ແລະ ຂະໜາດການຄ້າ ແລະ ລາຍໄດ້ ໃນຂະແໜງການແມ່ນຈຳກັດ.

ຂະແໜງການດັ່ງກ່າວ ຍັງກະແຈກກະຈ່າຍ ແລະ ຍັງສ້າງຄວາມຫຍຸ້ງຫຍາກໃຫ້ຜູ້ຜະລິດ ແລະ ພໍ່ຄ້າຂະໜາດນ້ອຍ ທີ່ຈະປະຕິບັດຕາມ ມາດຕະຖານຂອງ ອາຫານປອດໄພ - ໂດຍສະເພາະມາດຕະຖານຂອງຈີນ - ສະນັ້ນ ມີຄວາມຈຳເປັນໃນການເຂົ້າຮ່ວມ ເຮັດການຄ້າຢູ່ໃນລະບົບທີ່ເປັນທາງການ. ນອກຈາກນັ້ນ, ໂຄງປະກອບຂອງສະຖາບັນທີ່ບໍ່ພຽງພໍ ໃນການສະໜັບສະໜູນການປະຕິບັດ



ຕາມ ດ້ານສຸຂານາໄມ SPS ທີ່ສົ່ງຜົນໃຫ້ ຄ່າໃຊ້ຈ່າຍໃນການເຮັດທຸລະກຳສູງຂຶ້ນ, ປະເຊີນກັບຄ່າໃຊ້ຈ່າຍໃນການຂົນສົ່ງ ແລະ ລະບຽບການສູງ ສຳລັບຜູ້ສົ່ງອອກ. ໃນລະດັບການຜະລິດ, ມີຫຼາຍບັນຫາທີ່ກ່ຽວຂ້ອງກັບການນຳໃຊ້ ການປ້ອງກັນສັດຕູພືດແບບ ປະສົມປະສານ (IPM) ທີ່ບໍ່ດີ ແລະ ເປັນສິ່ງຂັດຂວາງຄວາມພະຍາຍາມຂອງຊາວກະສິກອນ ເພື່ອປະຕິບັດຕາມມາດຕະຖານຂອງ ຈີນ. ນອກຈາກນັ້ນ, ຂັ້ນຕອນການສົ່ງອອກແມ່ນພາລະໜັກໜ່ວງ.

ຂໍ້ຈຳກັດອີກອັນໜຶ່ງ ແມ່ນການຂາດສະພາບແວດລ້ອມທີ່ເອື້ອອຳນວຍສຳລັບການລົງທຶນຂອງພາກເອກະຊົນ. ພາກເອກະຊົນມີ ບົດບາດສຳຄັນ ໃນການອຳນວຍຄວາມສະດວກ ໃນການເຊື່ອມໂຍງ ໃນສິ່ງທີ່ເຮັດຜ່ານມາ ແລະ ສິ່ງທີ່ຈະເຮັດໄປຂ້າງໜ້າ ໃນລະບົບ ຕ່ອງໂສ້ມູນຄ່າ, ແຕ່ສະພາບແວດລ້ອມທາງດ້ານນິຕິກຳ ແລະ ລະບຽບການ ໃນ ສປປ ລາວ ຍັງບໍ່ເອື້ອອຳນວຍໃຫ້ແກ່ການລົງທຶນ ຂອງພາກເອກະຊົນໃນຂະແໜງກະສິກຳ. ການພັດທະນາຕ່ອງໂສ້ມູນຄ່າຍັງຖືກຂັດຂວາງ ດ້ວຍການເຂົ້າເຖິງສິນເຊື່ອທີ່ຈຳກັດ.

### ການສະຫຼຸບ ແລະ ຄຳແນະນຳ

ສປປ ລາວ ຍັງມີທ່າແຮງຫຼາຍຢ່າງ ທີ່ເພີ່ມການສົ່ງອອກກະສິກຳ, ເນື່ອງຈາກວ່າຄວາມຕ້ອງການຜະລິດຕະພັນກະສິກຳຂອງລາວມີ ແນວໂນ້ມທີ່ຈະຂະຫຍາຍຕົວຢ່າງຕໍ່ເນື່ອງ ໂດຍການເຊື່ອມຕໍ່ພາກພື້ນທີ່ໄດ້ມີການປັບປຸງ, ແຕ່ມັນຈະຕ້ອງແກ້ໄຂຂໍ້ຈຳກັດຈຳນວນ ຫນຶ່ງ. ໃນຕະຫຼາດພາກພື້ນ, ຄວາມຕ້ອງການຜະລິດຕະພັນກະສິກຳ ແມ່ນມີການຂະຫຍາຍຕົວສຳລັບ ຜະລິດຕະພັນຄຸນນະພາບສູງ, ມີຄວາມປອດໄພສຳລັບຜູ້ບໍລິໂພກ, ແລະ ຄວາມຍືນຍົງຕໍ່ສິ່ງແວດລ້ອມ. ພ້ອມກັນນັ້ນ, ການເຊື່ອມຕໍ່ພາຍໃນປະເທດ ແມ່ນໄດ້ຮັບ ການປັບປຸງ ເຊິ່ງມີທ່າອ່ຽງຊຸກຍູ້ຄວາມຕ້ອງການພາຍໃນປະເທດ. ເຖິງຢ່າງໃດກໍຕາມ, ຍັງມີບາງບັນຫາພື້ນຖານໂຄງລ່າງ, ສະຖາບັນ ແລະ ນະໂຍບາຍທີ່ສຳຄັນທີ່ຍັງຕ້ອງໄດ້ແກ້ໄຂ ກ່ອນທີ່ຜູ້ປະກອບການຂະໜາດນ້ອຍຈະສາມາດນຳໃຊ້ປະໂຫຍດ ຈາກການເຊື່ອມຕໍ່ທີ່ ດີຂຶ້ນ ເພື່ອເຊື່ອມໂຍງເຂົ້າໃນຕ່ອງໂສ້ມູນຄ່າການສົ່ງອອກ ແລະ ພາຍໃນປະເທດ. ການສຶກສານີ້ ໄດ້ສະເໜີບາງຂໍ້ແນະນຳ ເພື່ອສົ່ງເສີມ ການລວມກຸ່ມ ຜູ້ຜະລິດຂະໜາດນ້ອຍ ໃຫ້ຫຼາຍຂຶ້ນ ໃນຕ່ອງໂສ້ມູນຄ່າຂອງພາກພື້ນ ແລະ ສາກົນ. ສິ່ງເຫຼົ່ານີ້ລວມມີ: (i) ການສ້າງ ຄວາມເຂັ້ມແຂງການປະສານງານຕາມສາຍຕັ້ງ ແລະ ສາຍຂວາງ ສຳລັບການລວມເອົາຜູ້ຜະລິດຂະໜາດນ້ອຍ; (ii) ປັບປຸງຜະລິດ ຕະພາບ ແລະ ການຄ້າ ເພື່ອຊ່ວຍໃຫ້ຜູ້ຜະລິດຂະໜາດນ້ອຍເຊື່ອມໂຍງເຂົ້າກັບຕ່ອງໂສ້ມູນຄ່າການສົ່ງອອກ; (iii) ເພີ່ມທະວີການ ອຳນວຍຄວາມສະດວກທາງດ້ານການຄ້າ ແລະ ການບໍລິການທີ່ກ່ຽວຂ້ອງກັບ ສຸຂານາໄມ ສັດ ແລະ ພືດ (SPS) ເພື່ອສົ່ງເສີມການ ສົ່ງອອກກະສິກຳ; (iv) ປັບປຸງການເຊື່ອມຕໍ່ ຜູ້ຈັດສົ່ງສິນຄ້າ ແລະ ຜູ້ມອບສົ່ງຜົນຜະລິດຈາກຟາມ, ການບໍລິການຂົນສົ່ງ ແລະ ສົ່ງ ອຳນວຍຄວາມສະດວກກ່ຽວຂ້ອງທາງດ້ານການຄ້າ; ແລະ (v) ສົ່ງເສີມການລົງທຶນຂອງພາກເອກະຊົນໃຫ້ເພີ່ມຂຶ້ນ.

### ເພີ່ມທະວີ ການປະສານງານທາງສາຍຕັ້ງ ແລະ ຂວາງ ສຳລັບການຮວມຕົວຂອງຜູ້ຜະລິດ ຂະໜາດນ້ອຍ

ການຈັດຕັ້ງຊາວກະສິກອນເຂົ້າເປັນກຸ່ມຜູ້ຜະລິດ, ສົ່ງເສີມການຜະລິດກະສິກຳແບບສັນຍາຜູກພັນສອງສິ້ນ ແລະ ວິທີການເປັນຄູ່ ຮ່ວມໃນການຜະລິດທີ່ມີປະສິດທິພາບ ເພື່ອສະໜອງໂອກາດໃຫ້ຊາວກະສິກອນຂະໜາດນ້ອຍໄດ້ຮັບການປັບປຸງການເຂົ້າເຖິງ ຕະຫຼາດ ແລະ ການບໍລິການດ້ານກະສິກຳ.

**ສົ່ງເສີມການປະສານງານຕາມສາຍຂວາງ ໂດຍຜ່ານອົງການຈັດຕັ້ງຜູ້ຜະລິດ.** ການຈັດຕັ້ງຊາວກະສິກອນຂະໜາດ ນ້ອຍເຂົ້າເປັນອົງກອນຜູ້ຜະລິດ, ລວມທັງສະຫະກອນ ແລະ ກຸ່ມທີ່ຊ່ວຍຕົນເອງສາມາດຊ່ວຍສະມາຊິກໃນການເຂົ້າເຖິງຕະຫຼາດ, ສິນເຊື່ອ, ແລະ ໃຫ້ຄ່າປຶກສາ ແລະ ການບໍລິການດ້ານວິຊາການ. ການລວບລວມຜູ້ຜະລິດຂະໜາດນ້ອຍເຂົ້າໄປໃນອົງກອນ ຜູ້ຜະລິດ ແມ່ນມີຜົນປະໂຫຍດຫຼາຍຢ່າງ. ຕົວຢ່າງ: ອະນຸຍາດໃຫ້ມີການສະໜອງໃນປະລິມານຫຼາຍກວ່າທີ່ຈະເປັນໄປໄດ້. ໃນ ຂະນະທີ່ຜູ້ປຸງແຕ່ງ ແລະ ຜູ້ຊື້ອື່ນໆເຊິ່ງກຳລັງຊອກຫາຊາວກະສິກອນທີ່ສາມາດສົ່ງຜົນຜະລິດໄດ້ຢ່າງພຽງພໍໃນເວລາທີ່ເໝາະສົມ ແລະ ມີຄຸນນະພາບທີ່ຕ້ອງການ, ເຂົາເຈົ້າບໍ່ຕ້ອງການທີ່ຈະປະສານກັບ ຊາວກະສິກອນ ເປັນລາຍບຸກຄົນ ເປັນຮ້ອຍເປັນພັນ. ການ ສົ່ງຊື້ສິນຄ້າ ສາມາດສະເໜີຈຸດສູນກາງ ໃນການຕິດຕໍ່, ເຊິ່ງຫຼຸດຜ່ອນຄ່າໃຊ້ຈ່າຍ ໃນການເຮັດທຸລະກຳສຳລັບຜູ້ຊື້ ແລະ ຍັງສາມາດ ຈັດໃຫ້ມີກິດຈະກຳ ໃນຂອດບໍລິການວ່າງກາງອີກ ເຊັ່ນ: ການຂົນສົ່ງ, ການເກັບຮັກສາ, ການຄວບຄຸມຄຸນນະພາບ ແລະ ການປຸງ ແຕ່ງຂັ້ນຕອນທຳອິດ (ເຊັ່ນ: ການອົບເຂົ້າເປືອກ). ການລວບລວມທຸກຂະບວນການນີ້ ຍັງສາມາດປັບປຸງການຂົນສົ່ງ ແລະ ຫຼຸດ ຜ່ອນຄ່າໃຊ້ຈ່າຍໃນການຂົນສົ່ງ. ສາມາດກຳນົດເວລາການເກັບກ່ຽວໄດ້ ເພື່ອບໍ່ໃຫ້ມີການສູນເສຍເກີດຂຶ້ນ ໃນຂະນະທີ່ຜົນຜະລິດ ທີ່ເກັບກ່ຽວໄດ້ລໍຖ້າການຂົນສົ່ງມາເອົາ. ສິ່ງທີ່ສາມາດປັບປຸງທີ່ຄ້າຍຄືກັນ ແມ່ນການສະໜອງວັດຖຸນຳເຂົ້າກະສິກຳໃຫ້ທັນເວລາ.



ຢ່າງໃດກໍຕາມ, ເພື່ອໃຫ້ມີການສົ່ງຊື້ສິນຄ້າມີຄວາມໝັ້ນຄົງ, ມັນເປັນສິ່ງສໍາຄັນທີ່ຈະສະໜັບສະໜູນຄວາມເປັນມືອາຊີບຂອງພວກເຂົາ, ໂດຍສະເພາະແມ່ນການປົກຄອງຂອງອົງກອນເຂົາ, ການຈັດການ ແລະ ການບໍລິການເຖິງທີ່ຂອງພວກເຂົາ. ເຄື່ອງມືການວິໄຈຈະໄດ້ຮັບການພັດທະນາ ແລະ ນໍາໃຊ້ເພື່ອປົກປ້ອງສະຖານະຂອງການສົ່ງຊື້ສິນຄ້າ, ເພື່ອຈຸດປະສົງ ການປຽບທຽບຄວາມອາດສາມາດ ແລະ ການກວດສອບໃບຄໍາຮ້ອງການກູ້ຢືມສໍາລັບການລົງທຶນຮ່ວມໃນການສົ່ງຊື້. ການສ້າງຂີດຄວາມສາມາດທີ່ມີປະສິດທິພາບຂອງການສົ່ງຊື້ ຕ້ອງໃຊ້ເວລາຫຼາຍ ແລະ ການບັງຄັບໃຊ້ກົດໝາຍ. ໂຄງການຄວາມເປັນຜູ້ນໍາ ດ້ານທຸລະກິດກະສິກໍາຂອງກອງທຶນລະຫວ່າງປະເທດ(IFC) ແມ່ນຕົວຢ່າງໜຶ່ງທີ່ເຊື່ອມໂຍງ ການວິນິດໄສ ການສົ່ງຊື້, ການຝຶກອົບຮົມ, ແລະ ຄູ່ຝຶກສອນ.

**ສົ່ງເສີມການປະສານງານຕາມ ສາຍຕັ້ງ ໂດຍຜ່ານ ການເຮັດສັນຍາຜູກພັນສອງສິ້ນ.** ການເຮັດກະສິກໍາແບບສັນຍາຜູກພັນສອງສິ້ນ ແມ່ນວິທີໜຶ່ງເພື່ອຫຼຸດຜ່ອນຕົ້ນທຶນທຸລະກໍາ ທີ່ກ່ຽວຂ້ອງກັບການຈັດການຜະລິດຕະພັນກະສິກໍາ ແລະ ເຮັດນໍາຜົນຜະລິດອອກສູ່ຕະຫຼາດ. ໃນຂະນະທີ່ການເຮັດສັນຍາຜູກພັນສອງສິ້ນເຊິ່ງນໍາໂດຍພາກເອກະຊົນ, ການສະໜັບສະໜູນຂອງລັດ ສາມາດອໍານວຍຄວາມສະດວກໃນການຈັດການດັ່ງກ່າວ, ໂດຍການປັບປຸງສະພາບແວດລ້ອມທີ່ເອື້ອອໍານວຍ (ດ້ານນິຕິກໍາ, ຄຸນນະພາບຂອງໂຄງລ່າງພື້ນຖານ, ຕະຫຼາດການເງິນ, ແລະ ອື່ນໆ). ອໍານວຍຄວາມສະດວກໃນການພົວພັນ ແລະ ເຮັດທຸລະກໍານາຍຫນ້າລະຫວ່າງຄູ່ຮ່ວມຄ້າທີ່ມີທ່າແຮງ. ສ້າງຂອບເຂດກົດໝາຍກ່ຽວກັບສັນຍາຜູກພັນສອງສິ້ນ, ວາງແຮງຈູງໃຈດ້ານເສດຖະກິດ, ສ້າງຄວາມສາມາດດ້ານວິຊາການ, ສະຖາບັນ ແລະ ການໃຫ້ຄວາມຮູ້ ທີ່ກ່ຽວກັບຜົນປະໂຫຍດ ແລະ ຄວາມສ່ຽງທີ່ອາດເກີດຂຶ້ນ. ມາລິກໂກ, ໄທ, ແລະ ຫວຽດນາມ ໄດ້ສະເໜີປະສົບການທີ່ເປັນປະໂຫຍດໃນສັນຍາຜູກພັນສອງສິ້ນ. ການເຮັດສັນຍາຜູກພັນສອງສິ້ນໄດ້ຖືກປະຕິບັດຢູ່ໃນລາວ, ແຕ່ຜົນໄດ້ຮັບຍັງສັບສົນຢູ່. ໃນຂະນະທີ່ ໄດ້ຮັບການສະໜັບສະໜູນການຍົກສະມັດຕະພາບຜົນຜະລິດ, ຊາວກະສິກອນບາງຄົນລາຍງານວ່າການເປັນກໍາມະສິດຂອງເຂົາເອງໄດ້ຫັນໄປສູ່ການເປັນແຮງງານໃນຮົ່ວສວນ. ໃນການຕຽມການກັບຈຸດອ່ອນເຫຼົ່ານີ້ ໄດ້ຊື້ໃຫ້ເຫັນເຖິງຄວາມຈໍາເປັນ ໃນການທົບທວນຄືນບາງການຈັດການໃນປະຈຸບັນ ເພື່ອຮັບປະກັນວ່າ ການຈັດຕັ້ງປະຕິບັດ ແມ່ນມີລັກຊະນະທີ່ຍືນຍົງທາງດ້ານສັງຄົມ ແລະ ສິ່ງແວດລ້ອມ.

**ສົ່ງເສີມການປະສານງານຕາມ ສາຍຕັ້ງ ແລະ ສາຍຂວາງ ໂດຍຜ່ານຄູ່ຮ່ວມການຜະລິດທີ່ມີປະສິດທິພາບ:** ຄູ່ຮ່ວມການຜະລິດທີ່ມີປະສິດທິພາບ ແມ່ນເປັນອີກແນວທາງໜຶ່ງ ທີ່ຈະລວມເອົາຜູ້ຜະລິດຂະໜາດນ້ອຍຈໍານວນຫຼາຍ ແລະ ໃນເວລາດຽວກັນເຊື່ອມຕໍ່ພວກເຂົາ ເຂົ້າຫາຜູ້ຊື້ ແລະ ຜູ້ປຸງແຕ່ງ. ມັນປະກອບມີສາມຕົວລະຄອນຫຼັກ: ກຸ່ມຜູ້ຜະລິດຂະໜາດນ້ອຍທີ່ມີການຈັດຕັ້ງ, ຜູ້ເຮັດວິສາຫະກິດກະສິກໍາໃດໜຶ່ງ ຫຼື ຫຼາຍກວ່ານັ້ນ, ແລະ ພາກລັດ. ວິທີການດັ່ງກ່າວມີຈຸດມຸ້ງໝາຍເພື່ອສົ່ງເສີມຄູ່ຮ່ວມຜະລິດຕາມສາຍຂວາງ ລະຫວ່າງຜູ້ຜະລິດ ຈົນໄປເຖິງຄູ່ຮ່ວມການຜະລິດ ຕາມສາຍຕັ້ງລະຫວ່າງຜູ້ຜະລິດ ແລະ ຜູ້ຊື້. ໂດຍປົກກະຕິ, ຈະມີການລົງນາມໃນຂໍ້ຕົກລົງທາງທຸລະກິດ ລະຫວ່າງໜ່ວຍງານທີ່ຮັບຜິດຊອບແຜນງານ ຫຼື ໂຄງການ (ຕົວຢ່າງເຊັ່ນ ກະຊວງທີ່ກ່ຽວຂ້ອງ ຂອງລັດ), ຜູ້ມີຮຸ້ນສ່ວນໃນການຄ້າ, ຜູ້ໃຫ້ບໍລິການ, ແລະ ອົງກອນຈັດຕັ້ງຜູ້ຜະລິດ. ຂໍ້ຕົກລົງດັ່ງກ່າວໄດ້ກໍານົດຄຸນລັກສະນະຂອງຜະລິດຕະພັນ (ເຊັ່ນ: ແນວພັນທີ່ຈະປູກ), ປະລິມານທີ່ຈະຊື້, ວິທີການຜະລິດ, ແລະ ການຈັດການຂົນສົ່ງ (ເຊັ່ນ: ວິທີການ ແລະ ເວລາທີ່ຈະມອບສົ່ງຜະລິດຕະພັນ). ມັນຍັງກໍານົດວິທີການ ຕັ້ງລາຄາ ແລະ ການຈ່າຍເງິນ ແລະ ລະບຸການມີສ່ວນຮ່ວມຂອງຜູ້ຊື້ ເຊັ່ນ: ການສະໜອງວັດສະດຸນໍາເຂົ້າກະສິກໍາ ແລະ ການຊ່ວຍເຫຼືອດ້ານວິຊາການ. ແຜນງານສ່ວນໃຫຍ່ລວມມີການສະໜອງແຫຼ່ງທຶນຊ່ວຍເຫຼືອລ້າຈໍານວນໜຶ່ງ. ປົກກະຕິແລ້ວການຊ່ວຍເຫຼືອດ້ານເຕັກນິກ ເພື່ອແກ້ໄຂບັນຫາດ້ານວິຊາການ, ສ້າງສາຍພົວພັນລະຫວ່າງກຸ່ມຊາວກະສິກອນ ແລະ ບໍລິສັດ, ແລະ ບາງຄັ້ງຍັງຊ່ວຍເຫຼືອດ້ານພື້ນຖານໂຄງລ່າງ ແລະ ອຸປະກອນໂດຍໃຫ້ທຶນສົມທົບຮ່ວມກັນ (ຕົວຢ່າງ, ກ່ຽວຂ້ອງກັບຊົນລະປະທານ ຫຼື ການເກັບຮັກສາສິນຄ້າ) (ທະນາຄານໂລກ 2020d). ໂຄງການທີ່ກໍາລັງຈັດຕັ້ງປະຕິບັດຢູ່ ຂອງໂຄງການ ຜະລິດກະສິກໍາເປັນສິນຄ້າ ຢູ່ ສປປ ລາວ (LACP; P161473) ນໍາໃຊ້ວິທີການເປັນຄູ່ຮ່ວມການຜະລິດທີ່ມີປະສິດທິພາບ ແລະ ສະແດງໃຫ້ເຫັນວ່າ ຜູ້ຜະລິດກະສິກອນຂະໜາດນ້ອຍສາມາດເຊື່ອມໂຍງເຂົ້າກັບຕ່ອງໂສ້ມູນຄ່າ ເຂົ້າ, ພືດຜັກ ແລະ ສາລີໄດ້ສໍາເລັດຜົນ. ໂຄງການດັ່ງກ່າວ ລວມເຖິງການສະໜັບສະໜູນການລວມຕົວຂອງຊາວກະສິກອນເພື່ອຈັດຕັ້ງເປັນສະມາຄົມ ແລະ ສົ່ງເສີມກິດຈະກໍາກະສິກໍາໂດຍຜ່ານການຊ່ວຍເຫຼືອທຶນສົມທົບໃຫ້ລ້າ. ປະສົບການຂອງການເຊື່ອມໂຍງຕາມສາຍຂວາງ ແລະ ສາຍຕັ້ງເຫຼົ່ານີ້ ມີທ່າແຮງທີ່ຈະຂະຫຍາຍຕົວໃນປະເທດລາວຕື່ມອີກ

## **ປັບປຸງຜະລິດຕະພັນທາງດ້ານກະສິກໍາ ແລະ ການຄ້າ ເພື່ອຊ່ວຍໃຫ້ຜູ້ປະກອບການຂະໜາດນ້ອຍເຊື່ອມໂຍງເຂົ້າໃນຕ່ອງໂສ້ມູນຄ່າການສົ່ງອອກ.**

**ຂະຫຍາຍການກິດຈະກໍາ ແລະ ນໍາໃຊ້ກະສິກໍາອະສະລິຍະ ທາງດ້ານສະພາບດິນຟ້າອາກາດ (CSA) ໃນບັນດາຜູ້ຜະລິດຂະໜາດນ້ອຍ.** ມັນມີຄວາມຈໍາເປັນຕ້ອງສະໜັບສະໜູນ ການຮັບຮອງນໍາໃຊ້ກະສິກໍາອະສະລິຍະ ທາງດ້ານສະພາບດິນຟ້າອາກາດ (CSA) ໃຫ້ເພີ່ມຂຶ້ນໃນບັນດາຜູ້ເຮັດການຜະລິດກະສິກອນຂະໜາດນ້ອຍ ແລະ ເຕັກໂນໂລຢີທີ່ເໝາະ

ສົມກັບເຂດເສດຖະກິດກະສິກໍາ (AEZ). ການນໍາໃຊ້ເອົາແນວພັນທີ່ທົນທານຕໍ່ໄພແຫ້ງແລ້ງໃນພາກເໜືອ ແລະ ການຟື້ນຟູໂຄງສ້າງ ຊົນລະປະທານທີ່ເສຍຫາຍໃນພາກໃຕ້ ແລະ ພາກກາງ ແມ່ນມີຄວາມສໍາຄັນ ເພື່ອເສີມສ້າງຄວາມອາດສາມາດຂອງຊາວກະສິກອນ ຂະໜາດນ້ອຍ ໃນການປັບຕົວເຂົ້າກັບໄພອັນຕະລາຍຈາກດິນຟ້າອາກາດ (ເຊັ່ນ: ໄພແຫ້ງແລ້ງ ແລະ ໄພນໍ້າຖ້ວມ). ນອກຈາກນັ້ນ, ການຂະຫຍາຍ ການຈັດຕັ້ງປະຕິບັດກະສິກໍາອະສະລິຍະ ທາງດ້ານສະພາບດິນຟ້າອາກາດ ເຊັ່ນ: ການເຮັດປ່າໄມ້ກະສິກໍາ, ການ ຄຸ້ມຄອງທີ່ດິນ ແລະ ນໍ້າ ແບບຍືນຍົງ, ແລະ ການຈັດການແມງໄມ້ສັດຕູພືດແບບປະສົມປະສານ (IPM) ຈະຊ່ວຍໃຫ້ຜູ້ຜະລິດ ຂະໜາດນ້ອຍສາມາດຈັດການ ກັບສິ່ງທ້າທາຍຂອງການເຊາະເຈື່ອນຂອງດິນ, ການຂຸດໂຊມຂອງຄວາມອຸດົມສົມບູນຂອງດິນ ແລະ ການລະບາດຂອງແມງໄມ້ສັດຕູພືດ. ສະຖາບັນຄົ້ນຄວ້າກະສິກໍາ ແລະ ປ່າໄມ້ແຫ່ງຊາດ (NAFRI) ຄວນສືບຕໍ່ລົງທຶນໃນ ການຄົ້ນຄວ້າທີ່ກ່ຽວຂ້ອງ ເຊິ່ງລວມທັງວິທີການຫຼຸດຜ່ອນການປ່ອຍ ອາຍຜິດເຮືອນແກ້ວ ໃນການຜະລິດເຂົ້າ.

**ປັບປຸງຜະລິດການເສີມສ້າງຄວາມສາມາດ ໃນການເຮັດ ບໍລິການສົ່ງເສີມກະສິກໍາ ສໍາລັບ ກະສິກໍາອະສະລິຍະ ທາງດ້ານສະພາບດິນຟ້າອາກາດ (CSA), ກະສິກໍາທີ່ດີ (GAP), ແລະ ປະຕິບັດຕາມ ດ້ານສຸຂານາໄມ ພືດ ແລະ ສັດ (SPS)** ການສ້າງຄວາມສໍາເລັດເບື້ອງຕົ້ນບາງຢ່າງ ໃນການບໍລິການສົ່ງເສີມທາງອິເລັກໂທຣນິກ ແລະ ການຂະຫຍາຍຕົວຢ່າງ ວ່ອງໄວຂອງໂທລະສັບ ແລະ ອິນເຕີເນັດໃນມືຖື ໃນ ສປປ ລາວ, ໃນການສ້າງ ລະບົບເວບໄຊດິຈິຕອນເຫຼົ່ານີ້ ໄດ້ເຮັດໃຫ້ກົນໄກ ການບໍລິການສົ່ງເສີມໄປເຖິງສະຖານທີ່. ເຊັ່ນດຽວກັບໃນປະເທດຈີນ, ເກົາຫຼີ ແລະ ປະເທດເກນຢາ, ການລົງທຶນແບບດັ້ງເດີມ ໃນ ການຄົ້ນຄວ້າ ແລະ ພັດທະນາ(R&D) ແລະ ການບໍລິການສົ່ງເສີມກະສິກໍາ ສາມາດຂັບເຄື່ອນດ້ວຍເຄື່ອງມືດິຈິຕອລ ທີ່ຫາຊື້ໄດ້ ທົ່ວໄປ ແລະ ລາຄາຖືກ (ເຄື່ອງ ເຊັ່ນເຊີ ກວດດິນ ແລະ ນໍ້າ, ແຜນທີ່ ການລະບາດຂອງພະຍາດ ແລະ ສັດຕູພືດ ຜ່ານລະບົບ GPS ແລະ ເທັກໂນໂລຢີທາງພື້ນທີ່ພູມສາດ, ການໃຫ້ຄໍາປຶກສາທາງອິເລັກໂທຣນິກ (e-advisory). ແລະ ການຕັດສິນໃຈຂັບ ເຄື່ອນດ້ວຍການສະໜັບສະໜູນທາງລະບົບຖານຂໍ້ມູນ ເພື່ອເລັ່ງການປັບປຸງ ໄປສູ່ລະບົບກະສິກໍາອາຫານ<sup>2</sup> ທີ່ມີປະສິດທິຜົນ ຍືນຍົງ ຄວບຄຸມ ແລະ ຍັງມີກໍາໄລ. ນອກນັ້ນ, ລັດຖະບານຕ້ອງໄດ້ຈັດສັນແຫຼ່ງຊັບພະຍາກອນໃຫ້ພຽງພໍ ແລະ ພະນັກງານທີ່ມີ ຄຸນວຸດທິ ເພື່ອສ້າງຄວາມອາດສາມາດໃນການຍັງຢືນ ອິເລັກໂທຣນິກ ກະສິກໍາສະອາດ(GAP) ຂອງຕົນ ໂດຍສະເພາະຂັ້ນແຂວງ. ນອກຈາກນັ້ນ, ຍັງຕ້ອງຕ້ອງເຮັດການຝຶກອົບຮົມໃນການປະຕິບັດ ກະສິກໍາສະອາດ(GAP)ຫຼ້າສຸດໃຫ້ກັບພະນັກງານສົ່ງເສີມ, ເພື່ອໃຫ້ເຂົາເຈົ້າ ສາມາດຈັດການຝຶກອົບຮົມໃຫ້ແກ່ຜູ້ຜະລິດກະສິກໍາຂະໜາດນ້ອຍ ເພື່ອປະຕິບັດຕາມມາດຕະຖານ ຂອງໜ່ວຍ ງານຍັງຢືນຂອງລາວ (LCB). ນີ້ແມ່ນສິ່ງຈໍາເປັນ ສໍາລັບຜູ້ຜະລິດກະສິກໍາຂະໜາດນ້ອຍ ເພື່ອຕອບສະໜອງຄວາມຕ້ອງການ ທີ່ເພີ່ມຂຶ້ນ ໃນຕະຫລາດທັງພາຍໃນປະເທດ ແລະ ສິ່ງອອກ ເພື່ອຄວາມປອດໄພຂອງອາຫານ ແລະ ການປະຕິບັດຕາມ ຫຼັກການ ສຸຂານາໄມພືດ ແລະ ສັດ(SPS). ການປະຕິບັດ ກະສິກໍາສະອາດ (GAP) ໃນລະດັບຟາມທີ່ເຮັດການຜະລິດ ຍັງສາມາດປັບປຸງ ເງື່ອນໄຂການຈ້າງງານຂອງຊາວກະສິກອນ ແລະ ພະນັກງານປຸງແຕ່ງອາຫານກະສິກໍາອີກດ້ວຍ.

**ປັບປຸງການເຂົ້າເຖິງການ ບໍລິການຊົນລະປະທານຂອງຜູ້ຜະລິດຂະໜາດນ້ອຍ.** ໃນໄລຍະສັ້ນ ການສ້ອມແປງ ພື້ນຟູ ແລະ ຍົກລະດັບລະບົບຊົນລະປະທານ ແລະ ຄອງນໍ້າທີ່ໃຊ້ບໍ່ດີ ຫຼື ໄດ້ຮັບຄວາມເສຍຫາຍຈາກໄພນໍ້າຖ້ວມ 2018 ແລະ 2019 ແມ່ນມີ ຄວາມຈໍາເປັນຢ່າງຮີບດ່ວນ. ໃນໄລຍະຍາວ, ບາງຂົງເຂດ ຕ້ອງປະຕິບັດຄື: (1) ເພີ່ມທະວີການຄຸ້ມຄອງຊົນລະປະທານ ເພື່ອຮັບປະກັນ ວ່າ ມີຊັບພະຍາກອນທີ່ພຽງພໍໃນການດໍາເນີນງານ ແລະ ບໍາລຸງຮັກສາລະບົບຊົນລະປະທານ ແລະ (ii) ການປັບປຸງລະບົບຊົນລະປະທານ ໃຫ້ທັນສະໄໝ ລວມທັງການພັດທະນາລະບົບການເຊື່ອມໂຍງລະຫວ່າງ ການເປີດຄອງຊົນລະປະທານ ແລະ ລະບົບຄວາມກົດດັນ ຫຼື ເຄິ່ງຄວາມກົດດັນ; ການເຊື່ອມໂຍງຂອງໜອງໃນຟາມ ຫຼື ນໍ້າບັນດານ ເຂົ້າໃນລະບົບຄອງທີ່ມີຢູ່ແລ້ວ ເຊິ່ງຈະຊ່ວຍໃຫ້ຊາວກະສິກອນ ຂະໜາດນ້ອຍມີການຄວບຄຸມນໍ້າຢ່າງມີປະສິດທິພາບຫຼາຍຂຶ້ນ ແລະ ມີທາງເລືອກຫຼາຍຂຶ້ນໃນການປູກພືດໃນລະດູແລ້ງ ແລະ ປູກພືດ ນອກລະດູ ແລະ ການສົ່ງເສີມລະບົບພະລັງງານແສງຕາເວັນ ທີ່ສາມາດຫຼຸດຜ່ອນຄ່າໃຊ້ຈ່າຍໃນໂຄງການສູບນໍ້າໃນເຂດທົ່ງພຽງ, ເຊິ່ງເປັນ ປະໂຫຽດຂອງການຢູ່ດໍາລົງຊີວິດໃຫ້ຢູ່ຫຼອດ ທາງດ້ານເສດຖະກິດ ແລະ ເຮັດໃຫ້ການນໍາໃຊ້ເຄື່ອງສູບນໍ້າໄດ້ມີການຍືດຍຸນຫຼາຍຂຶ້ນ<sup>3</sup>.

**ຊ່ວຍ ໜູນຜູ້ຜະລິດຂະໜາດນ້ອຍເຂົ້າສູ່ຕະຫຼາດອິນຊີ ແລະ ເຊື່ອມໂຍງກະສິກໍາອິນຊີ ກັບການທ່ອງທ່ຽວກະສິກໍາ.** ສປປ ລາວ ມີໂອກາດທີ່ຈະກ້າວເຂົ້າສູ່ຕະຫຼາດສິ່ງອອກອິນຊີ ແລະ ຕະຫຼາດພາຍໃນປະເທດ. ລັດຖະບານສາມາດອໍານວຍຄວາມ ສະດວກມີໂດຍຜ່ານຍຸດທະສາດການລົງທຶນເພື່ອໃຫ້ຊາວກະສິກອນສາມາດເຂົ້າເຖິງຕະຫຼາດອິນຊີທີ່ໂດດເດັ່ນ; ລວມທັງການລົງທຶນໃນ: (ກ) ສົ່ງເສີມການນໍາໃຊ້ແນວພັນປັບປຸງ; (ບ) ການລວມເຂົ້າໃນການບໍລິການຂະຫຍາຍການນໍາໃຊ້ກະສິກໍາສະອາດ GAP / ວິທີການ ເຮັດຟາມກະສິກໍາອິນຊີ; ແລະ (ຄ) ເສີມສ້າງລະບົບການຍັງຢືນທີ່ກ່ຽວຂ້ອງ. ໃນໄລຍະກາງ, ເມື່ອການປະສານງານທັງ ສາຍຕັ້ງ ແລະ

<sup>2</sup> World Bank. 2020b. Beyond the pandemic: harnessing the digital revolution to set food systems on a better course. <https://www.worldbank.org/en/news/immersive-story/2020/08/06/beyond-the-pandemic-harnessing-the-digital-revolution-to-set-food-systems-on-a-better-course>.  
<sup>3</sup> IWMI and DOI, 2019. Irrigation Subsector Review.

ສາຍຂວາງມີຄວາມກ້າວໜ້າ, ຜູ້ຜະລິດຂະໜາດນ້ອຍສາມາດໄດ້ສະໜັບສະໜູນຈາກອົງການຈັດຕັ້ງຜູ້ຜະລິດຂອງຕົນເອງ, ລົງທຶນໃນ ວັດຖຸນໍາເຂົ້າ, ທັກສະ, ອຸປະກອນຫຼັງການເກັບກ່ຽວທີ່ຈໍາເປັນສໍາລັບກະສິກໍາອິນຊີ. ກະສິກໍາສີຂຽວ ແລະ ອິນຊີສາມາດຕິດພັນກັບ ຄວາມພະຍາຍາມຂອງລັດຖະບານໃນການພັດທະນາການທ່ອງທ່ຽວແບບນິເວດ ແລະ ການທ່ອງທ່ຽວກະສິກໍາ. ການທ່ອງທ່ຽວແບບ ກະສິກໍາ, ບາງຄັ້ງເອີ້ນວ່າ “ການພັກຢູ່ຟາມ” ຫຼື “ການທ່ອງທ່ຽວແບບຊຸມຊົນ”, ຊ່ວຍໃຫ້ນັກທ່ອງທ່ຽວໄດ້ສໍາຜັດກັບຊີວິດໃນຟາມ.

## ທະວີການອໍານວຍຄວາມສະດວກທາງດ້ານການຄ້າ ແລະ ການບໍລິການທີ່ກ່ຽວຂ້ອງກັບສຸ ຂານາໄມ SPS ເພື່ອສົ່ງອອກ

**ຄວາມງ່າຍດາຍຂອງຂະບວນການຜ່ານລະບົບປະຕູດຽວຂອງປະເທດ.** ການບໍລິການອໍານວຍຄວາມສະດວກທາງດ້ານ ການຄ້າຕ້ອງມີປະສິດທິພາບດີຂຶ້ນ ໂດຍສະເພາະການສໍາລະຕາມຊາຍແດນ. ປັບປຸງໃຫ້ປະສິດທິພາບໂດຍການເຮັດໃຫ້ຂັ້ນຕອນ ງ່າຍດາຍ, ຫຼຸດຜ່ອນຄວາມຕ້ອງການເອກະສານ, ແລະ ການປັບປຸງລະບົບການສໍາລະກ່ອນການສົ່ງອອກ ແລະ ການກວດກາຢູ່ ສະຖານທີ່ເຮັດການຜະລິດ ແລະ ສາງເກັບເຄື່ອງ ເພື່ອຫຼຸດຜ່ອນຄວາມຊັກຊ້າກວດກາຢູ່ດ່ານຊາຍແດນ.ເປີດການນໍາໃຊ້ໜ່ວຍງານ ສຸຂານາໄມ SPS ນໍາໃຊ້ລະບົບປະຕູດຽວ(NSW) ຈະຫຼຸດຜ່ອນເວລາໃນຂະບວນການປະກອບເອກກະສານ ແລະ ລົບລ້າງຄວາມ ຊ້າຊ້ອນຂອງລະບຽບການ ແລະ ການຄວບຄຸມຕາມຊາຍແດນ. ຄວນລະບຸເວລາສູງສຸດໃນການປ່ອຍເອກະສານອອກ.

**ການຫັນເປັນດິຈິຕອນຂອງຂະບວນການສຸຂານາໄມ(SPS).** ການເຊື່ອມຕໍ່ທາງດິຈິຕອນ ແລະ ເອເລັກໂຕຣນິກຂອງຂະ ບວນການ SPS ຈະອະນຸຍາດໃຫ້ມີການເຂົ້າເຖິງໄດ້ງ່າຍຂຶ້ນ ກັບບັນທຶກຖານຂໍ້ມູນກະສິກໍາ (ຜູ້ຜະລິດ/ຂໍ້ມູນຜູ້ຄ້າຂາຍ, ປະເພດ ຂອງການຜະລິດກະສິກໍາ) ການກວດສອບຄົນ ທີ່ມີປະສິດທິພາບຂອງການຜະລິດ ແລະ ການຄ້າກະສິກໍາ; ແລະ ການອອກໃບຢັ້ງຢືນ SPS ຢູ່ດ່ານຊາຍແດນ. ການຫັນເປັນລະບົບຕ້ອງໄດ້ມີຄ່າດິຈິຕອລ ຈະສາມາດເພີ່ມການເຊື່ອມໂຍງ ແລະ ການກວດກາຄົນຈາກ ການຜະລິດ ໄປສູ່ການສົ່ງອອກ ແລະ ການແຈກຢາຍ. ສາມາດການກໍານົດແຫຼ່ງບັນຫາຢ່າງໄວວາ ເມື່ອກວດພົບສັດຕູພືດ, ແລະ ສະຖານທີ່ຂອງພວກເຂົາຢູ່ ໃນລະບົບຕ້ອງໄດ້ສ້າງການສະໜອງທີ່ມີປະສິດທິພາບຕໍ່ໂອກາດຕະຫຼາດໃຫມ່ ແລະ ການປັບປຸງຂໍ້ມູນ ຂ່າວສານກ່ຽວກັບປະຕູການຄ້າຂອງລາວ ຢ່າງເປັນປົກກະຕິກ່ຽວກັບຂໍ້ກໍານົດດ້ານວິຊາການ ແລະ ຂໍ້ມູນຕະຫຼາດ ແລະ ລາຄາເປັນ ປະຈໍາ.

**ການສ້າງຄວາມອາດສາມາດໃຫ້ພະນັກງານ SPS ແລະ ການລົງທຶນໃນສິ່ງອໍານວຍຄວາມສະດວກທີ່ທົດສອບ SPS.** ການສ້າງຄວາມສາມາດ ຫ້ອງທິດລອງສໍາລັບ ການວິເຄາະສານເຄມີ ຂອງອາຫານ ແລະ ສານເຄມີກະສິກໍາ ແມ່ນສໍາຄັນສໍາ ລັບການບັນລຸມາດຕະຖານສາກົນ (ISO 17025) ສໍາລັບການຢັ້ງຢືນສຸຂານາໄມ SPS. ສິ່ງອໍານວຍຄວາມສະດວກເຫຼົ່ານີ້ຄວນຈະ ໃຫ້ຊາວກະສິກອນ ແລະ ພໍ່ຄ້າຢູ່ແຂວງຕ່າງໆ ສາມາດເຂົ້າເຖິງໄດ້. ພະນັກງານ ພະແນກກະສິກໍາ ແລະ ປ່າໄມ້ແຂວງ, ແລະ ເມືອງ ຕ້ອງໄດ້ຮັບການຝຶກອົບຮົມດ້ານການກວດກາ ພືດ ແລະ ສັດ ແລະ ການຢັ້ງຢືນສຸຂານາໄມ SPS.

**ປັບປຸງການປະສານງານຜ່ານຄະນະກໍາມາທິການອໍານວຍຄວາມສະດວກດ້ານການຄ້າແຫ່ງຊາດ(NTFC).** ການປະສານງານລະຫວ່າງກະຊວງ ຄວນໄດ້ຮັບການສົ່ງເສີມ ໂດຍຜ່ານຄະນະກໍາມະການອໍານວຍຄວາມສະດວກດ້ານການ ຄ້າແຫ່ງຊາດ(NTFC), ເຊິ່ງກໍານົດການປະຕິຮູບລະບຽບການ, ແລະ ສົ່ງເສີມການປັບປຸງໃຫ້ມີປະສິດທິພາບຂຶ້ນ ແລະ ປ່ຽນ ຂະບວນການສະໝັກ ແລະ ອະນຸມັດ ຂອງໜ່ວຍງານລະບຽບການເປັນ ດິຈິຕອລ.

## ປັບປຸງການເຊື່ອມຕໍ່ ຜູ້ຈັດສົ່ງສິນຄ້າ ແລະ ຜູ້ມອບສົ່ງຜະລິດຕະພັນຈາກຟາມ ດ້ວຍການ ເພີ່ມມູນຄ່າ ແລະ ການບໍລິການອໍານວຍຄວາມສະດວກທາງດ້ານການຄ້າ

**ການລົງທຶນໃນການເຊື່ອມຕໍ່ ຜູ້ຈັດສົ່ງສິນຄ້າ ແລະ ຜູ້ມອບສົ່ງຜະລິດຕະພັນຈາກຟາມ, ການຂົນສົ່ງ ແລະ ເພີ່ມມູນຄ່າການບໍລິການ.** ຍ້ອນວ່າການເຊື່ອມໂຍງໃນຊົນນະບົດ ຍັງຄົງເປັນໜຶ່ງໃນບັນດາຂໍ້ຈໍາກັດທີ່ສໍາຄັນ ໃນການເຊື່ອມ ຕໍ່ຟາມເຮັດກັບຕະຫຼາດຕາມແລວເສດຖະກິດ, ໃນນັ້ນຈຶ່ງມີຄວາມຈໍາເປັນໃນການລົງທຶນ, ໂດຍການມີສ່ວນຮ່ວມຂອງພາກເອກະ, ເພື່ອພັດທະນາການບໍລິການ ແລະ ສິ່ງອໍານວຍຄວາມສະດວກ(ທ່າບົກ ແລະ ສະຖານນິຂົນສົ່ງສິນຄ້າ)ເປັນສໍາຄັນ. ສໍາລັບການ ລວມສິນຄ້າ. ນອກຈາກການຂົນສົ່ງແບບດັ້ງເດີມແລ້ວ, ຍັງມີຄວາມຕ້ອງການສົ່ງເສີມການລົງທຶນຂອງເອກະຊົນຫຼາຍຂຶ້ນໃນການ ບໍລິການທີ່ມີມູນຄ່າເພີ່ມ ເຊັ່ນ: ລະບົບຕ້ອງໄສ້ງ ຫ້ອງແຊ່, ການປຸງແຕ່ງ ແລະ ໂຮງເຮືອນຫຸ້ມຫໍ່. ຄວາມຕ້ອງການບໍລິການມູນເພີ່ມ ມູນຄ່າ ຄາດສ່າຈະເພີ່ມຂຶ້ນ ແລະ ການບໍລິການຈໍານວນຫຼາຍຕ້ອງປັບໄປຕາມຄວາມຕ້ອງການຂອງຜະລິດຕະພັນ.

### ສົ່ງເສີມການລົງທຶນຂອງພາກເອກກະຊົນໃຫ້ເພີ່ມຂຶ້ນ

**ປັບປຸງກອບນະໂຍບາຍການມີສ່ວນຮ່ວມຂອງພາກເອກກະຊົນໃນຕ່ອງໂສ້ມູນຄ່າເພີ່ມ.** ເພື່ອສະໜັບສະໜູນການພັດທະນາລະບົບຕ່ອງໂສ້ມູນຄ່າເພີ່ມ ແລະ ປັບປຸງຜະລິດຕະພັນ ແລະ ຄຸນນະພາບ. ສປປ ລາວ ຕ້ອງສ້າງລະບຽບການ ທີ່ເໝາະສົມໃນການຈັດການ ເມັດພັນ, ການຂົນທະບຽນຜຸ່ນ, ການລ້ຽງສັດ, ແລະ ເພີ່ມຄວາມສະດວກໃນການເຂົ້າເຖິງແຫຼ່ງທຶນ. ໃນຄະນະດຽວກັນນັ້ນ, ລັດຖະບານຄວນປັບປຸງການຕິດຕາມກວດກາ ການລົງທຶນຂອງພາກເອກກະຊົນໃນຕ່ອງໂສ້ມູນຄ່າກະສິກໍາ ຕາມມາດຕະການປົກປ້ອງ ສະພາບແວດລ້ອມ ແລະ ສັງຄົມ. ຕໍ່ອອດຈາກປະສົບການທີ່ມີຜົນສໍາເລັດໂດຍ ການເຈລະຈາ ລະຫວ່າງພາກລັດ ແລະ ເອກກະຊົນ (PPD) ໃນເມືອງໃຫຍ່. ການເຈລະຈາ ລະຫວ່າງພາກລັດ ແລະ ເອກກະຊົນ ໃນລະດັບແຂວງ ແລະ ເມືອງ ແມ່ນມີຄວາມຈໍາເປັນເພື່ອສະເໜີໃຫ້ຜູ້ມີໂອກາດມີສ່ວນຮ່ວມໃນລະບົບຕ່ອງໂສ້ມູນຄ່າ ສາມາດຕອບສະໜອງ, ລະບຸຄວາມຕ້ອງການ ແລະ ອຸປະສັກແລະຄົ້ນຫາໂອກາດໃນການເປັນຮຸ້ນສ່ວນ.

**ສົ່ງເສີມການເຂົ້າເຖິງການເງິນກະສິກໍາສໍາລັບຜູ້ຖືຂະໜາດນ້ອຍ.** ປະຈຸບັນ ຄວາມພະຍາຍາມຂອງລັດຖະບານໃນການປັບປຸງການຄຸ້ມຄອງທີ່ດິນໃຫ້ທັນສະໄໝ ແລະ ຂະຫຍາຍການຂົນທະບຽນທີ່ດິນເພື່ອຂະຫຍາຍຜົນປະໂຫຍດຂອງສິດທີ່ດິນທີ່ໄດ້ຮັບການຮັບຮູ້ ຄວນໄດ້ຮັບການຂະຫຍາຍ ແລະ ເລັ່ງລັດໂດຍການຮຽນຮູ້ຈາກໄລຍະຕົ້ນຂອງການຈັດຕັ້ງປະຕິບັດ. ການປັບປຸງຄວາມປອດໄພດ້ານການຄອບຄອງນໍາໃຊ້ຈະເຮັດໃຫ້ຊາວກະສິກອນສາມາດນໍາໃຊ້ທີ່ດິນຂອງເຂົາເຈົ້າເປັນຄໍາປະກັນເພື່ອເພີ່ມທະວີການເຂົ້າເຖິງສິນເຊື້ອຂອງເຂົາເຈົ້າ. ດ້ານຄວາມຕ້ອງການ, ຊາວກະສິກອນທີ່ຂາດຄວາມຮູ້ດ້ານການເງິນຄວນໄດ້ຮັບການສະໜັບສະໜູນໃນການຮ້ອງຂໍເງິນກູ້

### ສັງລວມຄໍາແນະນໍາ

ບຸລິມະສິດ	ຂໍ້ແນະນໍາໃນການຈັດຕັ້ງປະຕິບັດ	ກະຊວງ/ອົງກອນ ທີ່ຮັບຜິດຊອບ
<p><b>1</b> ເສີມສ້າງຄວາມເຂັ້ມແຂງໃນການປະສານງານແບບ ຕາມສາຍຕັ້ງ ແລະ ສາຍຂວາງ ສໍາລັບກຸ່ມຊາວກະສິກອນລາຍຍ່ອຍ</p>	<p><b>ສົ່ງເສີມການພັດທະນາຂອງອົງກອນຜູ້ຜະລິດ</b> ສະໜັບສະໜູນ ການຂະຫຍາຍອົງກອນຜູ້ຜະລິດ (POs) ແລະ ສົ່ງເສີມການເປັນມືອາຊີບຂອງພວກເຂົາ. ອຸປະກອນການວິນິດໄສ ແລະ ຂໍ້ແນະນໍາສາມາດຖືກພັດທະນາໂດຍກວມເອົາຫົວຂໍ້ຕ່າງໆເຊັ່ນ: ການຄຸ້ມຄອງທຸລະກິດ ແລະ ການເງິນ, ຊັບພະຍາກອນມະນຸດ, ການມີສ່ວນຮ່ວມຂອງຊຸມຊົນ ແລະ ຜູ້ມີສ່ວນຮ່ວມ ແລະ ການບໍລິການສະມາຊິກ (ໄລຍະສັ້ນ-ST)</p> <p><b>ສົ່ງເສີມການເຮັດສັນຍາຜູກພັນສອງສິ້ນ</b> ປັບປຸງສະພາບແວດລ້ອມທີ່ເອື້ອອໍານວຍໃຫ້ແກ່ການເຮັດສັນຍາຜູກພັນສອງສິ້ນ ໂດຍອໍານວຍຄວາມສະດວກໃນການພົວພັນ ແລະ ການຊໍາລະຄ່ານາຍຫນ້າລະຫວ່າງຊາວກະສິກອນ ແລະ ຜູ້ຊື້, ສ້າງກອບນິຕິກໍາສໍາລັບການເຮັດສັນຍາຜູກພັນສອງສິ້ນ, ກໍານົດແຮງຈູງໃຈທາງດ້ານເສດຖະກິດ, ສ້າງຄວາມສາມາດດ້ານວິຊາການ ແລະ ສະຖາບັນ, ໃຫ້ຄວາມຮູ້ຊາວກະສິກອນ ແລະ ຜູ້ຊື້ກ່ຽວກັບຜົນປະໂຫຍດ ແລະ ຄວາມສ່ຽງທີ່ເປັນໄປໄດ້. (ໄລຍະສັ້ນ ST)</p>	<p>ກະຊວງກະສິກໍາ ແລະ ປ່າໄມ້ (MAF), ພະແນກກະສິກໍາ ແລະ ປ່າໄມ້ຂັ້ນແຂວງ (PAFO), ແລະ ຫ້ອງການກະສິກໍາ ແລະ ປ່າໄມ້ຂັ້ນເມືອງ (DAFO)</p>
	<p><b>ສົ່ງເສີມການຂະຫຍາຍຕົວ ຂອງຮູບແບບຄູ່ຮ່ວມຜະລິດທີ່ມີປະສິດຕິພາບ.</b> ສົ່ງເສີມການປະສານງານຂອງສາມຕົວລະຄອນຫຼັກຄື: ກຸ່ມຜູ້ຜະລິດຂະໜາດນ້ອຍທີ່ມີການຈັດຕັ້ງ, ວິສາຫະກິດກະສິກໍາໃດໜຶ່ງ ຫຼື ຫຼາຍກວ່ານັ້ນ, ແລະ ພາກລັດ. ລັດຖະບານຄວນຈັດຕັ້ງໂຄງການໂຄສະນາຂໍ້ມູນຂ່າວສານເພື່ອຍົກສູງຄວາມຮັບຮູ້ກ່ຽວກັບຮູບແບບຄູ່ຮ່ວມການຜະລິດທີ່ມີປະສິດຕິພາບ ລະຫວ່າງບັນດາອົງກອນຜູ້ຜະລິດ (PO) ແລະ ບໍລິສັດ ແລະ ອໍານວຍຄວາມສະດວກໃຫ້ແກ່ການເຊັນສັນຍາສາມຝ່າຍກັບກຸ່ມຊາວກະສິກອນ ແລະ ຜູ້ຊື້. ການສະໜອງທຶນຊ່ວຍເຫຼືອທີ່ເໝາະສົມຂອງລັດຖະບານ ຊ່ວຍໃນການສ້າງຄວາມອາດສາມາດຂອງອົງກອນຜູ້ຜະລິດ (PO) ແລະ ການສະໜັບສະໜູນທຶນດ້ານພື້ນຖານໂຄງລ່າງ ແລະ ອຸປະກອນທີ່ຈໍາເປັນ (ເຊັ່ນ: ການເກັບຮັກສານໍ້າໃນລະບົບຊົນລະປະທານ). (ໄລຍະສັ້ນ ST)</p>	

(ຕາຕະລາງສືບຕໍ່ໃນຫນ້າຕໍ່ໄປ)

ບຸລິມະສິດ	ຂໍ້ແນະນຳໃນການຈັດຕັ້ງປະຕິບັດ	ກະຊວງ/ອົງກອນ ທີ່ ຮັບຜິດຊອບ
<p><b>2</b> ປັບປຸງການຜະລິດ ແລະ ການຄ້າ ເພື່ອຊ່ວຍໃຫ້ ຊາວກະສິກອນລາຍ ຍ່ອຍ ຮ່ວມເຂົ້າກັບຕ່ອງ ໂສ້ມູນຄ່າການສົ່ງອອກ</p>	<p><b>ເສີມຂະຫຍາຍການຄົ້ນຄວ້າວິໄຈ ກະສິກຳ ອະສະລິຍະທາງດ້ານສະພາບດິນ ຟ້າອາກາດ.</b> ສືບຕໍ່ລົງທຶນເຂົ້າໃນການຄົ້ນຄວ້າ ກະສິກຳ ອະສະລິຍະທາງດ້ານສະພາບດິນ ຟ້າອາກາດ(CSA) ຜ່ານສະຖາບັນຄົ້ນຄວ້າກະສິກຳ ແລະ ປ່າໄມ້ແຫ່ງຊາດ (NAFRI), ລວມທັງວິທີການຫຼຸດຜ່ອນການປ່ອຍ ອາຍພິດເຮືອນແກ້ວ(GHG) ຈາກການຜະລິດເຂົ້າ ແລະ ການພັດທະນາແນວພັນ ທີ່ທົນທານຕໍ່ສະພາບດິນຟ້າອາກາດ (ໄພແຫ້ງແລ້ງ, ນ້ຳຖ້ວມ, ແນວພັນທົນທານ ຕໍ່ແມງໄມ້ແລະ ສັດຕູພືດ). ເພື່ອແກ້ໄຂບັນຫາການເຊາະເຈື່ອນ, ການ ຂຸດໂຊມຄວາມອຸດົມສົມບູນຂອງດິນ, ການປະຕິບັດກະສິກຳ ອະສະລິຍະທາງດ້ານສະພາບ ດິນຟ້າອາກາດ(CSAs) ເຊັ່ນ: ການປູກພືດແບບປ່າໄມ້ກະສິກຳ, ການຄຸ້ມຄອງທີ່ດິນ ແລະ ນ້ຳ ແບບຍືນຍົງ, ການປ້ອງກັນພືດແບບປະສົມປະສານ (IPM), ລະບົບການຄຸ້ມຄອງ ຊີນລະປະທານແບບທາງເລືອກ ປຽກສະຫຼັບແຫ້ງແຫ້ງ (AWD), ຄວນໄດ້ຮັບການ ຂະຫຍາຍຕື່ມອີກ ໂດຍຜ່ານການບໍລິການເສີມ.</p>	<p>ສະຖາບັນຄົ້ນຄວ້າ ກະສິກຳ ແລະ ປ່າໄມ້ ແຫ່ງຊາດ (NAFRI), ພະແນກກະສິກຳ ແລະ ປ່າໄມ້ຂັ້ນ ແຂວງ (PAFO), ແລະ ຫ້ອງ ການກະສິກຳ ແລະ ປ່າໄມ້ຂັ້ນ ເມືອງ (DAFO)</p>
	<p><b>ເສີມຂະຫຍາຍຄວາມສາມາດໃນການບໍລິການສົ່ງເສີມກະສິກຳສຳລັບການ ປະຕິບັດຕາມ ກະສິກຳ ອະສະລິຍະທາງດ້ານສະພາບດິນຟ້າອາກາດ(CSA), ກະສິກຳທີ່ດີ (GAP) ແລະ ການປະຕິບັດດ້ານ ສຸຂານາໄມ ພືດ ແລະ ສັດ (SPS).</b> ສົ່ງເສີມການນຳໃຊ້ຊ່ອງທາງດິຈິຕອນເພື່ອເສີມສ້າງການໃຫ້ສົ່ງເສີມການບໍລິການ, ລວມທັງ ເຄື່ອງມືດິຈິຕອນທີ່ຫາໄດ້ງ່າຍ ແລະ ລາຄາບໍ່ແພງ (ເຊັ່ນເຊີການທົດສອບດິນ ແລະ ນ້ຳ, ການ ເຮັດແຜນທີ່ພະຍາດ ແລະ ສັດຕູພືດຜ່ານ GPS ແລະ ເຕັກໂນໂລຢີພື້ນທີ່ພູມສາດ, ການໃຫ້ ຄຳແນະນຳທາງອິເຣັກໂຕຣນິກ ແລະ ລະບົບສະໜັບສະໜູນ ການຕັດສິນໃຈຂັບເຄື່ອນດ້ວຍ ການສະໜັບສະໜູນທາງລະບົບຖານຂໍ້ມູນ. ການບໍລິການຄວນປະກອບມີມາດຕະການ ແລະ ວິທີການທີ່ເໝາະສົມກັບຄວາມຕ້ອງການຂອງແມ່ຍິງ. ລັດຖະບານສາມາດຮ່ວມມືກັບ ພາກເອກະຊົນ/ອົງການຈັດຕັ້ງສາກົນ ເພື່ອສະໜອງການສົ່ງເສີມການບໍລິການທີ່ຄຳນຶງດ້ານ ບົດບາດຍິງ-ຊາຍໃຫ້ແກ່ຊາວກະສິກອນທັງຍິງ ແລະ ຊາຍ. (ໄລຍະສັ້ນ ST)</p> <p>ເພີ່ມທະວີຄວາມອາດສາມາດຂອງພະນັກງານໃນການຍິ່ງຍືນ ກະສິກຳທີ່ດີ GAP, ໂດຍ ສະເພາະຢູ່ຂັ້ນແຂວງ ແລະ ພະນັກງານສົ່ງເສີມໃຫ້ໄດ້ຮັບການຝຶກອົບຮົມໃນການປະຕິບັດ ກະສິກຳທີ່ດີ GAP ຫຼ້າສຸດ, ເພື່ອໃຫ້ເຂົາເຈົ້າສາມາດໄປຝຶກອົບຮົມໃຫ້ແກ່ຊາວກະສິກອນ ຂະໜາດນ້ອຍໃນການປະຕິບັດຕາມມາດຕະຖານອົງການ ການຍິ່ງຍືນຂອງລາວ (LCB). (ໄລຍະສັ້ນ ST)</p>	<p>ກະຊວງກະສິກຳ ແລະ ປ່າໄມ້ (MAF), ພະແນກຍິ່ງຍືນ ມາດຕະຖານ ລາວ(LCB), ກົມປູກຝັງ(DOA), ກະຊວງ ຊັບພະຍາກອນ ແລະ ສິ່ງແວດລ້ອມ (MONRE), ພະ ແນກກະສິກຳ ແລະ ປ່າໄມ້ຂັ້ນ ແຂວງ (PAFO), ແລະ ຫ້ອງ ການກະສິກຳ ແລະ ປ່າໄມ້ຂັ້ນ ເມືອງ (DAFO), ກະຊວງ ເຕັກໂນໂລຊີ ແລະ ການສື່ສານ (MTC)</p> <p>ພາກເອກະຊົນ/ອົງການຈັດຕັ້ງ ສາກົນ</p>
	<p><b>ປັບປຸງການເຂົ້າເຖິງການບໍລິການຊົນລະປະທານຂອງຊາວກະສິກອນລາຍຍ່ອຍ ສ້ອມແປງ, ພື້ນຟູ ແລະ ພັດທະນາລະບົບຊົນລະປະທານ ແລະ ຄອງນ້ຳທີ່ເປ່ເພ ຫຼື ໄດ້ຮັບ ຄວາມເສຍຫາຍຈາກໄພນ້ຳຖ້ວມ ແລະ ໄພພິບັດອື່ນໆ. (ໄລຍະສັ້ນ ST)</b></p> <p>ໃນໄລຍະກາງ, (ກ) ເພີ່ມທະວີການຄຸ້ມຄອງຊົນລະປະທານ ເພື່ອຮັບປະກັນຊັບພະຍາກອນ ໃຫ້ມີພຽງພໍສຳລັບການດຳເນີນງານ ແລະ ບຳລຸງຮັກສາ ລະບົບຊົນລະປະທານ ແລະ (ຂ) ສະໜັບສະໜູນການປັບປຸງລະບົບຊົນລະປະທານໃຫ້ທັນສະໄຫມ ຜ່ານການນຳໃຊ້ເອົາ ເຕັກໂນໂລຢີຊົນລະປະທານແບບໃໝ່ (ລະບົບຄວາມດັນ, ການສູບໂດຍໃຊ້ພະລັງງານແສງ ຕາເວັນ). (ໄລຍະກາງ-MT)</p>	<p>ກົມຊົນລະປະທານ (DOI), MAF</p>
	<p><b>ສົ່ງເສີມຊາວກະສິກອນລາຍຍ່ອຍໃຫ້ເຂົ້າເຖິງຕະຫຼາດກະສິກຳອິນຊີ ແລະ ການເຊື່ອມໂຍງກັບ ການທ່ອງທ່ຽວກະສິກຳ</b> ລົງທຶນໃນ: (ກ) ການສົ່ງເສີມການນຳໃຊ້ແນວພັນປັບປຸງ; (ຂ) ການຮັບປະກັນວ່າ ການບໍລິການ ສົ່ງເສີມໄດ້ໃຫ້ການຝຶກອົບຮົມການນຳໃຊ້ກະສິກຳທີ່ດີ GAP/ວິທີການປູກຝັງອິນຊີ; ແລະ (ຄ) ປັບປຸງ ລະບົບການຍິ່ງຍືນມາດຕະຖານ ລາວ LCB ແລະ ໃນຂັ້ນແຂວງ. (ໄລຍະສັ້ນ ST)</p> <p>ເຊື່ອມໂຍງກະສິກຳສີຂຽວ ແລະ ກະສິກຳອິນຊີ ໃຫ້ຕິດພັນກັບໂຄງການລັດຖະບານ ທ່ອງ ທ່ຽວແບບນິເວດ ແລະ ກະສິກຳທ່ອງທ່ຽວ. (ໄລຍະສັ້ນ ST)</p>	<p>ກະຊວງກະສິກຳ ແລະ ປ່າໄມ້ (MAF), ພະແນກຍິ່ງຍືນ ມາດຕະຖານ ລາວ(LCB), ກົມ ປູກຝັງ(DOA), ຂະແໜງສົ່ງເສີມ ຂອງ ແຂວງ (PAFO) ແລະ ເມືອງ (DAFO)</p>



ບຸລິມະສິດ	ຂໍ້ແນະນຳໃນການຈັດຕັ້ງປະຕິບັດ	ກະຊວງ/ອົງກອນ ທີ່ ຮັບຜິດຊອບ
<p><b>3</b> ເພີ່ມທະວີການອຳນວຍ ຄວາມສະດວກທາງ ດ້ານການຄ້າ ແລະການ ບໍລິການທີ່ກ່ຽວຂ້ອງກັບ ສຸຂະພາບ (SPS) ເພື່ອ ສົ່ງເສີມການສົ່ງອອກ ກະສິກຳ</p>	<p><b>ເຮັດໃຫ້ຂະບວນການສຸຂະພາບໄມ ພຶດ ແລະ ສັດ(SPS) ງ່າຍຂຶ້ນ ໂດຍຜ່ານ ລະບົບປະຕູດຽວ - National Single Window (NSW)</b> ດຳເນີນຂັ້ນຕອນສຳລັບ ກະຊວງກະສິກຳ- MAF ແລະ ກະຊວງສາທາລະນະສຸກ-MOH ເພື່ອເຂົ້າສູ່ ບົດບັນທຶກຄວາມເຂົ້າໃຈ (MOUs) ສຳລັບ ລະບົບຜ່ານປະຕູດຽວ(NSW), ແລະ ແນະນຳ ລະບົບຜ່ານປະຕູດຽວ(NSW) ກັບອົງການ ສຸຂະພາບໄມ(SPS) ທີ່ກ່ຽວຂ້ອງ (DOA/DLF ກົມປູກຝັງ/ກົມນິຕິກຳ ຂອງ ກະຊວງກະສິກຳ-MAF ແລະ ພະແນກອາຫານ ແລະ ຢາ - FDD- ກະຊວງສາທາລະນະສຸກ MOH) ເພື່ອຫຼຸດຜ່ອນເວລາໃນການຄົ້ນຄ້າວ ເອກະສານ ແລະ ກຳຈັດຄວາມຊ້າຊ້ອນໃນການຄວບຄຸມກົດລະບຽບຕາມດ່ານກວດກາຕາມ ຊາຍແດນ.</p>	<p>ກະຊວງກະສິກຳ ແລະ ປ່າໄມ້- MAF (ກົມປູກຝັງ-DOA ແລະ ກົມລ້ຽງສັດ-DLF), ກະຊວງ ສາທາລະນະສຸກ-MOH (ກົມ ອາຫານ ແລະ ຢາ FDD); ກະຊວງອຸດສາຫະກຳ ແລະ ການ ຄ້າ-MOIC (ກົມພາສີ , ກົມນຳ ເຂົ້າ ແລະ ສົ່ງອອກ), ກະຊວງ ໂຍທາ ແລະ ຄົມມະນາຄົມ -MPWT (ກົມຂົນສົ່ງ)</p>
	<p><b>ເຮັດໃຫ້ຂະບວນການສຸຂະພາບໄມ(SPS) ເປັນດິຈິຕອນ</b> ສະໜັບສະໜູນການຫັນເປັນດິຈິຕອນ ແລະ ການເຊື່ອມຕໍ່ເອເລັກໂຕຣນິກຂອງ ຂະບວນການສຸຂະພາບໄມ(SPS)ເພື່ອປັບປຸງການເຂົ້າເຖິງຂໍ້ມູນບັນທຶກສິນຄ້າກະສິກຳ, ຂໍ້ມູນ ຕະຫຼາດ ແລະ ລາຄາ; ເຮັດໃຫ້ສາມາດຕິດຕາມ ແລະ ກວດກາການຜະລິດ; ແລະ ການ ອອກໃບຢັ້ງຢືນສຸຂະພາບໄມ(SPS) ຢູ່ດ່ານຊາຍແດນ. (ໄລຍະສັ້ນ ST)</p>	<p>MAF, PAFO and DAFO, MOIC (ກົມພາສີ, ກົມນຳເຂົ້າ ແລະ ສົ່ງອອກ), ກະຊວງເຕັກໂນ ໂລຊີ ແລະ ການສື່ສານ (MTC)</p>
	<p><b>ການສ້າງຄວາມອາດສາມາດຂອງພະນັກງານ SPS ແລະການລົງທຶນໃນສິ່ງ ອຳນວຍຄວາມສະດວກໃນການທົດສອບ SPS.</b> ສ້າງຄວາມສາມາດໃຫ້ພະນັກງານກະສິກຳຂັ້ນແຂວງ ແລະ ເມືອງ ໃນການກວດກາ ພຶດ ແລະ ສັດ ແລະ ການຍິ່ງຢືນສຸຂະພາບໄມ(SPS). ພະນັກງານຄວນໄດ້ຮັບການຝຶກອົບຮົມກ່ຽວກັບ ກະສິກຳທີ່ດີ(GAP) ທີ່ເຂັ້ມງວດ ແລະ ຂໍ້ກຳນົດດ້ານວິຊາການອື່ນໆ, ໂດຍການຮ່ວມມືກັບ ພາກເອກະຊົນ. (ໄລຍະສັ້ນ-ໄລຍະກາງ ST-MT)</p> <p>ປັບປຸງອຸປະກອນ ແລະ ສິ່ງອຳນວຍຄວາມສະດວກຂອງທ້ອງຖິດລອງ ສຳລັບການວິເຄາະ ສານເຄມີ ໃນອາຫານ ແລະ ສານເຄມີກະສິກຳ ໃຫ້ໄດ້ມາດຕະຖານສາກົນ (ISO 17025) ເພື່ອການຍິ່ງຢືນສຸຂະພາບໄມ(SPS). ພະນັກງານກະສິກຳຂັ້ນແຂວງ ແລະ ເມືອງຄວນໄດ້ຮັບ ການຝຶກອົບຮົມດ້ານການກວດກາພຶດ ແລະ ສັດ ແລະ ການຍິ່ງຢືນ SPS. (ໄລຍະສັ້ນ-ໄລຍະກາງ ST-MT)</p>	<p>DOA ກົມປູກຝັງ ກປ MAF, DAFO ແລະ PAFO ທ້ອງຖານ ກປ ແຂວງ ແລະ ເມືອງ ສູນຄຸ້ມຄອງພຶດ ແລະ ວິໄຈ ສຸຂະພາບສັດ, MAF, ກົມ ອາຫານ ແລະ ຢາ, MOH</p>
	<p><b>ປັບປຸງການປະສານງານຜ່ານ ຄະນະກຳມະການອຳນວຍຄວາມສະດວກດ້ານ ການຄ້າ ແຫ່ງຊາດ NTFC</b> ສົ່ງເສີມການປະສານງານລະຫວ່າງກະຊວງທີ່ກ່ຽວຂ້ອງ ໂດຍຜ່ານ ຄະນະກຳມະການ ອຳນວຍຄວາມສະດວກດ້ານການຄ້າ ແຫ່ງຊາດ (NTFC), ເຊິ່ງກຳນົດການປະຕິຮູບ ລະບຽບການ, ແລະ ສົ່ງເສີມການປັບປຸງ ແລະ ຫັນໃຫ້ການນຳໃຊ້ ແລະ ຂະບວນການ ອະນຸມັດຂອງອົງການຄຸ້ມຄອງເປັນດິຈິຕອນ. (ໄລຍະສັ້ນ ST)</p>	<p>ຄະນະກຳມະການອຳນວຍຄວາມ ສະດວກດ້ານການຄ້າ ແຫ່ງຊາດ- NTFC, ກະຊວງກະສິກຳ ແລະ ປ່າໄມ້-MAF (DOA/ DLF ກົມປູກຝັງ/ກົມນະໂຍບາຍ ແລະ ນິຕິກຳ); ກະຊວງອຸດສາຫະກຳ ແລະ ການຄ້າ-MOIC (ກົມ ພາສີ, ກົມນຳເຂົ້າ ແລະ ສົ່ງອອກ - DIMEX)</p> <p>ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ (MPWT) (ກົມຂົນສົ່ງ); ກະຊວງສາທາລະນະສຸກ (ກົມ ອາຫານ ແລະ ຢາ)</p>

(ຕາຕະລາງສືບຕໍ່ໃນໜ້າຕໍ່ໄປ)

ບຸລິມະສິດ	ຂໍ້ແນະນຳໃນການຈັດຕັ້ງປະຕິບັດ	ກະຊວງ/ອົງກອນ ທີ່ ຮັບຜິດຊອບ
<p><b>4</b> ປັບປຸງການເຊື່ອມຕໍ່ ຜູ້ຈັດສົ່ງສິນຄ້າ ແລະ ຜູ້ມອບສົ່ງຜົນຜະລິດຈາກຟາມ, ການບໍລິການຂົນສົ່ງ ແລະ ສົ່ງອໍານວຍຄວາມສະດວກກ່ຽວຂ້ອງທາງດ້ານການຄ້າ</p>	<p><b>ລົງທຶນໃນການເຊື່ອມຕໍ່ ຜູ້ຈັດສົ່ງສິນຄ້າ ແລະ ຜູ້ມອບສົ່ງຜົນຜະລິດຈາກຟາມ, ການຂົນສົ່ງ ແລະ ການບໍລິການເພີ່ມມູນຄ່າ</b> ເພີ່ມການລົງທຶນຂອງລັດເພື່ອແກ້ໄຂຊ່ອງຫວ່າງໃນການເຊື່ອມຕໍ່ທາງໄກ (ເຊັ່ນ: ເສັ້ນທາງຊົນນະບົດ, ປັບປຸງການບໍາລຸງຮັກເສັ້ນທາງ). ສົ່ງເສີມການລົງທຶນຂອງພາກເອກະຊົນໃນການບໍລິການມູນຄ່າເພີ່ມເຊັ່ນ: ລະບົບທ້ອງແຊ່, ການປຸງແຕ່ງ ແລະ ການຫຸ້ມຫໍ່, ລວມທັງໂດຍຜ່ານໂຄງການຄູ່ຮ່ວມການຜະລິດທີ່ມີປະສິດຕິພາບ. (ໄລຍະສັ້ນ-ໄລຍະກາງ ST-MT)</p>	<p>ກະຊວງໂຍທາທິການ ແລະ ຂົນສົ່ງ</p>
<p><b>5</b> ສົ່ງເສີມການລົງທຶນຂອງພາກເອກະຊົນ</p>	<p><b>ປັບປຸງກອບນະໂຍບາຍ ການມີສ່ວນຮ່ວມຂອງພາກເອກະຊົນໃນຕ່ອງໂສ້ມູນຄ່າ</b> ລົບລ້າງຂໍ້ຈຳກັດໃນການສະໜອງເມັດພືດ, ເຮັດໃຫ້ການຂົນສົ່ງບຽນຝຸ່ນງ່າຍຂຶ້ນ, ສາມາດເຂົ້າເຖິງແຫຼ່ງທຶນ. ລັດຖະບານຄວນປັບປຸງການຕິດຕາມການລົງທຶນຂອງພາກເອກະຊົນໃນຕ່ອງໂສ້ມູນຄ່າກະສິກໍາ ໃຫ້ຕິດພັນກັບມາດຕະການປົກປ້ອງສິ່ງແວດລ້ອມ ແລະ ສັງຄົມ. (ST)</p>	<p>ກຸ່ມ MAF, ພະແນກ ກຸ່ມ ແຂວງ PAFO, ກະຊວງ ອຸດສາຫະກໍາ ແລະ ການຄ້າ MOIC, ກະຊວງ ແຜນການ ແລະ ການລົງທຶນ (ກົມສົ່ງເສີມການລົງທຶນ ແລະ ຫ້ອງການສົ່ງເສີມ ແລະ ຄຸ້ມຄອງເຂດເສດຖະກິດພິເສດ)</p>
	<p><b>ສົ່ງເສີມແຫຼ່ງທຶນກະສິກໍາສໍາລັບຊາວກະສິກອນລາຍຍ່ອຍ.</b> ຂະຫຍາຍໂຄງການຂົນສົ່ງບຽນທີ່ດິນ ເພື່ອໃຫ້ຊາວກະສິກອນສາມາດນໍາໃຊ້ທີ່ດິນເປັນຫລັກກະກັນ ເພື່ອເພີ່ມການເຂົ້າເຖິງສິນເຊື່ອ.</p>	<p>ກະຊວງຊັບພະຍາກອນ ທໍາມະຊາດ ແລະ ສິ່ງແວດລ້ອມ</p>

ໝາຍເຫດ: STຊ ໄລຍະສັ້ນ, MTຊ ໄລຍະຍາວ





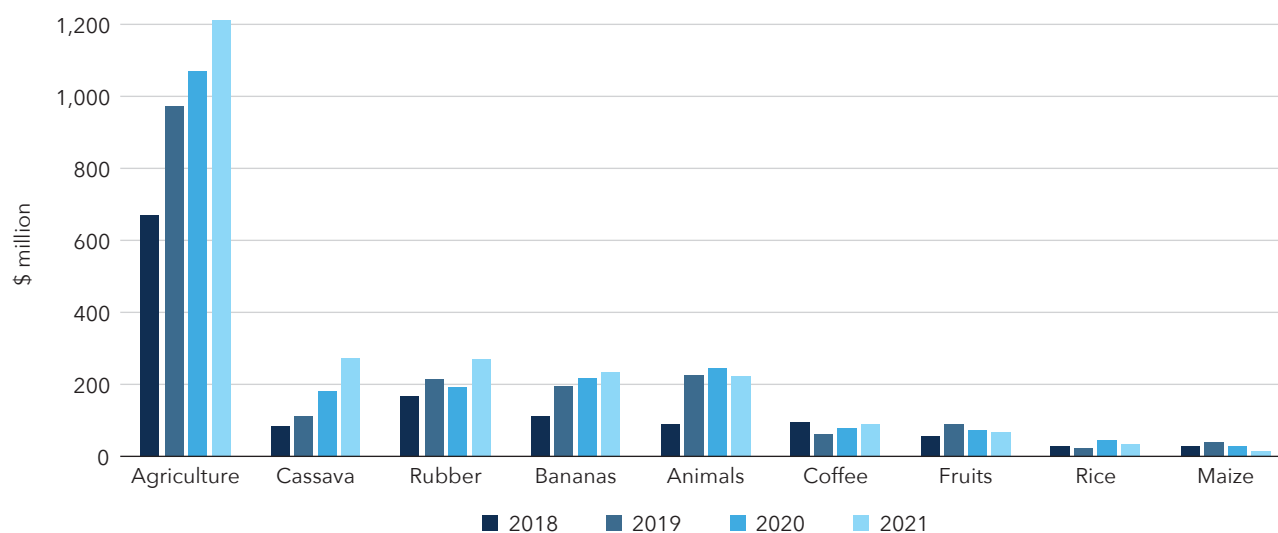
# INTRODUCTION

## 1.1 Background

Agriculture is the primary source of livelihood in Laos, employing around 64 percent of the population and contributing 16 percent to the country's GDP in 2021.<sup>4</sup> The sector grew by only about 3 percent over the last decade, and most recently was impacted by the pandemic and associated containment measures. However, it has been resilient thanks to strong export demand for key products.<sup>5</sup> Agriculture exports are growing and represent more than one-fifth of Lao exports. Between 2018 and 2021, agricultural exports grew, on average, by about 23 percent per year and were valued at around \$982 million per year (Figure 1).

Improved agricultural performance and regional exports have demonstrated their potential to drive poverty reduction. Poverty in the country declined sharply, from 24.6 to 18.3 percent, between 2013 and 2019, despite the slowing pace of GDP and sector growth.<sup>6</sup> Rising farm

Figure 1. Laos Agricultural Exports, 2018-2021



Sources: World Bank (2022a); Lao PDR Economic Monitor, based on data from Ministry of Industry and Commerce; International Monetary Fund Direction of Trade Statistics; and trading partner data.

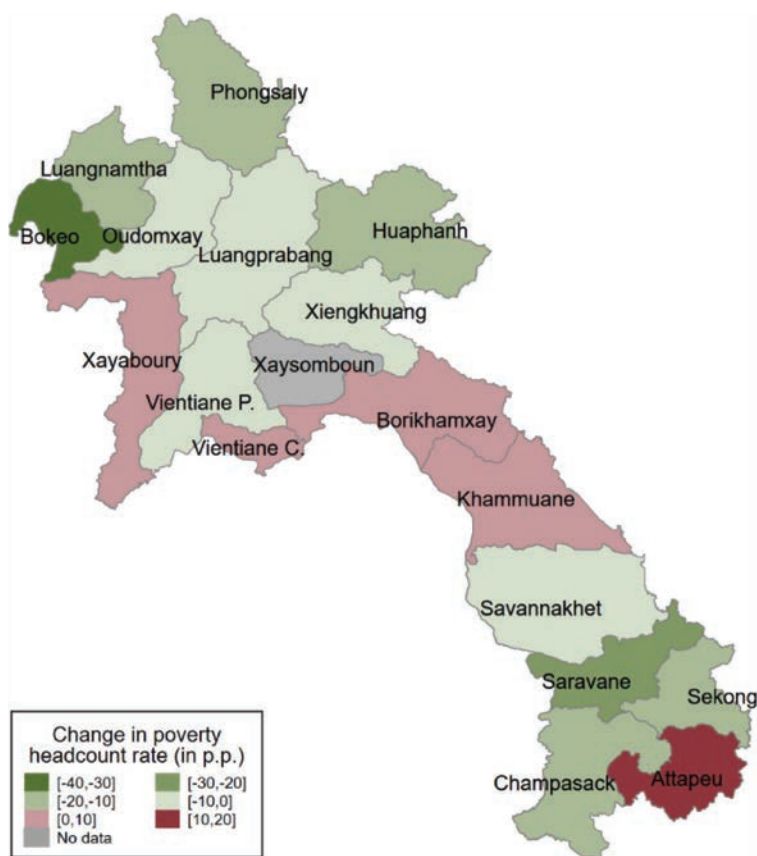
<sup>4</sup> Lao Statistic Bureau, 2021. The 3rd Lao Census of Agriculture 2019/2020. Ministry of Planning and Investment, Vientiane, Lao PDR.

<sup>5</sup> World Bank, 2022. Lao PDR Economic Monitor.

<sup>6</sup> Ibid.

incomes drove this decline, with faster reductions in the northern and southern provinces, which had diversified their production systems since early 2010s, adopted modern practices and commercialized their products by becoming more integrated into regional value chains<sup>7</sup> (Figure 2). Especially in the northern region, which borders China, rising demand increased Chinese cross-border investment in agricultural production, which benefited both contract farmers and plantation workers.<sup>8</sup> However, poverty reduction has stagnated or increased in central Laos, previously the wealthiest region, due to its continued heavy dependence on subsistence-based rice production<sup>9</sup> (Figure 3). Lao experience points to the importance of transitioning from subsistence rice cultivation to diversification and the commercial production of cash crops.<sup>10</sup>

Figure 2. Change in Poverty Rate by Province Between 2013–2019



Sources: Lao Expenditure and Consumption Survey 2012/2013 (LECS 5) and 2018/2019 (LECS 6).

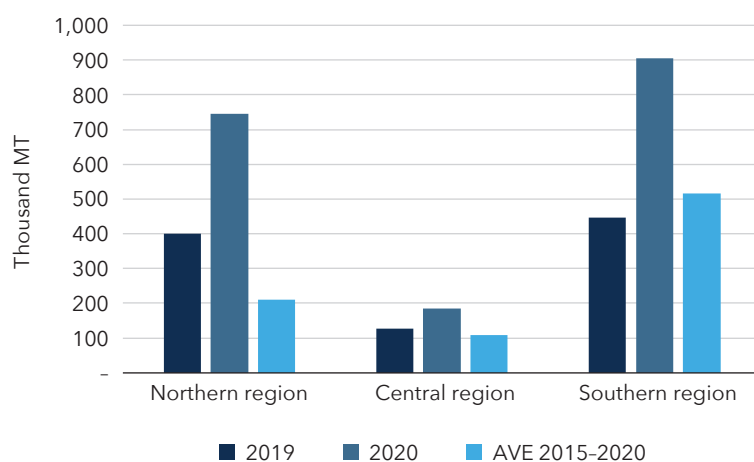
<sup>7</sup> The northern region includes the provinces of Bokeo, Huaphan, Luang Namtha, Luang Prabang, Oudomxay, Phongsaly and Xayaboury. The central region includes the provinces of Bolikhamxay, Khammouan, Vientiane Capital, Vientiane Province and Xiengkhouang. The southern region includes the provinces of Attapeu, Chamasack, Savannakhet and Sekong.

<sup>8</sup> Appendix A summarizes lessons learned from agriculture development and poverty alleviation in the northern region.

<sup>9</sup> World Bank, 2020a. Poverty Assessment.

<sup>10</sup> World Bank, 2021a. Systematic Country Diagnostic.

Figure 3. Agriculture Exports by Region



Sources: Lao Customs Department (2020) and WB estimates (2021).

The Government of the Lao PDR aims to transform and modernize the agriculture sector as part its program of sustainable rural development, with a strong focus on smallholders as a key part of the national economic base.<sup>11</sup> The most recent Agriculture Development Strategy to 2025 (ADS 2025) defines the vision of the agriculture sector to the year 2030: to ensure national food security through sustainable agriculture that contributes to national economic growth, industrialization, and modernization. The overall targets of the ADS 2025 are to: (i) increase agricultural production, (ii) improve and enhance agriculture competitiveness in terms of quality, through (iii) enforcing standards and regulations, and (iv) guarantee food security and safety through compliance with basic sanitary and phytosanitary standards. Agricultural production is expected to play an essential role in: (i) creating jobs, (ii) generating livelihood and income that will in turn (iii) reduce disparities between urban and rural areas, and (iv) integrate rural development. Box 1 shows the overall defined goals and program goals of this strategy. Appendix B summarizes the relevant enabling policies and strategies in agriculture sector.

The Government's vision is to move the country from an isolated, landlocked nation to one that is linked to the East Asia region through infrastructure that fosters trade and integration. Laos has an opportunity to take advantage of greater transport connectivity through the recently completed Laos-China Railway, and to develop high-value agricultural production and processing chains by partnering with agro-processing firms that have been established along the Laos-China and other regional corridors.

<sup>11</sup> MAF, 2015. Agriculture Development Strategy 2025 and Vision 2030.

## Box 1. Agricultural Development Strategy to 2025 and Vision 2030

### Overall Goals:

1. Economy has strongly grown in line with industrialization and modernization direction, comprehensive infrastructure, ensuring economic growth at a constant level; effective, stable, and assured food security which strongly ensures quality in terms of nutrition; producing agricultural products with quantity and quality that are highly competitive as well as are adaptable to climate change.
2. Agriculture production is in line with sanitary principles, clean, safe for producers' and consumers' health and environmentally friendly.
3. Agriculture production has made a contribution in many aspects such as creation of employment, income generation for people, reduction of gap between cities and rural areas, construction of new rural areas alongside the protection of symbolic cultures of all ethnic people, environmental protection, and stability and balance of the ecological system.

**Program Goal 1: Food Production** – to ensure nutrition of people to get energy of at least 2,600 kilocalories per person per day, which includes rice and starch covering approximately 62%; meat, eggs, and fish approximately 10%; vegetables, fruits, and beans covering approximately 6%; and fat, sugar, and milk approximately 22%.

**Program Goal 2: Agricultural Commodity Production** – to make the production of agricultural commodities grow to create the basic factors for industrialization and modernization, ensuring both quantity and quality and aiming to access domestic, regional, and international markets in connection with the improvement of farmers' groups and producers' and agriculture processing associations by making effort toward agriculture production of main goods.

Source: Ministry of Agriculture and Forestry. 2015. Strategic Plan for National Organic Agriculture Development 2025 and Vision Toward 2030. Vientiane.

The country's agriculture value chains, however, must overcome some critical challenges if they are to maximize their efficiency, competitiveness, and potential for growth. The value chains are fragmented and poorly organized, which contribute to higher transaction costs and lower profitability, incomes, and quality of jobs in the agri-food system. In general, agricultural value chains in Laos have large numbers of isolated, mostly small-scale producers, poorly capitalized intermediaries, and processors, and relatively few agribusinesses with the capacity to invest in modern production infrastructure and processing equipment. The lack of organization in the sector also makes it difficult for producers to comply with food safety standards. Compliance with these standards, as well as the adoption of GAP and other quality requirements imposed by importing countries, are required to participate in formal trade protocols with China and other countries that buy agricultural exports.<sup>12</sup>

<sup>12</sup> World Bank, 2019a. Background report "Food safety issues in Agriculture Value chains in Northern Lao PDR."

Agricultural production in Laos is dominated by smallholders, the majority of whom are poor with low productivity.<sup>13</sup> Most of smallholders reside in the central region, particularly in Savannakhet province (17.2 percent), followed by the southern provinces of Champassak (9.1 percent) and Salavan (6.9 percent). The remainder are found in northern provinces such as Xayaboury (8.2 percent) and Luang Prabang (7.8 percent). The provinces of Champassak, Saravan, Savannakhet, Vientiane, and Xayaboury have households that plant rice in the wet season. Other primary crops are vegetables such as pumpkin, beans, chilies, garlic, tomato, eggplant, sesame, and cabbage. Livestock raised for the market include cattle, chickens, ducks, goats, and pigs. Smallholder agriculture is characterized low-productivity farming, poor quality produce, low profitability, and limited economies of scale.

Smallholder farmers face a wide range of supply-side challenges that affect their farm-level productivity and market participation. These challenges include: (a) lack of access to climate-smart technologies such as improved (drought and heat-resilient) seeds; (b) low use and poor application of fertilizers; (c) declining soil fertility in areas with poor farming practices; (d) limited reach and effectiveness of agriculture extension and animal health services; (e) limited access to irrigation and drainage services; and (f) insecure land tenure. Smallholders' market participation and access are hampered by: (a) high transaction costs associated with the lack of aggregation due to the absence of farmer collectives; and (b) high transport costs due to inadequate rural infrastructure and connectivity in remote areas. The 2019-20 Agriculture Census found that female-headed farming households are most common in Champassak, khammuan and Savannakhet provinces. Women face even greater challenges in access to markets, market information, finance, technology and other productive resources, which undermine the ability of female farmers and entrepreneurs to participate in value chains and develop their export potential.

## 1.2 Study objectives and scope

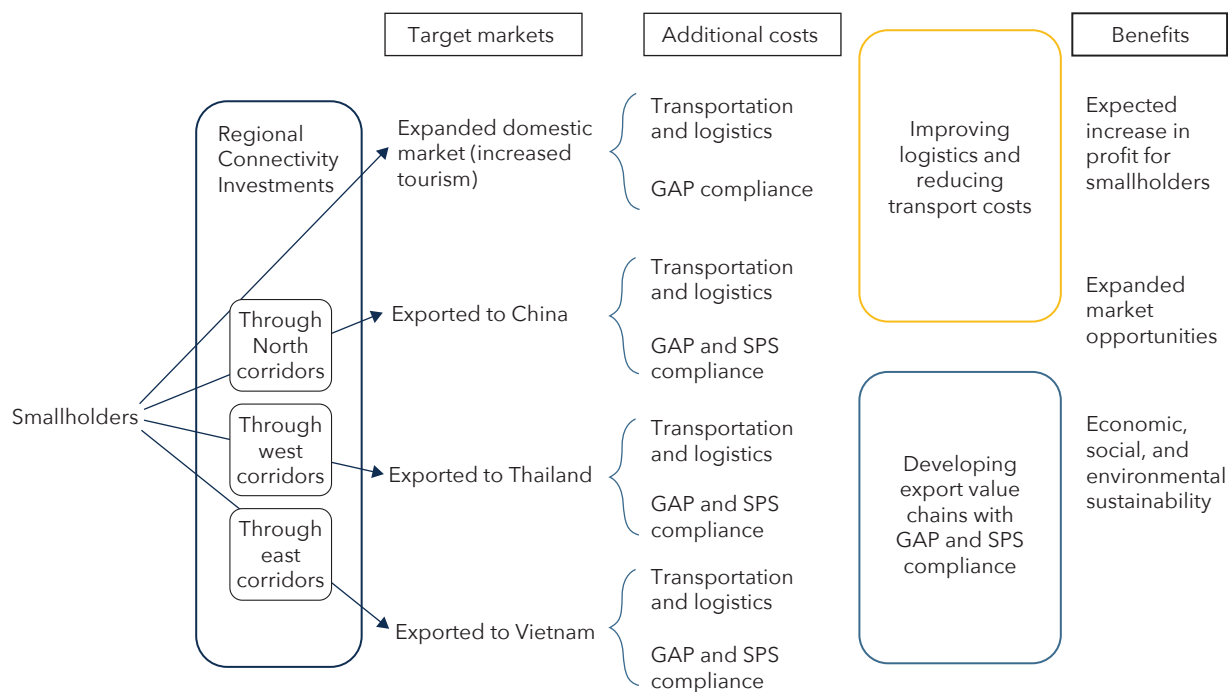
The study explores the potential of agribusiness in Laos to integrate smallholders, particularly in the central region, into selected agriculture export value chains along the Laos-China economic corridor, as well as along the corridors to other countries in the region.

The study places special emphasis on smallholders' inclusion in export value chains. It looks at smallholders' access to transportation and logistics along three economic corridors – to China, Thailand and Vietnam – and assesses the potential of each of those markets (Chapter 2). Given that compliance with international food safety standards and traceability remains barriers to Lao agricultural export potential, the study analyzes each market's SPS, and the capacity of Laos to comply with those standards (Chapter 3). The study looks at the current situation of four major agriculture value chains and identifies major constraints to competitiveness (Chapter 4). The study also includes a clear set of policy recommendations (Chapter 5). Figure 4 shows the study's analytical framework.

---

<sup>13</sup> The latest agriculture census nationwide in 2019/2020 marks Lao PDR as a nation of smallholder farmers among which 52% of total agricultural households are smallholder farmers.

Figure 4. Analytical Framework of the Study



Source: World Bank staff.

### 1.3 Study methodologies

The study builds on the findings of the recent agriculture sector diagnostic that was prepared as an input into the Country Economic Memorandum Update,<sup>14</sup> and on various value chain analyses and related reports and studies. It also incorporates the findings of various World Bank assessments and studies related to regional connectivity, transport and logistics services in Laos.

In addition, key informant interviews (KIIs) were conducted for the four selected agriculture value chains – cassava, beans, citrus and cattle – to triangulate and complement the findings from the literature. These four value chains (VCs) were selected based on the following criteria: (a) smallholders engaged in production; (b) products produced in the central region; (c) increasing demand from neighboring countries; and (d) women’s participation. In the period January through April 2022, about 280 interviews were carried out with key experts and stakeholders (small and contract farmers, agro-processors, local governments, investors, traders, exporters, wholesalers, aggregators, retailers, agri-finance institutions/banks and other key stakeholders). Appendix C provides more detailed information about the methodology and the results of the informant interviews. The team also met with 14 development partners who have extensive experience with agriculture value chain development in Laos. Their valuable experiences and lessons are reflected in the recommendations section (Chapter 5).

<sup>14</sup> World Bank, 2021b. Country Economic Memorandum Update for the Lao PDR.

# AGRICULTURE EXPORT MARKETS ALONG THE REGIONAL ECONOMIC CORRIDORS

## 2.1 Connectivity and logistics for agricultural exports

An efficient regional and national transport network in Laos is critical to the production and distribution of agricultural products to regional and international markets. However, high transport costs currently limit farmers' access to inputs and markets, which constrains their integration into the regional marketplace.

The Government has made significant investments to improve regional connectivity, including the Laos-China Railway (414 km) and key road networks (Figure 5). Assuming efficient cross-border process, the Laos-China railway could reduce transport costs between Kunming in China and Vientiane by 40-50 percent, a reduction of about \$30 per ton. Moreover, the railway is expected to reduce transport costs between Kunming and the Port of Laem Chabang in Thailand by 32 percent if efficient Thai trucks are used; by more than 40 percent if the cargo is transhipped through the Thai meter gauge rail tracks once the cargo reaches Vientiane, and more than 50 percent if cargo continues on the new standard gauge railway in Thailand all the way to the port<sup>15</sup>. Domestic trade within Laos will also benefit from the railway with 20-40 percent cost reduction, depending on how far from the railway goods will originate or be delivered. A regional rail line, main roads and highway connect Laos to the entire network of the Belt and Road Initiative, including the five countries of Central Asia. These connections are expected to reduce transport costs and boost intra-regional trade.

While these new connectivity investments are expected to drive the development of the logistics sector, Lao logistics services are still at an early stage of development.<sup>16</sup> The country's freight and logistics markets are small, and there is no operator in Laos that can offer integrated logistics services (transport, storage, customs clearance). There is also limited availability of

<sup>15</sup> World Bank, 2020d, From Land-locked to Land-linked.

<sup>16</sup> World Bank 2022, Lao PDR Economic Monitor.



value-added services, such as integrated door-to-door multimodal transport, container leasing, inventory management, order fulfillment, purchase order management or cold-chain services.<sup>17</sup> Lack of private investments in agro-processing and services also contributes to low operational efficiencies and high post-harvest losses. Recent World Bank studies<sup>18</sup> on the country's logistics industry and trade logistics found that: (a) the logistics industry struggles with thin and uneven demand, the truck fleet is old and cannot always meet demand, but there is little competitive pressure to improve service levels; and (b) external trade connections to Thailand, China and Vietnam are more efficient due to improved infrastructure and trade facilitation, but demand is low and logistics costs remain high due to the long distances and large proportion of empty backhauls.

There is a significant shortage of logistics-related facilities, which are necessary to improve the efficiency of cargo consolidation. Out of nine locations in Laos for international logistics parks and dry ports, only three dry ports have been developed: Savannakhet dry port (in operation since 2016), Thanalaeng dry port (in operation in 2022), and Pakse dry port (expected operation in 2022). Future planned dry port locations along the railway are in Luang Prabang, Muangxai and Natuey. Private sector developers have shown interest in the development of dry ports and logistics parks, but there is a need to ensure competitive and transparent public-private partnership (PPP) transactions. There are also plans to develop the capital of Vientiane as a regional logistics hub (Figure 5).

The lack of railway/road infrastructure, the weak logistics sector and associated facilities keep transport costs in Laos higher than in other countries in the region, particularly when loads are priced by cargo weight instead of by vehicle capacity.<sup>19</sup> According to the study conducted in 2017, transport costs along key corridors in Laos were between 1.4 and 2.2 times higher than those for corridors in Thailand, depending on whether a backload cargo was secured.<sup>20</sup> High transport costs are also associated with poor maintenance of national highways and the limited upgrade of national and provincial feeder roads along major transport corridors in Laos.<sup>21</sup> Agricultural products are generally sold in large bulk loads and have high weights. Table 1 provides an overview of transport costs by geographic locations, according to the study conducted in 2018.<sup>22</sup> A average price across all routes was 2,966 Lao kip per ton-km in Laos (based on actual cargo weight). Transport costs vary depending on the direction of transport, with flatland southern routes having lower costs than routes in the mountainous north and central.

Remote areas may not be able to benefit from the economic corridors if the existing rural road constraints remain unresolved. Rural connectivity remains one of the major constraints for connecting farms with markets along the economic corridors, especially in remote areas. Of the 65 percent of the Lao population who live in rural areas, more than two-thirds rely on

<sup>17</sup> World Bank, 2021c. Corridor Logistics Assessment in Lao PDR: A Closer Look at Key Agricultural Commodities.

<sup>18</sup> World Bank, 2018a. Transport Costs and Prices in Lao PDR Unlocking the Potential of an Idle Fleet. Final Report. September; and World Bank, 2014. Lao PDR Trade and Transport Facilitation Assessment. World Bank.

<sup>19</sup> World Bank, 2018b. Transport Costs and Prices in Lao PDR Unlocking the Potential of an Idle Fleet. Final Report.

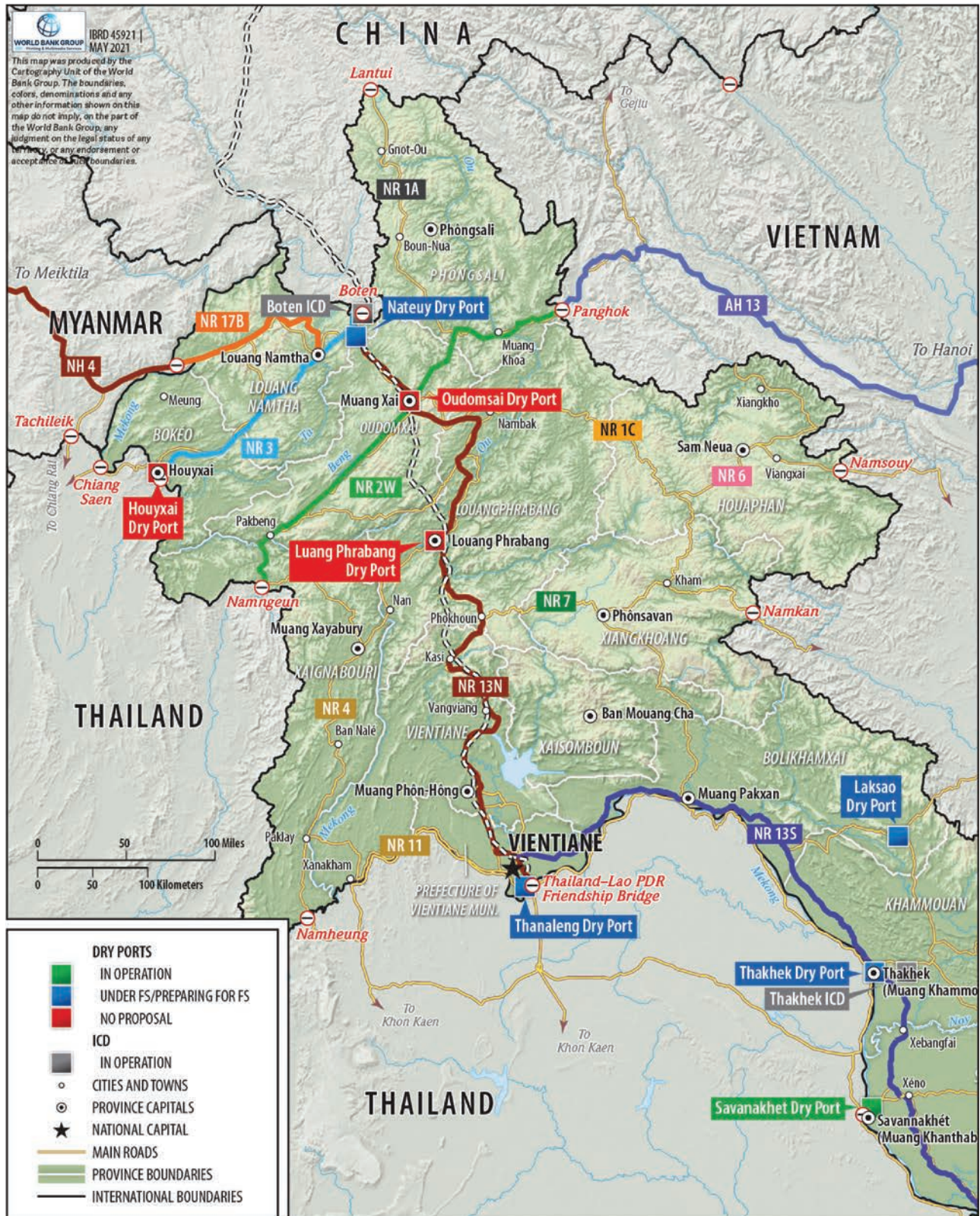
<sup>20</sup> IDE-JETRO, 2017. Logistics Costs in Lao People's Democratic Republic.

<sup>21</sup> Ibid.

<sup>22</sup> Ibid.



Figure 5. Map of Main Roads, Railway and Dry Ports in Laos



Source: World Bank.

Table 1. Overview of Transport Price by Geographic Location and Actual Price (by Weight and Volume vs. Vehicle Weight and Volume Capacity (in Lao kip per ton-km), 2018

	km	No of observations (1)	Avg-price per ton-km (1)	No of observations (2)	Avg-price per ton-km (2)
<b>Average all routes</b>		85	2,966	62	882
<b>Average North</b>		40	3,336	40	869
Vientiane – Luang Namtha	650	2	1,394	1	521
Vientiane – Luang Prabang	362	12	3,671	8	552
Vientiane – Xiengkhuang	335	11	4,818	9	570
Xayaboury – Vientiane	400	2	563	2	759
Xayaboury – Luangprabang	120	5	1,822	4	1,971
<b>Average South</b>		34	1,925	34	622
Vientiane – Champasack	671	7	1,479	5	528
Pakse/Champasack – Vientiane	740	3	943	1	353
Vientiane – Savannakhet	460	6	4,381	5	386
Savannakhet – Vientiane	460	3	419		
Vientiane – Thakhet	430	2	4,826	1	228
Thakhet – Vientiane	420	3	1,191	3	934
<b>Average Central</b>		11	5,057	11	1,548
Vientiane – Bolikhamxai	150	2	2,492	2	687
Inner-City Vientiane	24	8	4,571	6	1,781

Source: World Bank, 2018. Transport Costs and Prices in Lao PDR: Unlocking the Potential of an Idle Fleet.

Note: Average price per ton-km (1): based on actual cargo weight average price per ton-km (2): based on vehicle weight capacity. KM is average distance.

the network of local, provincial, and national roads to travel to nearby towns and provincial capitals.<sup>23</sup> Forty percent of those roads (by length) are in poor condition, and a large proportion are vulnerable to natural disasters such as flooding and landslides. According to the assessment in the northern region, about 65% of agricultural production (valued at \$3,044 million) has no or low accessibility to markets or gateways within 2 hours; half of them remain so even when the trip span increases to 4 hours.<sup>24</sup>

<sup>23</sup> World Bank, 2021d. Lao Transport Corridor Connectivity Assessment.

<sup>24</sup> Ibid.

## 2.2 Agriculture export trends

Livestock, bananas and cassava exports have been rapidly increasing in the last 5 years.<sup>25</sup> Figure 6 illustrates the main trends and composition of Lao agriculture exports during this period and are further elaborated below.

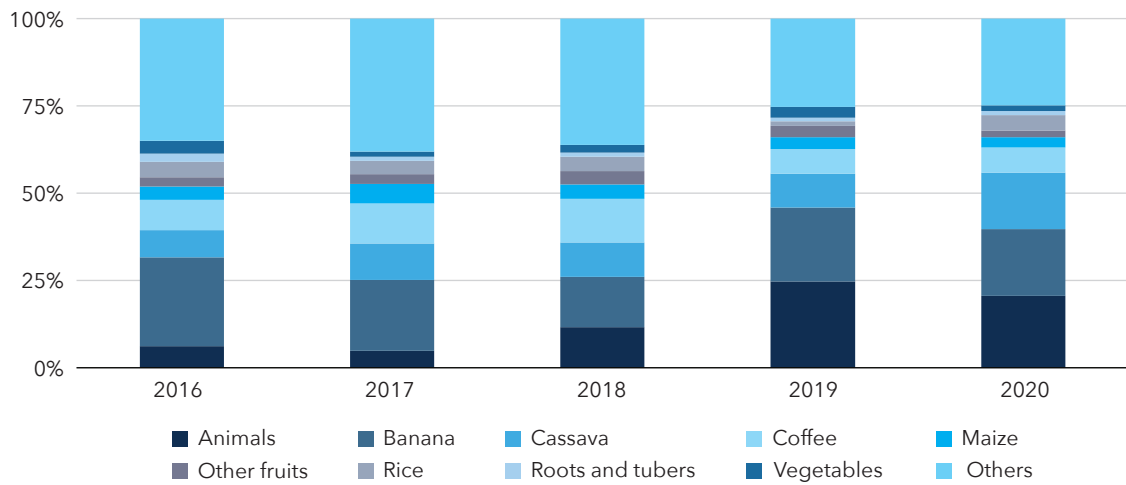
- ▶ **Bananas** accounted for 19 percent (\$227 million) of total agricultural exports in 2020. Banana exports increased by 10 percent a year between 2017 and 2020, driven by a growing production by large plantations run by Chinese investors in the northern and central regions. China accounted for more than 90 percent of total banana exports between 2016 and 2020.
- ▶ **Cassava** accounted for 16 percent (\$195 million) of total agricultural exports in 2020. Cassava is produced mostly by smallholders through contract farming. Thailand accounts for more than 80 percent of total cassava exports.
- ▶ **Live animals** have become a major export commodity since 2019. In 2020, animal exports accounted for 21 percent (\$247 million) of the total agricultural exports. Vietnam accounts for about 75 percent of total animal exports. Compared with 2016, animal exports increased by about five times in 2020. This increase is due to two main factors:
  - Vietnam's demand for Lao large (cattle and buffalo) and small ruminants (sheep and goats) has been increasing due to rapid economic growth and urbanization. In addition, some high-quality Lao bovines informally sold to Vietnamese traders have then been traded to the Chinese market in Guangxi province until 2020.<sup>26</sup>
  - The outbreak of African Swine Fever (ASF) in Vietnam in 2019 has led to more demand for other types of meat animals from Laos.
- ▶ **Coffee** accounted for about 7 percent of Lao's total agricultural exports (\$86 million) in 2020. Primarily produced on plantations in the Bolaven Plateau in the southern region, coffee production has switched from Robusta to higher-value Arabica in recent years. Vietnam accounts for more than two-thirds of Lao exports of unroasted coffee beans. Other destinations for unroasted beans include Japan and Thailand.
- ▶ **Rice** exports, mostly high-quality milled rice, accounted for about 4 percent of the total agricultural exports (\$53 million) in 2020. Since rice is critical for food security, the Government still imposes stock balancing at the provincial level before allowing exports. Vietnam and China account for more than two-thirds of Lao total rice exports.
- ▶ **Maize** exports have declined in both volume and value since 2017, accounting for only about 3 percent of total agricultural exports in 2020. Maize is produced primarily by smallholders through cross-border contracts with traders in Thailand and Vietnam.
- ▶ **Vegetable (including beans)** exports accounted for about 2 percent of the total agricultural exports in 2020. Of that share, 72 percent of vegetables are exported to Thailand, 26 percent to China and 2 percent to Vietnam. Overall vegetable exports have declined by 30 percent since 2016.

<sup>25</sup> World Bank. 2021b. Country Economic Memorandum Update for Lao PDR.

<sup>26</sup> Smith P. Bourgeois, N. Lüthi et al. 2015; Huachun and Defang. 2016; ZhiZhi et al. 2018.



Figure 6. Changes in Agriculture Export Share by Product, 2016–2020

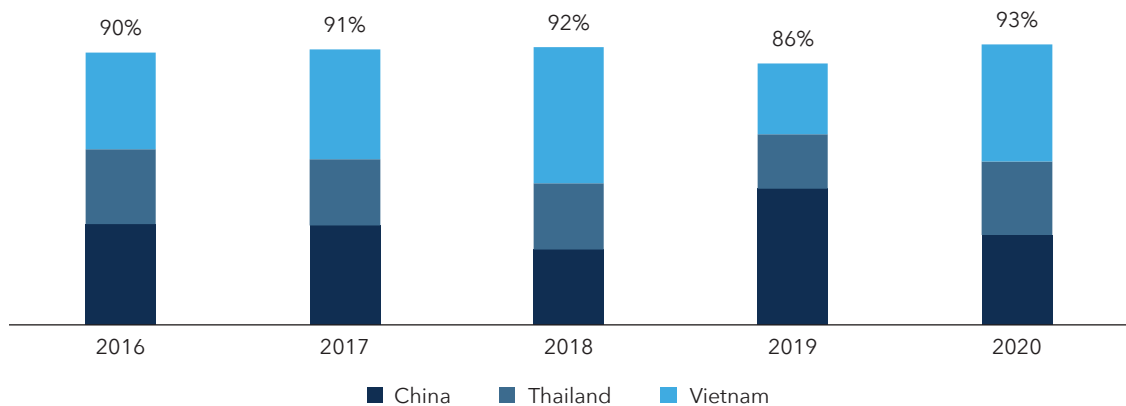


Source: WB staff estimates using data from World Integrated Trade Solution (WITS) and Lao PDR Economic Monitor, 2022.

- ▶ **Fruit** (excluding bananas) exports have been broadly stable and are worth about \$25 million a year, on average, between 2016 and 2020. They are exported mainly to China, accounting for almost all total fruits exports in 2020.
- ▶ **Tuber and root** exports accounted for only about 1 percent of total agricultural exports and have decreased by 20 percent in 2020, compared with 2016. They include potatoes, sweet potatoes, yam, carrots, radishes and other edible roots and tubers.

As indicated above, the major destinations for Lao agricultural exports are regional neighbors, particularly China, Thailand and Vietnam (Figure 7). These destinations account for more than 90 percent of Lao agriculture exports. On average, China and Vietnam historically have accounted for roughly one-third of the exports, while Thailand accounted for about one quarter.

Figure 7. Major Export Markets for Lao Agricultural Products, 2016–2020



Source: WB staff estimates using data from the Ministry of Industry and Commerce (MOIC), 2022.

Building on its initial regional export successes in the fruit and vegetable subsector, Laos has the opportunity to realize its untapped export potential in agricultural products, especially to China, Thailand and Vietnam. The economic corridors could help achieve this potential by reducing transport time and costs, and provided that logistics services and facilities are improved and that farmers receive the support they need to meet food safety standards.

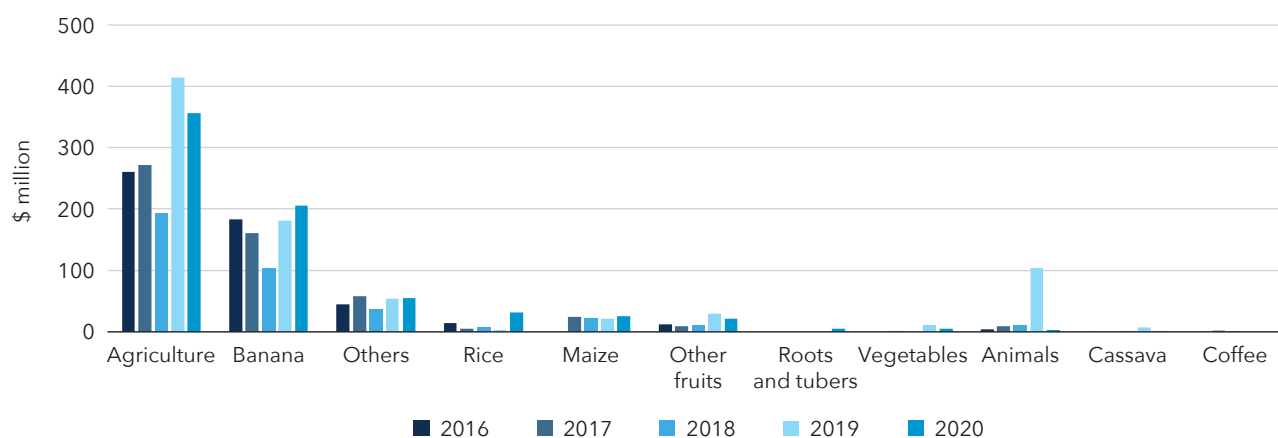
The following section reviews: (a) agriculture exports markets in China and the northern corridors connecting with China (Laos-China railway, National Road 13 North); (b) agriculture export markets in Thailand and the east-west corridors connecting with Thailand; and (c) agriculture export markets in Vietnam and the east-west corridors connecting with Vietnam. It also reviews the potential for domestic markets to benefit from better rail and road connectivity throughout the country.

## 2.3 Lao agriculture exports to China

China remains a major market for agricultural exports. China imported \$133 billion of agricultural products in 2019, making it the largest importer of agricultural products globally. The diet of the urban Chinese has changed dramatically due to rising incomes, changing lifestyles and increased awareness of food safety. Food consumption has shifted away from grains and toward higher-quality calories from animal proteins and aquaculture products. The middle-class population in China is estimated at about 400 million, with annual household incomes of RMB 25,000 (\$3,640) to RMB 250,000 (\$36,400). In 2020, the per capita consumption of food, tobacco and alcohol was RMB 6,397 (\$930), or about 30.2 percent of the per capita national consumption expenditure.<sup>27</sup>

In 2020, Lao agriculture exports to China increased by 37 percent compared to 2016 (Figure 8). Bananas accounted for more than half of total agricultural exports to China between

Figure 8. Lao Agriculture Product Exports to China



Source: WB staff estimates using data from the WITS.

<sup>27</sup> National Bureau of Statistics of China, 2021. Household Income and Consumption Expenditure Survey in 2020. [http://www.stats.gov.cn/english/PressRelease/202101/t20210119\\_1812523.html](http://www.stats.gov.cn/english/PressRelease/202101/t20210119_1812523.html).

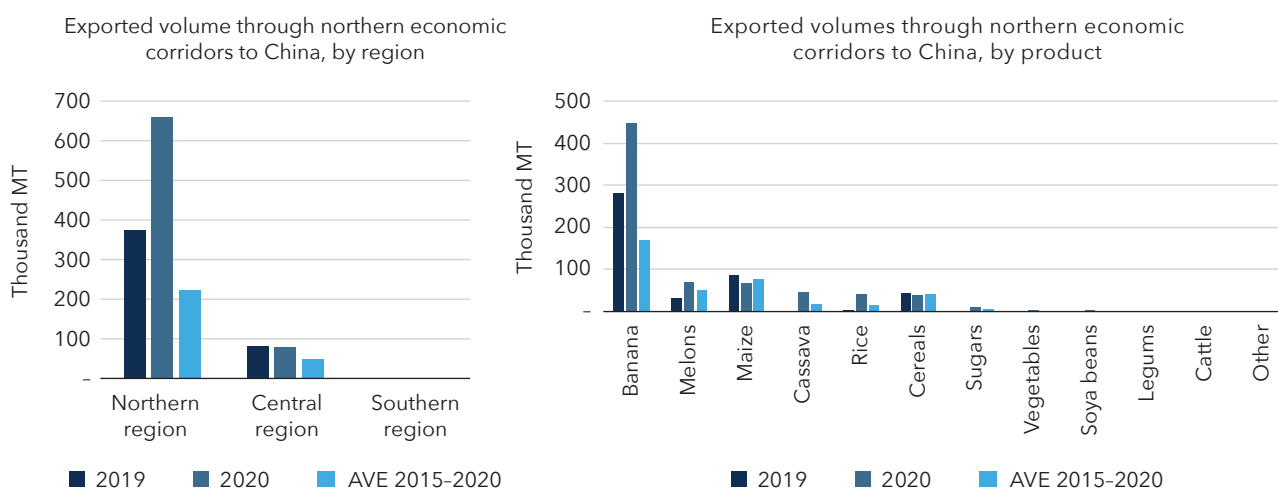
2016 and 2020 and historically accounted for more than 90 percent of total banana exports. The recent expansion in agriculture exports has been supported in part by Chinese investments in agribusinesses in the northern provinces. China is also a major destination for Lao maize and rice exports. In 2020, China accounted for 72 percent of its total maize exports and 61 percent of total rice exports.

### Agricultural exports to China through the northern economic corridors

Agricultural exports passing through the northern corridors and connecting to the Boten border checkpoint (BCP) are sourced mostly from the north. The northern economic corridors, including the Lao-China Railway and the main road (NR13N) connect Vientiane City and the BCP. The railway also connects Vientiane to the Belt and Road Initiative network at Kunming, Yunnan Province, China. The northern region accounted for more than 660 thousand metric tons of agricultural exports in 2020, while the central region accounted for some 100 thousand metric tons, and the south for only a small amount (Figure 9). The northern region's exports go primarily to China's southwestern and southeast provinces, including Sichuan, Chongqing, Yunnan, Guangxi, Guangdong, Fujian, and Hainan.

The Laos-China Railway is expected to unlock the natural barriers and significantly reduce transportation costs between Kunming in China and Vientiane. It is expected to reduce the costs by 40-50 percent, a reduction of about \$30 per ton.<sup>28</sup> Higher transportation costs are incurred in the mountainous north due to poor maintenance of national highways, and the limited upgrade of national roads and provincial feeder roads along major transport corridors.<sup>29</sup> Better connectivity in the north will also likely stimulate more supply of agricultural products from the center and south.

Figure 9. Export Volumes Through Northern Economic Corridors by Region and by Product, 2019-2020



Source: Lao PDR Customs Department (2020).

<sup>28</sup> World Bank, 2021d. Lao transport corridor connectivity assessment.

<sup>29</sup> World Bank, 2018b. Transport costs and prices in Lao PDR: unlocking the potential of an idle fleet. Final report.

## Export potential to China

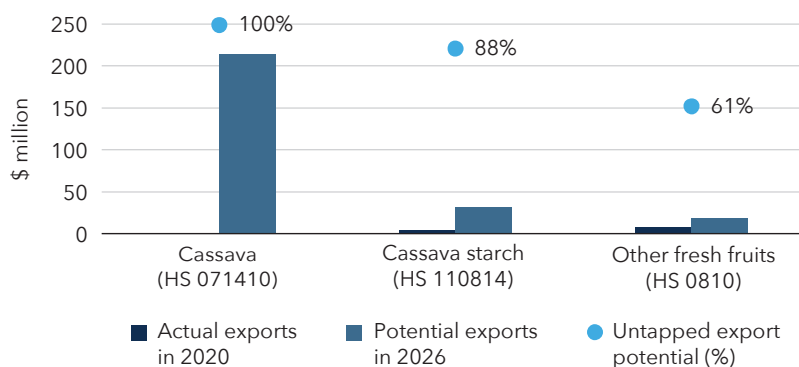
There remains considerable room to increase exports to China. Trade between Laos and China is governed by: (a) bilateral agreements; (b) free trade agreements (FTAs) under the ASEAN-China (ACFTA), Asia-Pacific (APTA) and Special and Preferential Tariff (SPT) agreements; and (c) established quotas. Since 2013, when exporting channels were formalized, a total of 14 export agreements were signed between Laos and China (Table 2). Through these agreements, Laos received a quota of 50,000 tons of rice for export to China in 2019 and a quota of 500,000 cattle for the period of 2021–2028.<sup>30</sup> As of May 31, 2021, however, China had imported only 20,000 tons of rice.<sup>31</sup> Only 1,992 cattle and 21 buffalo were imported to China in all of 2021. This means rice and cattle are still far from reaching their exports quotas, and Laos has the potential to increase exports for these products further. Laos exported less than \$1 million worth of cassava to China in 2020 but has the potential to realize additional exports of about \$214 million, according to the International Trade Center<sup>32</sup> (Figure 10).

Table 2. Export Agreements Between Laos and China

Crops and livestock (year agreement signed)
Maize (2012), Banana, Cassava (2013), Rice (2015), Cattle (2017), Watermelon, Sweet potato (2019), Kidney bean, Mung bean, Fresh soybean, Passion fruit, Mandarin, Pomelo, Lemon (2021)

Source: DOA of MAF (2022).

Figure 10. Estimated Potential Cassava Exports to the China Market



Source: WB staff estimates using data from the WITS and the International Trade Center (ITC).

Note: The codes in parentheses present the HS (Harmonized System) code (4 or 6 digits) for each product. Other fresh fruits under HS 0810 include berries, kiwifruits, durians and persimmons, among others.

<sup>30</sup> National Institute of Economic Research. 2019. How to maximize the benefits for Lao agriculture from regional infrastructure connectivity: a case study of Laos-China Railway.

<sup>31</sup> Ministry of Agriculture and Forestry, cited in the *Vientiane Times* newspaper, May 31, 2021.

<sup>32</sup> The ITC estimates potential export value in 2026 by projections based on demand, supply, market access conditions and bilateral ease of trade. The export potential **indicator** identifies the potential export value for any exporter in a given product and target market based on an economic model that combines the exporter's supply, the target market's demand, market access conditions, and bilateral linkages between the two countries. For existing export products, supply is measured through historical information on export performance. For technical details, see <https://exportpotential.intracen.org/en/resources/learning/glossary#export-potential> and [https://umbraco.exportpotential.intracen.org/media/1089/epa-methodology\\_141216.pdf](https://umbraco.exportpotential.intracen.org/media/1089/epa-methodology_141216.pdf).



Table 3. List of Prioritized Crops for Further Trade Negotiations Between Laos and China

<b>Fruits (38)</b>	Pineapple, Prickly Custard Apple, Sugar Apple, Sugar Palm Fruit, Jack Fruit, Star Fruit, Burmese Grape, Sweet and Sour Marian Plum, Papaya, Star apple, Orange (mandarin, pomelo, lemon, lime, bergamot), Coconut, Melon (cantaloupe, rock melon), Longan, Durian, Rose apple, Strawberry, Mangosteen, Dragon fruit/Pitaya, Langsat, Lychee, Mango, Sapodilla, Mulberry, Rambutan, Passion fruit, Avocado, Emblica, Egg fruit, Guava, Pomegranate, Chinese pear, Blackberry, Santol, Tamarind, Blueberry, Grape, Jujube
<b>Vegetables (22)</b>	Onion, Garlic, Celery, Asparagus, Neem, Wax Gourd, Cabbage, Broccoli, Chili, Sweet Pepper, Dill, Calabash, Sponge Gourd, Angled Gourd, Mint, Sweet Basil, Tomato, Eggplant, Snake Gourd
<b>Bean (4)</b>	Peanut, Soybean, Kidney Bean, Yard Long Bean, Mung Bean, Cowpea
<b>Root crops (5)</b>	Taro, Carrot, Water Chestnut, Potato, Water Caltrop
<b>Other cash crops (13)</b>	Cashew Nut, Palm, Paper Mulberry, Tea, Coffee, Job's Tear, Cotton, Rubber, Mulberry, Tobacco, Sugarcane, Sesame, Sorghum
<b>Herbal plants (8)</b>	Cardamom, Elephant Yam, Flowering Fern, Homalomena, Balloon Cherry, Pepper, <i>Sargentodoxa cuneata</i> (Oliv.), Ginger

Source: DOA of MAF, 2022.

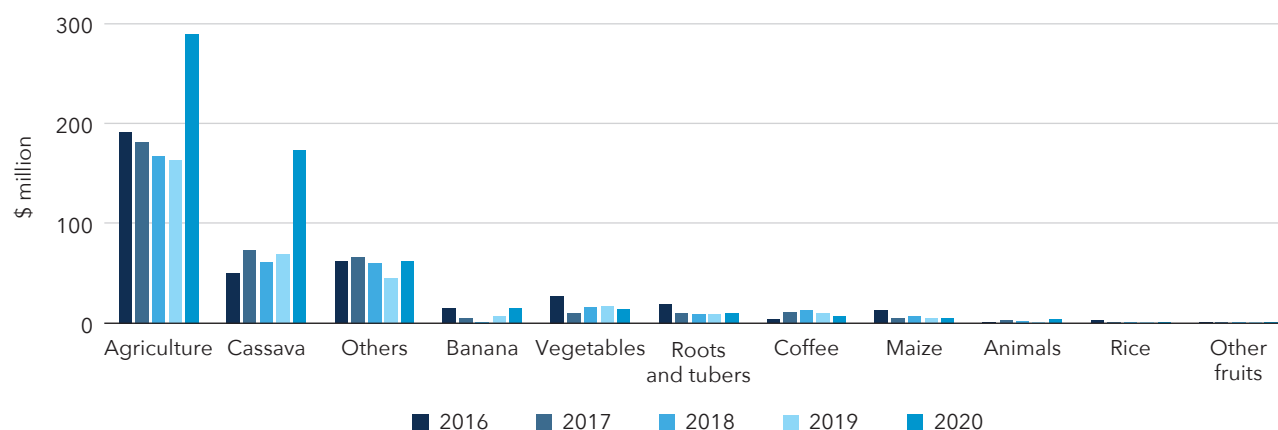
Other high potential exports include fresh fruits. Another long list of 88 prioritized crops has been prepared by MAF for further negotiations and can open additional export opportunities (Table 3).

## 2.4 Lao agriculture exports to Thailand

Thailand has a growing middle class, that has shown a strong and increasing demand for quality agricultural products. In 2019, Thailand's consumer expenditures on food and beverage amounted to \$82 billion and per capita disposable income was \$4,126.<sup>33</sup> Thailand's per capita consumption of food (excluding beverages) rose by 7 percent a year over 2015-2019, and per capita consumption of vegetables increased by 8 percent over the same period. While Thailand is a strong competitor in the export of natural rubbers, frozen shrimp, canned tuna, canned pineapple, cooked poultry, cassava and tropical fruits, it also imports a significant volume of agricultural products. In 2019, its agricultural imports totaled \$16.8 billion.

<sup>33</sup> USDA Foreign Agricultural Services, 2022. Exporter guide. [https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Exporter%20Guide\\_Bangkok\\_Thailand\\_12-31-2020](https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Exporter%20Guide_Bangkok_Thailand_12-31-2020).

Figure 11. Lao Agriculture Product Exports to Thailand, 2016–2020



Source: WB staff estimates using data from WITS.

Lao agriculture exports to Thailand increased by 51 percent between 2016 and 2020, mainly driven by cassava exports (Figure 11). Cassava was a primary driver of agriculture export growth and accounted for more than 40 percent of total agricultural exports to Thailand during the same period. In 2020, cassava accounted for about 60 percent of Lao’s total agriculture exports to Thailand.

Thailand’s imports from Laos are generally subject to a quota system, and importers need to be registered with the Thai authorities. However, no quota system is applied for the 15 crops included in trade agreements (Table 4), except for peanut, which is protected.<sup>34</sup> Trade agreements for five additional crops – dragon fruit, pineapple, snowberry, peanut seed, and tobacco tree bark – are also under negotiations and offer additional export opportunities in the future.

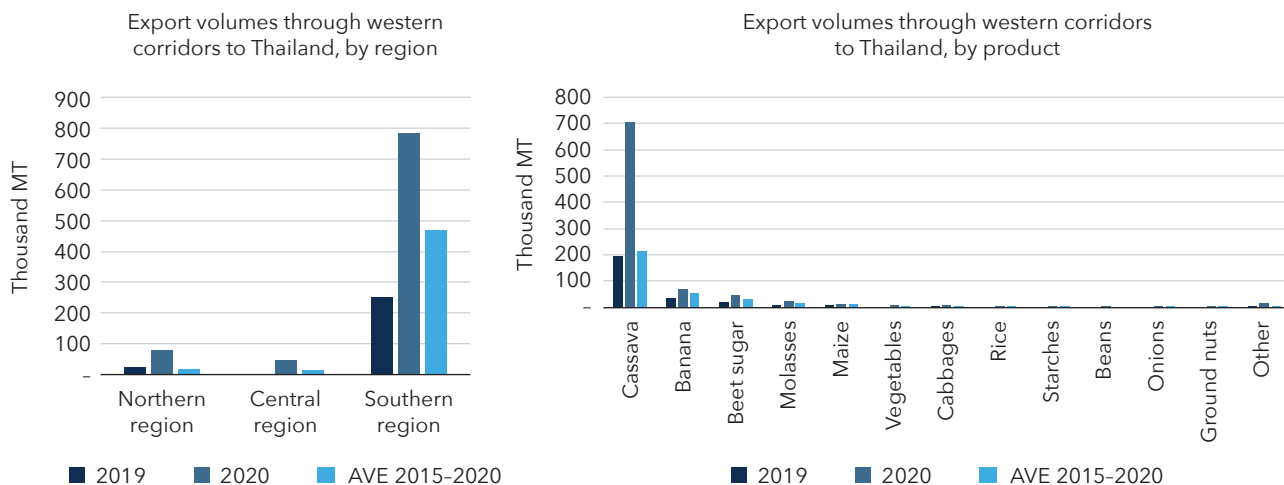
Table 4. Export Agreements Between Laos and Thailand

Year	Crops
<b>2009</b>	Dry Tobacco Slice, Potato, Papaya, Cassava, Bubble Bush, Dry Tobacco Leaf
<b>2012</b>	Maize Seeds, Orange, Chili, Some Vegetables
<b>2013</b>	Maize, Local Banana
<b>2015</b>	Tomato
<b>2017</b>	Peanut
<b>2018</b>	Passion Fruit
<b>Under Negotiation</b>	Dragon Fruit, Pineapple, Tobacco Bark, Strawberry, Peanut Seed

Source: DOA (2022).

<sup>34</sup> MAF, 2021a. Draft 2021 annual performance report for the agriculture, forestry and rural development sector and plan for 2022.

Figure 12. Export Volumes Exported Through Western Economic Corridors by Region and by Product, 2019-2020



Source: Lao Customs Department (2020).

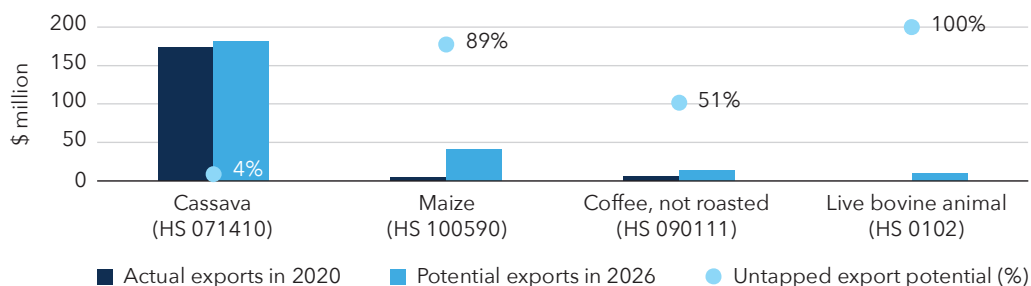
### Agriculture exports to Thailand through the western economic corridors

Most agriculture exports going to Thailand originate from the Southern Region. They pass through the western corridors, which connect Vientiane, Savanakhet and Pakse with Bangkok. The largest share of agriculture products originate from the south (783,000 metric tons in 2020), while the northern and central regions contribute just modest volumes (18,000 and 13,000 metric tons, respectively). Major commodities include cassava, banana, beet sugar, molasses, maize and vegetables (Figure 12).

### Export potential

There is considerable potential for increased agricultural exports to Thailand. Despite a decreasing trend in recent years, there is enormous potential to revive maize exports to the Thai market (Figure 13). The ITC estimates that Laos can export as much as \$41 million worth

Figure 13. Potential for Exports of Selected Agricultural Products to Thailand



Source: WB staff estimates using data from the WITS and ITC.  
 Note: The code in parentheses is the HS code for each product.

of maize to Thailand by 2026, an increase of 88 percent over the \$5 million in maize exports in 2020. Other products with high export potential include live bovine animals and unroasted coffee beans. Cassava, already Lao's top export to Thailand, has an additional 4 percent of untapped export potential.

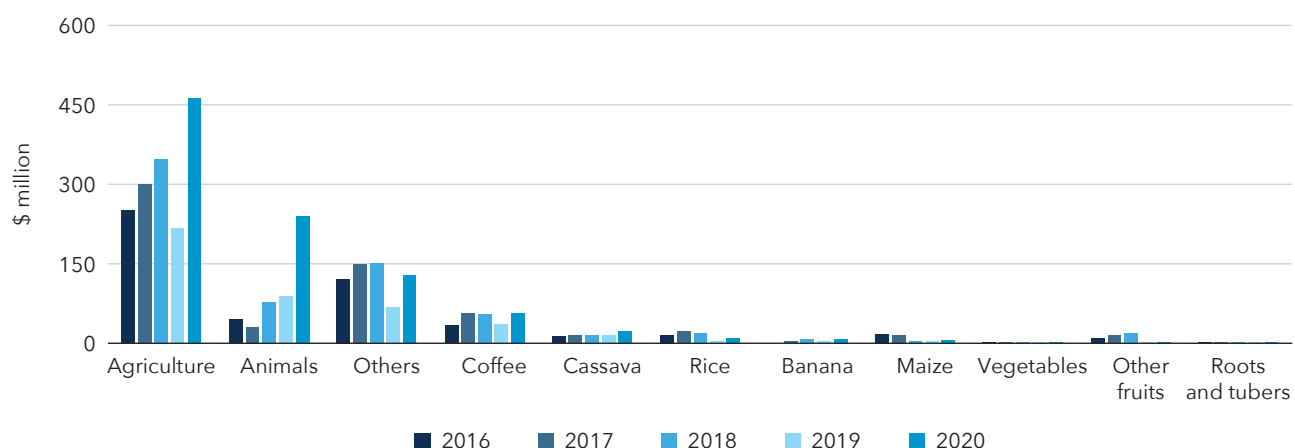
## 2.5 Lao agriculture exports to Vietnam

Vietnam has a fast-growing middle class, totaling 9.9 percent of the population in 2020, with a strong demand for quality agriculture products. A recent market report<sup>35</sup> indicated that there will be about 33 million middle-income people (around 30 percent of the population) by 2030. Vietnam is also a leading exporter of agriculture products, especially aquatic products, rice, vegetables and coffee, but also imports many agriculture products from Laos, particularly livestock and coffee.

### Lao agriculture export to Vietnam

In 2020, agriculture exports to Vietnam were almost twice as high as in 2016 (Figure 14), with the growth driven mainly by animal exports. Historically, Vietnam has been the primary market for Lao's animal exports, accounting for more than 75 percent of Lao's total animal exports. In 2020, animal exports accounted for more than half the country's total agricultural exports. Coffee is also a major export to Vietnam. In 2020, unroasted coffee beans accounted for 12 percent of total agriculture exports to Vietnam.

Figure 14. Lao Agriculture Product Exports to Vietnam, 2016–2020



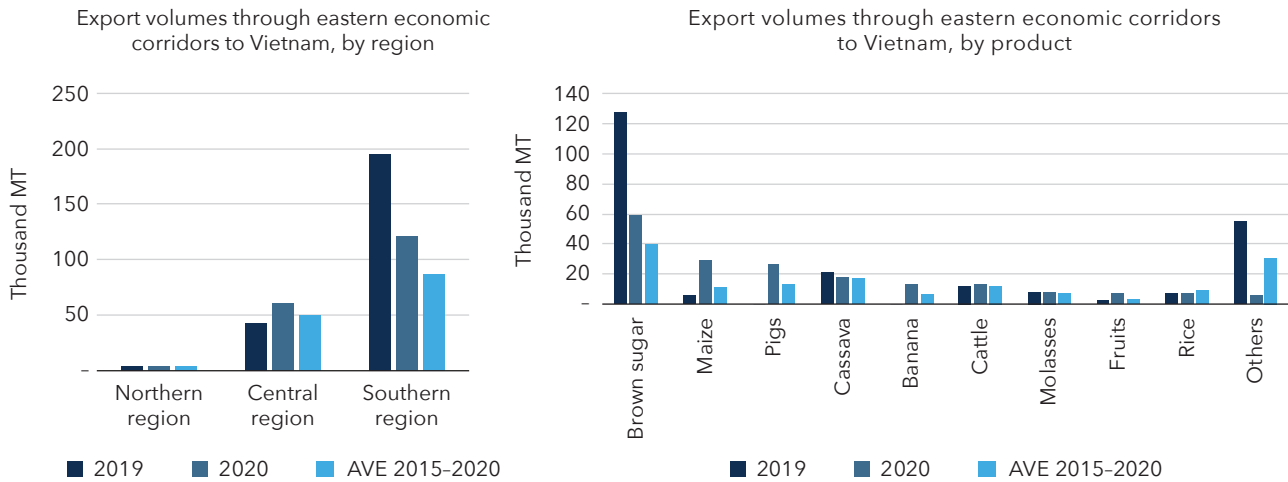
Source: WB staff estimates using WITS data.

<sup>35</sup> BMI Market Report Vietnam.

### Agriculture exports to Vietnam through the eastern economic corridors

A major share of agriculture products exported to Vietnam originate from the southern and central regions of the country. They through eastern corridors and border checkpoints, including Panghok in Phongsaly and Namsoi in Houaphanh province and Namkan in Xieng Khuang Province. They are sourced mostly from the southern and central regions (Figure 15). Export volumes are smaller compared to the northern and western corridors.

Figure 15. Export Volumes Through Eastern Economic Corridors by Region and by Product, 2019-2020



Source: Lao Customs Department (2020).

### Export potential to Vietnam

Laos has good export potential to export more cassava to Vietnam. Through bilateral trade agreements, Vietnam grants reciprocal access to Laos for 32 tariff lines at 50 percent of the ASEAN preferential tariff,<sup>36</sup> with quotas for some products. Laos has not met these quotas and has the potential to further increase exports for these products (Table 5). In 2020, Lao exported about \$21 million worth of cassava to Vietnam, but could export about \$31 million worth of cassava by 2026. This suggests an untapped export potential of 34 percent.

<sup>36</sup> ASEAN Free Trade Area/Agreement on the Common Effective Preferential Tariff.

Table 5. Export Agreements for Crop Exports from Laos to Vietnam

Year	Crops (year agreement signed)
2012	Maize
2015	Cassava, Banana, Glutinous Rice, Carrot, Onion, Napier Grass, Lettuce, Cabbage
2017	Dragon Fruit, Green Banana, Passion Fruit, Mango, Orange, Pomelo
2019	Jackfruit

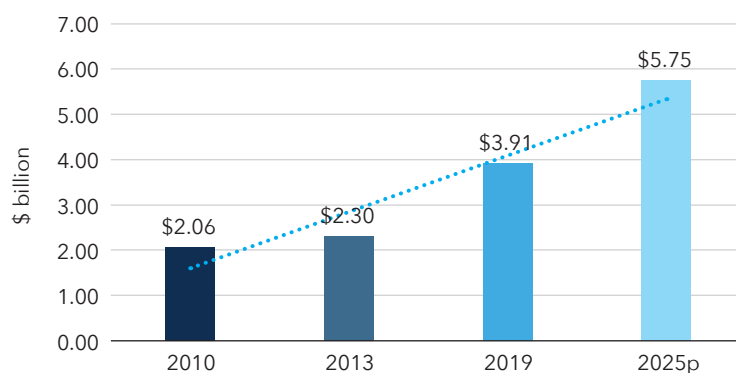
Source: DOA (2022).

## 2.6 Domestic market along the economic corridors

Laos itself has a growing domestic market for quality agriculture products. In 2019, the size of Lao PDR's food and beverage market, including agriculture products, was valued at about \$3.9 billion and represented about 21.8 percent of the national economy (Figure 16 ).<sup>37</sup> Between 2012/2013 and 2018/2019, that market expanded by 69.9 percent. With a projected population increase of 1.46 percent a year, the population will reach 7.7 million, with a market size for food and beverages of about \$5.7 billion, by 2025. Improved connectivity, especially with urban centers, will help to facilitate agri-food transactions within the country, where farmers do not need to comply with international and regional SPS standards.

For domestic markets, rural connectivity remains a major constraint, especially for smallholders in remote areas. According to a recent study on the impact of connectivity in the northern region,<sup>38</sup> the Laos-China Railway is expected to reduce the time to markets. However, remote areas may not be able to benefit from the railway unless strategic road improvements are made in remote areas.

Figure 16. Food and Beverage Market Size



Source: Global Consumption Database, LECS4-6 data.

<sup>37</sup> Global Consumption Database.

<sup>38</sup> World Bank, 2021d.

Lao farmers have been able to meet the domestic demand for vegetables and rice, but not fish and meat. Laos has been largely self-sufficient in rice for many years. However, fish and meat output cover only about 49 and 59 percent, respectively, of domestic market demand. The country remains a net importer of fish and meat. There is a potential for meeting a greater share domestic demand for meat and fish by addressing the various constraints to increased local production and taking advantage of improved connectivity within the country (Table 6).

Table 6. Market Shares of Domestic Producers, Product Level

<b>Product</b>	<b>Estimated domestic demand (metric tons)</b>	<b>Estimated domestic supply (metric tons)</b>	<b>Market share of domestic producers (%)</b>
<b>Rice</b>	3,629,059	3,279,110	90
<b>Meat</b>	460,023	226,958	49
<b>Fish</b>	302,462	179,217	59
<b>Vegetables</b>	907,239	1,466,850	162

Source: WB staff estimates based on data from MAF 2021 yearbook, LECS5-6 and FAOSTAT.



# FOOD SAFETY AND QUALITY STANDARDS FOR EXPORT

Sanitary and phytosanitary requirements remain major challenges for smallholders, traders and processors in Laos. Agriculture products are subject to several sanitary, phytosanitary sanitary and food safety concerns. Food products are quality sensitive from a pricing perspective, are typically highly perishable and can transmit pests and diseases. Animal-sourced products in particular have these attributes. Consequently, Laos often faces challenges in meeting the SPS requirements imposed in its major export markets. They pose a major burden for smallholders, traders and processors. To ensure that smallholders can benefit from the regional economic corridors and participate in export value chains, specific public and private actions are needed to address the SPS-related barriers. This chapter analyzes the SPS-related barriers and the costs of compliance that smallholders face in accessing the markets of China, Thailand and Vietnam.

## 3.1 International SPS standards

The Agreement on the Application of Sanitary and Phytosanitary Measures of the World Trade Organization, sets out the basic rules for food safety and animal and plant health standards. It allows countries to set their own standards<sup>39</sup>. SPS measures can take many forms, such as requiring products to come from a disease-free area, inspection of products, specific treatment or processing of products, setting of allowable maximum levels of pesticide residues or permitted use of only certain additives in food. SPS measures apply to domestically produced food and to local animal and plant diseases, as well as to products coming in from other countries.<sup>40</sup> The Agreement allows countries to use different methods for inspecting production.<sup>41</sup> They should be applied only to the extent necessary to protect human, animal or plant life or health. And they should not arbitrarily or unjustifiably discriminate between countries where identical or similar conditions prevail. The main principles of the WTO framework are that SPS measures should be non-discriminatory, transparent, science-based and not more

<sup>39</sup> WTO, 1998. Understanding WTO Agreement on Sanitary and Phytosanitary Measures [https://www.wto.org/english/tratop\\_e/sps\\_e/spsund\\_e.htm](https://www.wto.org/english/tratop_e/sps_e/spsund_e.htm).

<sup>40</sup> Ibid.

<sup>41</sup> GIZ, 2017. Sanitary and Phytosanitary (SPS) Measures. Status Report on Agricultural Trade between Cambodia, the Lao PDR, Vietnam and China.

trade-restrictive than required to achieve the appropriate level of protection. Three organizations, the Codex Alimentarius Commission for Food Safety; the International Plant Protection Convention (IPPC) for plant health; and the Office International des Epizooties (OIE), which deals with animal health, are responsible for recommending SPS standards.

Laos became a member of the World Trade Organization in 2013. In preparation of its membership, the country improved its legislation, established an SPS Enquiry Point and Notification Authority, and set up the Laos Trade Portal where all trade-related legislation is published.

### 3.2 China's SPS standards

China imposes stringent SPS standards on exporters. It requires a comprehensive traceability and inspection system from production to export, including close inspection of the farm registration and management, packing house management, pre-departure quarantine, entry quarantine and compliance inspection. In April 2015, China comprehensively revised its 2009 Food Safety Law, with the aim of strengthening its domestic food safety management system.<sup>42</sup> The 2009 Law imposed greater responsibility for food safety on food producers and traders and on local government. The 2015 Food Safety Law also imposes much stricter requirements for exporting food to China.

The General Administration of Customs of China (GACC) is a key border agency with responsibility for customs. It is also responsible for border inspection and quarantine of imported and exported animals, plants and their products.<sup>43</sup> Exporters of agri-food products to China must apply to and register with GACC's entry-exit inspection and quarantine authority. To apply for registration, exporters must be recommended to the Certification and Accreditation Administration of China (CNCA) by a competent authority of the country or region where the exporter is located. In case of Laos, exporters must be recommended by DOA or the Department of Livestock and Fisheries (DLF) of MAF.

For crops and fruits, exporters must comply with all of China's food safety and traceability standards, and all applicable phytosanitary law and regulations, known collectively as ChinaGAP standards.<sup>44</sup> GACC's requirements cover a wide range of technical and agronomic issues related to specific crop and fruit varieties and rootstocks, farm registration, condition of packing houses and expected export volumes to be inspected by MAF and GACC, among other requirements.<sup>45</sup>

---

<sup>42</sup> Ibid.

<sup>43</sup> General Administration of Customs of the People's Republic of China. (<http://english.customs.gov.cn/>)

<sup>44</sup> ChinaGAP is administered by the Certification and Accreditation Administration of the People's Republic of China (CNCA). Its certification is in line with the requirements of GLOBALGAP, and the certification agency should be acceptable to GLOBALGAP.

<sup>45</sup> Plant quarantine, prevention and control; food safety management, personnel management, use of chemicals, acceptance of raw materials, warehouse management, inspection of finished production must be inspected by MAF and GACC. While producing safety management requires that production environment is not allowed to cause any contamination, the production and processing technology must be scientific and standardized to ensure product safety without microorganisms, heavy metals, pesticides residues and food additives contained in products. Some crops such as fresh soybean also requires cleaning and disinfection areas and equipment to avoid contamination to products. For citrus, all orchards must implement GAP including the maintenance of hygienic conditions, timely disposal of fallen fruits and implementation of the Integrated Pest management. There is a need for risk assessments and management plans, all of which must be clearly documented.

For live animals exported to China, GACC imposes strict quarantine and health requirements. This is set forth in the Laos-China live animal protocol and the quarantine permit of entry for plants and animals. One of the most important requirements is the establishment of a Foot-and-Mouth-Disease (FMD) free zone in Laos at no more than 3 km from the Chinese entry port<sup>46</sup>.

Compliance with these requirements is often difficult for smallholders and small traders. All processes must be inspected by DOA technicians at least twice a year, and daily or weekly by District Agriculture and Forestry Office (DAFO) staff. All technical and administration costs must be borne by farm owners. GACC also sends its own inspectors to verify consistency with its requirements, with all costs borne by exporters. With these strict requirements, there is a substantial amount of informal cross-border trade, despite the fact that quotas set in the trade agreements have not been met for many agriculture products.

### 3.3 SPS standards in Thailand and Vietnam

Compared to China, the SPS standards in Thailand and Vietnam are less stringent. The basic requirement is the phytosanitary certification issued by Department of Agriculture (DOA), verifying that the export consignment does not contain quarantine pests. Specific technical requirements are in the respective trade agreements.

Several agencies are responsible for ensuring compliance with SPS and food safety requirements in Thailand. Thailand is a main importer and transit country for agricultural products from its neighboring countries, including Laos. The Thailand Ministry of Agriculture and Cooperatives (MOAC) has the mandate to control pests and diseases; quarantine plant, animal and fishery products; and ensure the safety of agriculture inputs and the use of GAP. The Food and Drug Administration (FDA) under the Ministry of Public Health (MOPH) is responsible for food safety controls for both imports and the domestic market, using Pre- and post-market controls and surveillance. The Department of Medical Science (DMS) supports all analytical services and laboratory testing.<sup>47</sup> In principle, SPS requirements are the same for all border posts and exporting countries; however, the controls are not effective against informal border trade and smuggling. Without effective controls, unsafe products may enter, but with tight controls the amount of informal trade and smuggling increases. This has led to intensive post-entry control within Thailand along the northern border.<sup>48</sup> In addition, payments of informal fees are a problem on both sides of the border.

In Vietnam, the SPS requirements are less onerous. Imported plants, plant products, aquatic animals and plants, animals and animal products, and processed food products may be

---

<sup>46</sup> The disease free zone must have a physical barrier and be set up in accordance with both World Organization for Animal Health (OIE) and GACC standards. Under OIE disease-free zone standards, at least 30 local cattle must be kept in the zone for at least 30 days and be serologically negative for FMD before export. Within the FMD free zone, the Pre-export Quarantine Farm (PQF) which keep the animals for at least 30 days before export must be established and complied with the Requirement of the Isolation Facilities for Imported Bovine and Sheep/Goats and approved by GACC. Furthermore, before entering the PQF, the collection farms which keep at least 45 days must be set up within 3-50 km range from the edge of the FMD free zone.

<sup>47</sup> GIZ, 2014. Implementing SPS measures to facilitate safe trade in Thailand.

<sup>48</sup> *ibid.*

inspected. The inspections may include examination of documentation, visual inspection of products before transportation to quarantine, and laboratory testing of quarantined products. Imported plants must be accompanied by a phytosanitary certificate from the competent authority of the exporting country; must be free of regulated pests; and must have an import plant quarantine permit from the Department of Plant Protection in the Ministry of Agriculture and Rural Development (MARD) for objects subject to pest-risk analysis. In addition, wood packaging must undergo phytosanitary treatment.<sup>49</sup>

### 3.4 Lao institutional framework for SPS

Lao SPS institutional framework and capacity remains very limited. At the national level, there are three main departments with basic responsibility for SPS measures: (a) the Department of Agriculture (DOA) of the Ministry of Agriculture and Forestry (MAF) is responsible for plant quarantine and control of pesticides use; (b) the Department of Livestock and Fisheries (DLF) of MAF has the mandate for animal quarantine and safety of animal and fisheries products; and (c) the Food and Drug Department (FDD) of the Ministry of Health (MOH) has the mandate for food safety. The Plant Protection Center (PPC) and the Animal Health Laboratory, both under MAF, have insufficient diagnostic capacity for plant pests and animal diseases, respectively. The FDD has limited capacity for chemical analysis of food and agrochemicals. There is no laboratory with ISO 17025 accreditation in the country.<sup>50</sup> The lack of staff and operational funding are key constraints for the operation of laboratories and the development of testing and analytical skills.<sup>51</sup> Moreover, laboratories are not available in provinces, resulting in higher transaction costs for traders.

The implementation of SPS standards lies with the provinces. SPS border checkpoints fall under the administration of provinces. Provinces have discretionary authority in implementing SPS measures within the parameters set by the MAF and national legislation. On technical matters, officials from the provincial and district offices of MAF are required to seek and comply with guidance from their respective ministries.<sup>52</sup> To date, there is no digital system using for SPS traceability through the whole process. Table 7 summarizes the institutional and organizational framework for SPS, comprising the MAF departments of Department of Planning and Finance (DOPF), DOA and DLF; the MOH department of FDD; and their capacity constraints.

---

<sup>49</sup> WTO, 2013. Objects subject to pest-risk analysis include living plants; fresh fruits; weeds and weed seeds; beneficial organisms, biological agents and living organisms harmful to plant resources; untreated timber; and objects with a high risk of carrying a regulated pest.

<sup>50</sup> ISO/IEC 17025 is the standard for which most laboratories must hold accreditation in order to be deemed technically competent. Industrial Safety and Hygiene News. 2022.

<sup>51</sup> GIZ, 2017. Sanitary and Phytosanitary (SPS) Measures. Status Report on Agricultural Trade between Cambodia, the Lao PDR, Vietnam and China.

<sup>52</sup> Ibid.

Table 7. Institutional Framework of SPS and Constraints

Agency/Organization	Role	Capacity constraints
<b>International Cooperation Division (ICD), DOPF, MAF</b>	Has a coordinating role in SPS and houses the enquiry point, but is not involved in import and export controls.	Limited number of SPS technical staff to coordinate with line departments in MAF and other ministries.
<b>Department of Agriculture (DOA), MAF</b>	Responsible for plant quarantine, control of pesticide use, good agriculture practices and organic certification. Plant Quarantine Division (PQD) under DOA is responsible for plant quarantine, and supports and guides the Provincial Agriculture and Forestry Office (PAFO) and District Agriculture and Forestry Office (DAFO) staff in plant quarantine inspection and certification.  DOA issue SPS certificate for crop export.	Limited capacity of technical staff in plant quarantine, pesticide use, SPS, GAP, OA inspection and certification.
<b>Plant Protection Center (PPC), DOA of MAF</b>	Provides diagnostics of plant pests and laboratory testing for main pests before issuing SPS certificate, depending on the requirements of the importing countries.	Does not have facilities or capacity to comply with ISO/IEC 17025, the standard for laboratory certification.
<b>Department of Livestock and Fishery (DLF), MAF</b>	Responsible for animal health, food safety of animal products, meat inspection, fisheries products, feed control and use of veterinary drugs and growth enhancers. DLF inspects and issues SPS certificate for livestock.	Lack of technical capacity to efficiently collect samples and test for animal diseases.
<b>Animal Health Laboratory, DLF of MAF</b>	Provides diagnostics of animal disease and laboratory testing. Animal Health Laboratory under DLF has mandate to test animal disease before issuing the SPS certificate.	Does not have facilities or capacity to comply with ISO/IEC 17025, the standard laboratory certification.
<b>Food and Drug Department (FDD), MOH</b>	Main responsibility for food safety.	Lack of staff and operational funding are key constraints for the operation of laboratories and development of testing and analytical skills.
<b>Foreign Trade Policy Department (TPD), Ministry of Industry and Commerce</b>	Acts as the National Notification Authority for SPS and is responsible and involved in trade negotiation on agricultural products with MAF and MOH.	Limited staff capacity in agriculture sector and on SPS.
<b>Provincial and District Agriculture and Forestry Office (PAFO and DAFO), MAF</b>	Responsible for training farmers, conducting field inspection and supporting implementation of SPS and GAP measures; also investigates and inspects SPS at border checkpoints.  PAFO issues SPS certificates.	Insufficient staff in SPS, GAP and other technical capacities.

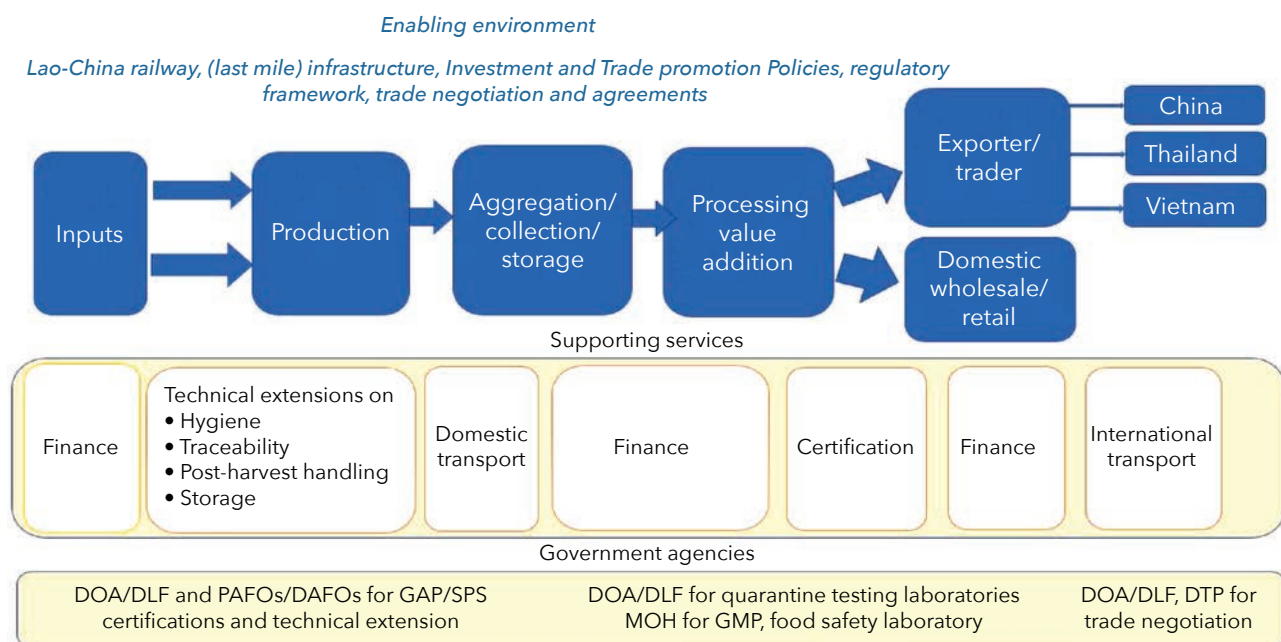


# OVERVIEW OF AGRICULTURE EXPORT VALUE CHAINS

## 4.1 Export value chain analysis – constraints to smallholders' participation

This chapter summarizes the key constraints to smallholder integration into agriculture export value chains, drawing from the experience in the cassava, citrus, beans and cattle value chains. The analysis is in accordance with a typical value chain (VC) framework related to the country's enabling environment, support services, as well value chain steps/segments (Figure 17). The analysis is based on a literature review and on key informant interviews (KIIs) from the selected four value chains. These value chains were selected based on the following criteria: (a) smallholders are heavily engaged in their production; (b) the VC product is produced in the

Figure 17. Segments of a Typical Agricultural Export Value Chain



Source: World Bank staff.



central region; (c) there is increasing demand for the product from neighboring countries; and (d) women have a major role in their production. Appendix D summarizes the key findings of the four value chain studies and presents a detailed strength, weakness, opportunities, threats (SWOT)<sup>53</sup> analysis and specific recommendations for each. Rice value chains were used to triangulate and complement the findings of these studies. In addition, key informant interviews with 19 traders/exports were undertaken to gain insights on the costs, difficulties and constraints in complying with SPS and GAP standards in China, Thailand and Vietnam. Appendix F summarizes the insights from the key informant interviews relating compliance requirements with Chinese SPS and technical standards.

## 4.2 Summary of the main challenges – enabling environment and supporting services

Agriculture value chains in Laos are predominantly fragmented and weakly organized, resulting in an agri-food system that has low profitability, and leading to low incomes and poor quality of jobs. In general, the value chains are characterized by large numbers of isolated producers, poorly capitalized intermediaries and processors, and relatively few agribusinesses with the capacity to invest in digital technologies and in modern production infrastructure and processing equipment. Consequently, all segments of the value chain – production, aggregation, processing and distribution for export and domestic markets – have limited potential to achieve commercial scale. The absence of formal commercial relationships among value chain players has meant that farmers, agribusinesses and intermediaries (off-takers, traders, marketers, transport and logistics operators) are unable to effectively link with each other to improve their quality and gain access to markets. For exports to ensure a stable supply, off-takers and traders would have to source raw materials from multiple intermediaries and consignees resulting in high transactions. Moreover, economies of scale are difficult to achieve given the small size of the domestic market and competition from cheap processed food imports. The suboptimal performance of value chains has also resulted in missed opportunities arising from the rapidly growing urban, regional and international markets.

The lack of organization in the sector makes it difficult for smallholders to comply with SPS and GAP standards. This compliance is needed to meet the formal trade protocols with China and other main export countries.<sup>54</sup> As described in Chapter 3, Lao capacity for SPS compliance remain critical to expanding agriculture exports through formal trade channels and agreements.

Recognizing the growing demand for high-quality food in domestic and global markets, Laos introduced GAP in 2004. LaoGAP, developed in accordance with international standard ISO/IEC 17065, laid out strict registration, inspection, certification and labelling processes. The Lao Certification Body (LCB) was created, and the Clean Agriculture Development Center (CADC) was approved by the MAF as the implementing agency in 2008. The LCB Standard of Operation (SOP) defined the roles and responsibilities of laboratory operators and inspectors,

<sup>53</sup> SWOT = strengths, weaknesses, opportunities, threats.

<sup>54</sup> World Bank, 2019a. Food safety issues in agriculture value chains in Northern Lao PDR. Background report.

as well as the procedures for inspection and certification, appeals, complaints, internal audit and the document coding system. The government had aimed for GAP to be in use on 170,000 ha, or 2 percent of cultivated area, which is around 34,377 ha, by 2025. However, only 0.3 percent (103 ha) of the target has been certified as of 2021, due to cumbersome certification processes, high costs and lack of capacity. Since 2016, DOA has been planning to strengthen the capacity of at least 5 inspectors in each province. However, these plans have not been implemented due to financial constraints.

In addition to GAP, the Government is promoting organic farming among smallholder producers. The strategy aims to support existing organic markets and establish new ones in all provinces, and achieve organic certification of a total cultivation area, which is around 429,216 ha or 700 farms, by 2025. However, the requirements for organic certification are making the achievement of this goal by 2025 unlikely. Only 3.04 percent of the target has been achieved with 13,082 hectares or 60 farms certified as organic farms, according to DOA.

Agriculture products are generally sold in large, heavy bulk loads, involving high transport costs. The country's underdeveloped logistics services and facilities, and lack of road or rail connectivity in rural areas, remain major constraints to competitiveness, as described in Chapter 2.

The private sector plays an important role in facilitating backward and forward linkages in value chains, yet the legal and regulatory environment is not conducive to private sector investment in agribusiness. Laos ranked 82nd out of 101 countries on the 2019 Enabling the Business of Agriculture (EBA) index,<sup>55</sup> which measures key elements of countries' regulatory framework that impact agribusiness value chains. Laws and regulations that govern the role of the private sector in plant breeding, registration of new varieties, quality control of seed and tractors, the import of fertilizer and machinery and the provision of animal feed and medicinal products all constrain or fail to enable private sector participation. Almost all seeds for horticulture production are imported from Thailand and Vietnam. But Laos has not established adequate seed regulations to ensure the use of improved seed varieties and does not maintain a reliable catalog of these varieties. Registration of fertilizers involves a lengthy process, and it is valid for only two years. Imported fertilizers require an import permit for each shipment. Sustaining livestock is also challenging due to lack of regulations on the quality of veterinary care and medicines to contain disease outbreaks.

Commercial banks tend to focus on large-scale customers rather than smallholders.<sup>56</sup> Only 14 percent of total smallholder farmers (851,000 people) in Laos have access to finance in the formal banking sector,<sup>57</sup> and the country's 73 microfinance institutions provide credit to only 2 percent of smallholders.<sup>58</sup> Two of state-owned banks (Nayobai Bank and Agricultural Promotion Bank) have a mandate to provide finance to farmers and agribusiness, but their loans have been limited to producer groups and individual farmers with sufficient collateral.

<sup>55</sup> World Bank, 2019 b ( <https://eba.worldbank.org/en/eba>)

<sup>56</sup> Wongpit, P. et al. 2020. Farmers' access to credit in Lao PDR. NAFRI Research Report, Ministry of Agriculture and Forestry.

<sup>57</sup> MAF, 2020. Agriculture census 2019/2020.

<sup>58</sup> Bank of the Lao PDR website [https://www.bol.gov.la/en/Money\\_and\\_Banking](https://www.bol.gov.la/en/Money_and_Banking)

Land titles are the main type of collateral in Laos. Therefore, the lack of land titles, particularly for women farmers, is one of the main barriers to expanding access to credit. Lending to agro-processors by commercial banks is also limited, due partly to the low level of commercialization and partly to the fact that most small enterprises cannot afford to pay interest at market rates.

The government developed the Trade Facilitation Road Map 2017–2022, which envisions facilitating and minimizing procedures for trade and taxation, improving services and enhancing capacity in trade competition. The strategy and implementing methodology include improving the coordination among relevant departments and agencies and cooperating with neighboring countries. The Trade Facilitation roadmap also aimed at reducing the number of export and import documents by 30% by 2022 through the streamlining of various clearance procedures and the establishment of the National Single Window (NSW), where information can be captured at one platform and shared electronically among all the concerned departments without necessitating any duplication. NSW is already used by the Department of Transport under the Ministry of Public Works (MPW) and Transport and by the Department of Import and Exports under MOIC. However, DOA/DLF of MAF and FDD of MOH are still negotiating Memoranda of Understanding (MOUs) to complete the rollout of the NSW system. In order to improve the coordination, the National Trade Facilitation Committee (NTFC)<sup>59</sup> was established in 2018.

## 4.3 Summary of the main smallholder challenges from the agriculture value chains studies

### 4.3.1 Production

- ▶ Traditional farming in Laos is characterized by relatively pristine soil, water resources, environment, and low use of chemicals. In fact, Laos has the lowest use of synthetic fertilizers and agrochemicals in Southeast Asia (0.03kg/Ha in 2010–15),<sup>60</sup> presenting an opportunity to raise profitability by marketing its environmentally sustainably produced (in some instances organic) products.
- ▶ Large investments in irrigation systems over the last two decades expanded the cropped area to 1.6 million ha in 2019. However, only 28 percent of the total agriculture area is still irrigated in Laos, significantly lower than Vietnam, Thailand, and Malaysia. In the uplands, the area irrigated in the dry season is only 50 percent of the wet season irrigated area, whereas in the lowlands, the dry season irrigated area is 68 percent of the wet season irrigated area. Nevertheless, droughts are a problem throughout the country (IWMI and DOI, 2019). The aging irrigation and canal infrastructure has resulted in significant water losses due to leakage and consequently, lower water availability and irrigation delivery

<sup>59</sup> NTFC is comprised of MAF (DOA/Plant and Animal Quarantine Division; and DLF), MOIC (Lao Customs Department – LCD, Department of Import and Export – DIMEX); Ministry of Public Work and Transport (Department of Transport); Ministry of Health (Department of Food and Drug).

<sup>60</sup> In general, fertilizer utilization in the country is below the recommended level due to its relatively high cost and farmers' perception that the land is sufficiently fertile. This is particularly the case in the remote areas. The most common practice is applying organic fertilizer, such as rice husk and animal manure, with limited quantities of chemical fertilizers.

efficiency. In addition, the floods in 2018 and 2019 caused extensive damage to the irrigation infrastructure in the south and parts of the central region.

- ▶ Smallholders are experiencing a decline in farm productivity from soil erosion and declining soil fertility due to the lack of improved farming practices. They are also experiencing the impact of climate change (frequent floods and drought) on farm productivity but have little opportunity to adapt due to lack of access to drought and heat-resilient seeds.
- ▶ Smallholders receive insufficient technical extension support due to low government budget allocations and limited human resources. As a result, farmers have limited awareness of organic agriculture, GAP, integrated pest management or intercropping (Box 2). Similarly, small livestock farmers have limited access to animal health services and products such as vitamins and mineral solutions for improved nutrition, and to technical advisory services related to proper slaughterhouse and meat distribution practices.
- ▶ While there is a potential for using digital agriculture technology, such as e-extension, its application has been limited so far.<sup>61</sup> Laos has some successful initiatives and projects in promoting e-extension services, such as the Laos Climate Service for Agriculture (LaCSA) application. This mobile application has been developed under the Agro-climatic Monitoring and Information Systems (SAMIS) project, funded by the Food and Agriculture Organization (FAO), in collaboration with the Ministry of Natural Resources and Environment (MONRE) and MAF.
- ▶ Smallholders find it particularly difficult to enter the Chinese market because of the stringent requirements included in formal trade agreements. In particular:
  - Unavailability of appropriate pesticides and knowledge about integrated pest management, pesticide registration, and proper pesticide application, which hampering the efforts of farmers to comply with Chinese SPS standards.
  - High transactions costs to comply with China's SPS standards. All processes must be inspected by DOA technicians at least twice a year and daily or weekly by District Agriculture and Forestry Office (DAFO) staff, and all technical and administration costs must be borne by farm owners. Moreover, GACC sends its own inspectors to verify consistency with its requirements. Any related costs need to be borne by Lao traders or exporters.
  - Low livestock weight of smallholder livestock. For instance, the standard weight requirement for cross-breed beef for the Chinese market is at least 350 kg per head. However, the cattle weight of livestock raised by smallholders is only 150–250 kg per head.
  - Access to formal credit is limited, hampering the ability of smallholders to cope with shocks and discouraging them from investing in their land and improved farming practices.<sup>62</sup>

<sup>61</sup> In terms of enabling environment, Lao PDR is in a good position to use digital technologies for extension. The Government has also been pursuing a series of policies and strategies to strengthen digital transformation and connect citizens to the internet. Mobile phone base stations now cover 96 percent of all villages in the country, and high-speed internet via 3G and 4G mobile phones covers, respectively, 82 and 55 percent of all villages and 95 percent of all telephone numbers.

<sup>62</sup> In 2019, only 12.77% of farmers were able to borrow money from banks (Wongpit et al., 2019).

### 4.3.2 Aggregation and collection

- ▶ Local collectors/aggregators find it difficult to collect sufficient quantities of agriculture and livestock products for export, as the farm production units are small and scattered.
- ▶ Local collectors/aggregators lack clear information on the technical/product requirements of the main export markets. For instance, detailed information on Chinese market technical requirements and price information is not publicly available. This has made it difficult for aggregators and off-takers to inform or guide farmers on how to tailor their production for the intended markets.
- ▶ Local collectors have limited access to finance for working capital to increase their collection efforts and make cash payments to farmers.

### 4.3.3 Processing

- ▶ The few formal food processing businesses in Laos are small and located predominantly in western region. While meat processing companies are concentrated in the central region (Savannakhet, Vientiane province and the capital), vegetable and food preservation processors are largely in northern Xayaboury. Millers of non-rice grains (especially maize) are spread across all three regions (Vientiane, Luang Prabang, Champasak, and Oudomxay provinces) and noodle production is concentrated in Savannakhet. Coffee and tea processors are mostly found in Phongsaly, Savannakhet and Oudomxay.
- ▶ Food processing remains underdeveloped due to limited vertical integration. Most food processing is minimal, consisting of food preservation and small-scale commercialization by farming households. Most agro-processors have out-of-date equipment, resulting in high losses in both value and volume during harvesting and processing. For instance, the cassava processing industry lacks quality controls and sufficient space for drying cassava chips. Cassava starch processing requires heavy investments in equipment and know-how, which are major constraints for small processors.
- ▶ Lack of private investment in agro-processing and services contributes to low operational efficiencies and high post-harvest losses. There is also limited availability of value-added services, such as integrated door-to-door multimodal transport, container leasing, inventory management, order fulfilment, purchase order management, and cold-chain services.<sup>63</sup>

### 4.3.4 Export

- ▶ The administrative requirements for exports are complex. Inadequate trade logistics, facilitation and digital processing at border crossings often cause delays and impose extra costs on exporters. Overly complicated and time-consuming border clearance and

---

<sup>63</sup> World Bank, 2021c. Corridor Logistics Assessment in Lao PDR: A Closer Look at Key Agricultural Commodities.

product quarantine procedures at the Laos-China border impose unnecessary and unpredictable costs.

- ▶ Exporters in Laos face high logistical and transaction costs. The cost of obtaining an SPS certificate from DOA is about \$40 per shipment for normal commodities to China, Vietnam, Thailand and other markets. In order to export maize, fruit or vegetables, the exporter has to visit the office of MAF in Vientiane or a Provincial Agriculture and Forestry Office (PAFO) to request a certificate.<sup>64</sup> While PAFOs occasionally maintain farm records on fertilizer and pesticide use, these records may not be immediately available, leading to delays in SPS inspection and certification for export.<sup>65</sup> When all documents are available, it takes 1-2 days for crops and about 7 days for livestock. In certain cases, product samples need to be sent to DOA or Department of Livestock and Fisheries (DLF) laboratories for testing, which could take a few additional days.
- ▶ In addition to SPS certification, traders/exporters need to have: (a) a weight/quantity certificate to be issued by DOA; (b) a hazardous substance residue certificate to be issued by DOA; (c) a container sanitation certificate to be issued by DOA; and (d) a certificate of origin to be issued by Department of Import and Export of MOIC. Additional certificates are needed for specific products such as rice (packaging and annual production certificates); maize (health, toxin content and non-GMO certificates). Table 10 in Chapter 3 clarifies which government agency issues which certificate. Key informants report that it takes several weeks to obtain all these documents. Thailand and Vietnam accept SPS certificates issued by Lao SPS authorities. China also accepts certificates issued by the relevant authorities in Laos, but exporters are required to include the inspection report of GACC's inspectors as additional supporting document, as described in Chapter 3.
- ▶ For exports to China specifically, close inspection at all stages, from farm registration to farm management, packing house management, pre-departure quarantine, entry quarantine and compliance inspection, is required. (See Appendix G for details on SPS requirements imposed by Chinese authorities.)
  - Exporters must register with GACC through a formal recommendation of DOA or DLF. All harvesting and transportation must be scheduled well in advance of China's harvesting season.
  - Informants reported there are significant costs associated with application and registration in compliance with Chinese SPS standards. These costs include investment in equipment and infrastructure needed for traceability, recordkeeping, waste and pollution management, environmental management and farm and packing facilities in accordance with GACC's requirements. It could cost around \$60,000 per product to comply with these standards and set up an agreement with Chinese importers. Informants also estimate that the cost of inspections is about \$4,000 per year. Many traders report they cannot afford these investments.

---

<sup>64</sup> GIZ, 2017.

<sup>65</sup> World Bank, 2021c.

- For cattle, key informants report that it takes about three years to establish a pre-export quarantine farm and a collection farm in accordance with GACC's standards. It costs about \$75 per head for services at the collection farm before it could be exported.
  - Before products can be exported, China sends its own GACC inspectors to verify their consistency with China's requirements, with assistance of MAF. Any costs related the final inspection will be borne by the Lao side.
- ▶ The entire SPS and traceability system is not digitized. All inspection, testing and certification are processed using paper documents.
  - ▶ Although MOIC, as the National Notification Authority for SPS, has improved the Lao Trade Portal to increase the transparency and awareness of SPS-related regulations, most traders/exporters still feel uncertain about which regulations actually apply.
  - ▶ Since the emergence of COVID-19 in early 2020, Lao trade supply chains have faced significant disruption. Border clearance systems were less resilient than expected and the need for compliance with strict health measures led to delays.<sup>66</sup>

---

<sup>66</sup> World Bank, 2021c.



# CONCLUSIONS AND RECOMMENDATIONS

There is considerable potential for Laos to increase agricultural exports, provided it can meet the regional market's demand for high-quality, consumer-safe and environmentally sustainable foods and agriculture products. Improved connectivity within the country is likely to stimulate domestic demand for Lao agriculture products. However, some major infrastructure, institutional and policy issues still need to be addressed before smallholders can become more fully integrated into the regional market and its value chains. This chapter provides broad recommendations to promote greater smallholder integration into regional and international value chains. These include: (i) strengthening horizontal and vertical coordination for smallholder inclusion; (ii) improving productivity and commercialization to help smallholders integrate into export value chains; (iii) strengthening trade facilitation and SPS-related services to promote agriculture exports; (iv) improving last-mile connectivity with farms, and related logistics and trade facilitation services; and (v) promoting increased private sector investments. A summary is presented in Table 8.

## 5.1 Strengthening horizontal and vertical coordination for smallholder inclusion

Weak vertical and horizontal integration prevent smallholders from benefiting from regional economic corridors and market opportunities. Local collectors/aggregators find it difficult to collect sufficient quantities of agricultural and livestock products for export, as production unit (as smallholders) is generally small and scattered. In the absence of horizontal integration, geographically fragmented farmers have difficulty accessing information and achieving economies of scale. Further, in the absence of vertical integration, smallholder farmers face high transaction costs associated with acquiring agricultural products and getting them to market.

**Promote horizontal coordination through producer organizations.** Organizing smallholder farmers into producer organizations, including cooperatives associations and self-help groups can assist members to access markets, credit, and advisory and technical services<sup>67</sup> The aggregation of smallholders into producer organizations has a number of potential benefits. For example, it permits the supply of larger quantities than would be otherwise possible. While processors and other buyers are looking for farmers who can reliably deliver sufficient

<sup>67</sup> World Bank, 2020d. Transforming Philippine Agriculture, During COVID 19 and Beyond.

quantities of produce at the right time and with the quality required, they do not want to have to deal with hundreds or thousands of individual farmers. POs can offer a central point of contact, which reduces transaction costs for buyers and can also provide intermediate activities, such as transport, storage, quality control and first stage processing (e.g. paddy drying). This type of aggregation can also improve logistics and reduce transport costs. Harvests can be scheduled so that losses are not incurred while harvested produce waits for transport to arrive. Similar improvements can be made for the timely supply of inputs.

However, to have sustainable POs, it is important to support their professionalization, particularly their governance, management and delivery of services<sup>68</sup>. Diagnostic tools have been developed and applied to gauge the status of POs, including for purposes of benchmarking capacity and screening loan applications for PO joint investments. The issuance of a guideline on PO professionalization, covering such topics as business and financial management, human resources, community and stakeholder engagement and member services delivery has been very useful for benchmarking PO performance. It is important for the government to support PO professionalization. Effective capacity development among POs requires considerable time and re-enforcement. The IFC's Agribusiness Leadership program is one example which integrates PO diagnostics, training and coaching. There are successful cases of horizontal coordination through producer organizations and cooperatives. Some available platforms such as the Lao Farmers Network has successfully supported horizontal integration through information sharing.

**Promote vertical integration through contract farming.** One option to achieve vertical coordination is through contract farming. It is a transaction-based approach to coordination in agri-food value chains. Though contract farming is centuries old, and its track record is mixed, there is rising interest in its potential to address traditional as well as emerging challenges including increasing demand for quality, sustainability, traceability, and certification, and growing competition for agricultural land and labor (Box 2). On the most basic level, contract farming is one way of potentially reducing the transaction costs involved in sourcing agricultural products and getting them to market. Though there is no single contract farming model, it generally involves a formal agreement—often between a multiplicity of producers and at least one buyer such as a processor or trader—to buy/sell agricultural products on terms established in advance. In addition, it is common for contract farming agreements to address market failures surrounding the provision of agricultural inputs, technology, and services such as finance, extension, training, transportation, and logistics—by involving buyers or third parties in delivering these to farmers<sup>69</sup>.

While contract farming is primarily led by the private sector, government support for such arrangements is not uncommon on the grounds that they contribute to broader policy objectives, such as inclusive growth, food security, or the protection of natural resources. Besides improving the enabling environment (the rule of law, the quality of infrastructure, health, and education, political stability, financial markets, and so forth), government can encourage

---

<sup>68</sup> Ibid.

<sup>69</sup> Ibid.

## Box 2. Lessons Learned from Laos and Global Experiences for Inclusive Value Chain Development

Contract farming has become a growth strategy for processing and trading firms under pressure to comply with standards and resolve tightening land, labor, or other resource constraints. To remain competitive, firms increasingly must meet more rigorous or restrictive environmental, labor, social, land-use, food safety, quality, and traceability standards. In some contexts, smallholders can become a source of competitive advantage by providing access to ever scarcer land and labor resources, and local farming knowledge. Comprehensive, forward-looking arrangements with such producers can help lower the costs and increase the feasibility of meeting higher standards. Buyer involvement ranges from providing or dictating the use of certain inputs (specific varieties) to controlling or investing in most aspects of production from land preparation to harvesting (land, machines, staff, management). The latter is often true when large volumes of a commodity need to be of a uniform quality for processing (sugarcane, cotton, coffee, tea, dairy, poultry, and so forth) and when buyers source from their own estates as well as contracted farmers (for example, outgrower schemes involving perennials).

Not all farmers are suitable for contracting, whether working directly with companies or through producer organizations. In choosing farmers, companies are first likely to consider factors such as agronomic suitability of the land; climate, pests, and diseases; the location of the farm; and suitability of infrastructure such as roads, electricity, and communications. Companies should also meet certain criteria, and smallholder representatives or governments should carry out “due diligence” to minimize risks of signing contracts with unsuitable buyers. While it is unrealistic to require all companies to have had previous contract farming experience, it is desirable that some of their employees have had such experience, as poor managers can jeopardize success. Research suggests that the main factors leading to successful operations were the prior strength and capabilities of lead firms. Where these operations were well managed, had ample finance, and had a competitive position within domestic or international markets, it was possible to have reasonable success with upgrading smallholder production.

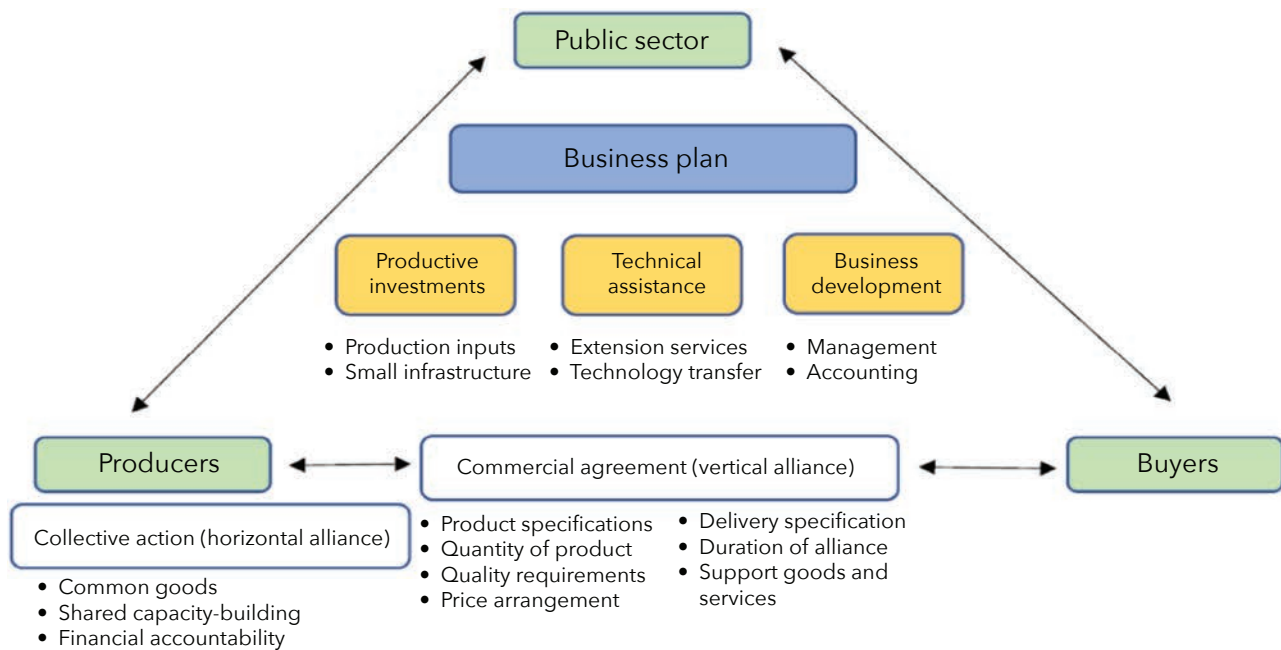
Contract farming works better under some circumstances than others. It is generally more common for crops that are of high value, difficult to grow, perishable, require prompt processing (oil palm, tea, sugarcane, tobacco), or are subject to strict standards. It also seems to work better when there are few alternative markets for the smallholders, thus limiting the chances of side selling. In the case of vegetables, contract farming is usually less risky for a company when it is working with farmers on crops for which there is little local demand or on specialized products, such as organic crops, for which the company can pay a premium. Experience to date suggests that rice and other staples are not really suitable for contract farming. Because companies can obtain supplies of staples from multiple sources, they have limited incentives to introduce contracts for standard varieties for which there are no quality specifications and multiple buyers. The main examples of contract farming in rice production involve varieties that command a premium on national or international markets, such as aromatic varieties and organic rice. Several contract farming operations are in place for these purposes, including in Cambodia, Laos, and Vietnam.

Source: World Bank 2020d

contract farming by facilitating interactions and brokering transactions among potential counterparts, establishing a legal framework for farming contracts, putting economic incentives in place, building technical and institutional capacity, and educating counterparts about potential benefits and risks. India, Morocco, Thailand, Vietnam, and other countries have developed formal policies aimed promoting contract farming<sup>70</sup>.

<sup>70</sup> Ibid.

Figure 18. Productive Alliance Model



Source: World Bank.

**Promote both horizontal and vertical integration through Productive Alliance Model.**

The productive alliance model is another approach to consolidating large numbers of small-holder farmers and at the same time linking them with buyers or processors in an anchor-company approach. Productive alliances involve three core actors: a group of organized smallholder producers, one or more agro-enterprise buyers, and the public sector (Figure 18). The approach aims to promote horizontal alliances among the producers as well as a vertical alliance between the producers and the buyer(s). Typically, a business agreement is signed between the agency in charge of the program or project (for example, a government ministry), the commercial partner, a service provider, and a producer organization. The agreement specifies product characteristics (such as varieties to be grown), the quantity to be purchased, production methods, and logistical arrangements (such as how and when the product will be delivered). It also defines how the price is set and payment made and indicates any contributions of the buyer, such as input provision and technical assistance. Most programs include some provision of grant resources, usually for technical assistance to address technical issues, build relationships between the farmer groups and company, and sometimes also to help co-finance infrastructure and equipment (for example, related to irrigation or commodity storage)<sup>71</sup>.

A typical productive alliance program in a country might involve support to 100–300 such partnerships, either focused on a few commodities or offered to a wide set of value chains, and the participating farmer groups tend to have 50–100 members. As with contract farming, the

<sup>71</sup> Ibid.

productive alliance approach is not suitable for the poorest smallholders. Projects generally work with “transitional smallholder producers” who lack well-established linkages to buyers and markets but have the willingness and capacity to engage in modern markets. To be considered, smallholders must already be engaged in market-oriented production and have the potential to generate income and jobs. The participating companies are generally small and medium food/agricultural processors, produce packers, seed companies, and commodity exporters, although sometimes larger companies are involved<sup>72</sup>.

Usually, an information campaign is conducted to raise awareness of the productive alliance program among producer organizations and companies. This campaign is followed by the issuance of a call for proposals, which is often made by the agriculture ministry. Producer organizations start the process by preparing basic business plans, which are evaluated against strict predefined eligibility criteria. If chosen to be taken further, a proposal is developed into a more detailed plan, usually with the help of a business development service. From the beginning, the plan should indicate the commercial partner. Following the final funding agreement, program funds are transferred to the producer organization in installments, which are paid on receipt of evidence that the previous installment was used as intended. The grant is expected to be matched by contributions from the producer organization and the buyer (in the form of technical assistance and inputs) and, possibly, funding from public institutions and bank loans.

The ongoing Lao Agriculture Competitiveness Project (LACP; P161473) uses the productive alliance approach and demonstrates that smallholder farmers can be successfully integrated into value chains for rice, vegetables and maize. The project includes support to farmers to organize into associations and promote agribusiness activities through matching grants. These experiences of horizontal and vertical integration have the potential for further scale up in Laos.

## **5.2 Improving productivity and commercialization to help smallholders integrate into export value chains**

Productivity enhancement remains critical for smallholders to integrate into export value chains. Agricultural production is dominated by smallholders, who face a wide range of supply-side challenges that affect farm-level productivity and market participation. Moreover, farmers are experiencing a decline in productivity due to climatic events. And farmers find it difficult to comply with SPS standards, especially Chinese SPS standards. MAF has developed the Climate Investment Plan for Agriculture and Forestry in 2018, which determined the overall framework of the CSA and prioritization of investments to promote CSA. However, the plan has not been fully followed with fragmentation of investments and projects. On the other hand, Lao is the first country globally to adopt the concept of agroecological zoning (AEZ)<sup>73</sup> to define the zones where specific crops can be growth based on climate, soil, crop cycle and crop management practices. The AEZ approach is a substantial step to support farmers to adopt CSA practices in accordance with climatic and soil condition and based on scientific evidence and data.

---

<sup>72</sup> Ibid.

<sup>73</sup> FAO. 2021. Assessing alternatives for future cropping systems.

At the same time given the low utilization of chemicals by Lao farmers, Laos can position itself as a green and clean producer, to capture a greater market share for organic products in domestic and international markets. While the Government has an ambitious target to promote promoting organic farming and the certification body is already in place, progress has been lagging due to a complicated certification system and lack of staff to certify organic farms. Improvement in connectivity is also likely to boost tourism in Laos, and there is an opportunity to link organic agriculture with eco-tourism.

**Strengthen adoption of climate-smart agriculture among smallholders in accordance with the AEZ.** There is a need to support increased adoption by smallholder farmers of CSA practices and technologies tailored to the agroeconomic zones, which will provide precise information on types of CSAs to be adopted depending on climatic and soil condition. The National Agricultural and Forestry Research Institute should continue to invest in related research, including on ways to reduce greenhouse gas emissions from rice production and development of the climate-resilient varieties (drought, flood, pest resistant varieties). In order to address the challenges of erosion, declining soil fertility and pests, CSA practices such as agroforestry, sustainable land and water management, integrated pest management, Alternative wet-dry system of irrigation management, should be further scaled up through extension services.

**Strengthen agriculture extension service capacity for CSA, GAP and SPS compliance.** Building on some initial successes in e-extension services and the rapid growth of cellphone and mobile internet penetration in Laos, these digital platforms offer mechanisms to strengthen extension service delivery. As in China, Korea and Kenya, traditional public investments in agricultural research and development and extension services can be powered by off-the-shelf and affordable digital tools (soil and water testing sensors, disease and pest mapping through GPS and spatial technologies, e-advisory and data-driven decision support systems) to accelerate the transformation to a more productive, sustainable, inclusive and profitable agri-food system.<sup>74</sup> As a large percentage of smallholder farmers are women, extension services should include measures and approaches tailored to women's needs. Learning from some successful partnerships in the region, the private sector can provide gender-sensitive extension services to both male and female farmers. Some private companies, such as the Lao Women's Union, have organized awareness-raising events on specific gender empowerment policies and commit to using gender indicators in their monitoring and evaluation framework.

It is also important for the government to provide sufficient resources and qualified staff to strengthen its GAP certification capacity, especially at the provincial level. In addition, there is a need for extension staff to be trained in the latest GAP practices, so they can in turn provide training to small farmers in complying with LCB standards. This is essential for smallholders to meet the growing demand in both domestic and export markets for food safety and compliance with SPS. Implementing GAP at the farm level could also improve employment conditions for farmers and agri-food processing workers.

<sup>74</sup> World Bank. 2020b. Beyond the pandemic: harnessing the digital revolution to set food systems on a better course. <https://www.worldbank.org/en/news/immersive-story/2020/08/06/beyond-the-pandemic-harnessing-the-digital-revolution-to-set-food-systems-on-a-better-course>.



**Improve smallholders' access to irrigation services.** In the short-term, the repair, rehabilitation and upgrading of irrigation schemes and canals that are poorly functioning or have been damaged by floods and other disasters are urgently needed. Over the long-term, some areas for action include: (a) strengthening irrigation management to ensure adequate resources are provided for operations and maintenance of irrigation systems and (b) modernization of system, including the development of an integrated system between open irrigation canals and ditches with pressurized or semi-pressurized systems; integration of either on-farm ponds or groundwater into existing canal systems which would enable smallholder farmers to have more efficient water control and more options on crops to produce during the off-season and dry season; and (c) promotion of solar powered systems that could reduce costs in lowland pumped schemes, and other relevant innovations, thereby contributing to both the economic viability of schemes and resilience of schemes<sup>75</sup>.

**Promote smallholder access to organic markets and linkages to agro-tourism.** Laos has an opportunity to tap into niche organic export and domestic markets. The Government can facilitate this through strategic investments to enable farmers to access niche organic markets; including investments in (a) promoting the use of improved seed varieties; (b) extension services to increase the use of GAP/organic farming methods; and (c) strengthening the associated certification system. In the medium term, when both vertical and horizontal coordination are advanced, stallholders can be supported by their own producer organizations, to invest in the inputs, skills and post-harvest equipment necessary for organic farming.

Green and organic agriculture could be linked with the Government's efforts to develop eco-tourism and agrotourism. Agrotourism, sometimes known as "farm-stay" or "community-based tourism," allows visitors to experience life on a farm. Trekking and farm stays are popular agrotourism activities in Laos, as are home stays in the northwest, where visitors can view and participate in the cultivation of mountain rice, cattle, forest edibles and medicinal herbs. In developing countries such as Laos, sourcing goods from local farms is seen as a beneficial impact of tourism. While tourism may raise production costs, it also results in higher wages, higher prices for their products, and improved infrastructure. The Government can help strengthen the link between agriculture and tourism by creating a platform that offers incentives and connects various growers and suppliers with tourism service providers.<sup>76</sup>

### 5.3 Strengthening trade facilitation and SPS-related services to promote agriculture exports

Lao institutional framework for SPS remains very limited at both MAF and MOH. Currently, the Plant Protection Center (PPC) and the Animal Health Laboratory, both of which are under MAF, and FDD of MOH, have limited capacity to conduct basic functions and analysis. No laboratory in the country has ISO 17025 accreditation. Lack of staff and operational funding

<sup>75</sup> International Water Management Institute and Department of Irrigation, 2019. Irrigation Subsector Review.

<sup>76</sup> Asian Development Bank, 2021. Developing Agriculture and Tourism for Inclusive Growth in the Lao People's Democratic Republic.



are key constraints for the operation of laboratories and development of testing and analytical skills. Testing laboratories are not available in the provinces. No part of the SPS and traceability system is digitized, and all transactions use paper documents. A mismatch between SPS compliance and agriculture production records, which are often poorly organized, is the main factor to delay SPS certification process. These result in higher transaction costs for traders.

The Government developed the Trade Facilitation Road Map 2017–2022<sup>77</sup>, which envisions facilitating and minimizing procedures for trade and taxation, improving services and enhancing capacity in trade competition. The strategy aims at improving the coordination among relevant departments and agencies. In accordance with the Road Map, the National Single Window (NSW) was established to streamline various clearance procedures and to establish one platform and shared electronically among all the concerned departments without necessitating any duplication. The NSW is already used by the Department of Transport under the Ministry of Public Works and Transport (MPWT) and by the Department of Import and Exports under MOIC. However, DOA/DLF of MAF and FDD of MOH, which are SPS agencies, are still negotiating Memoranda of Understanding (MOUs) to complete the rollout of the NSW system.

***Simplify SPS processes through a National Single Window.*** Simplification of SPS process should be implemented by reducing document requirements and improving the system of pre-export clearance and inspection at farms and warehouses to reduce delays at border checkpoints. It is a priority for MAF and MOH to complete the process of MOUs for NSW and introduce the NSW to their relevant SPS agencies (DOA/DLF of MAF and FDD of MOH) in order to reduce document processing times and eliminate duplication in regulatory and border controls.

***Digitize SPS processes.*** Digitization and electronic connectivity of the SPS processes would allow for easier access to agricultural records and databases (producer/trader profiles, types of farm inputs); efficient traceability of agricultural production and trade; and issuance of SPS certificates at border checkpoints. Digitalization of value chains will also enable increased integration and traceability from production to export to distribution; rapid identification of problem sources, when pest is detected, and their location in the supply chain; efficient response to new market opportunities; and regular updating of information on the Lao Trade Portal about technical requirements and market and price information.

***Capacity building of SPS staff and investment in SPS testing facilities.*** Building the capacity of laboratory facilities for chemical analysis of food and agrochemicals is critical for meeting international standards (ISO 17025) for SPS certification. These facilities should be accessible to farmers and traders in the provinces. Provincial and district agriculture staff should be trained in plant and animal inspection and in SPS certification. In the longer term, staff should receive training on increasingly strict GAP and other technical requirements, in partnership with the private sector. Currently, Chinese inspectors are sent to Laos to certify that Lao produce adheres to China's high standards, with all costs borne by Lao traders.

---

<sup>77</sup> Ministry of Industry and Commerce, 2017. Trade Facilitation Roadmap of Lao PDR, 2017–2022.

**Improve coordination through NTFC.** Inter-ministerial coordination should be promoted through the National Trade Facilitation Committee (NTFC), which determines regulatory reforms, and promotes streamlining and digitizing the application and approval processes of the regulatory agencies. More streamlined procedures will facilitate trade and improve access to imported inputs that could help smallholders realize their potential.

## 5.4 Improving last-mile connectivity with farms, and related logistics and trade facilitation services

Poor rural connectivity remains one of the major constraints for connecting farms with markets along the economic corridors, especially in remote areas. According to the assessment in the northern region, about 65% of agricultural production (valued at \$3,044 million) has no or low accessibility to markets or gateways within 2 hours; half of them remain so even when the trip span increases to 4 hours<sup>78</sup>. While the Government has made significant investments to improve regional connectivity, including the Laos-China Railway and key road networks, remote areas may not be able to benefit from the economic corridors if existing rural road issues remain unresolved.

**Invest in last-mile connectivity, logistics and value addition services.** There is a need for greater investments to develop the logistics services and facilities (dry ports and logistics parks) that are critical for cargo consolidation, in partnership with the private sector. The Ministry of Public Works and Transport (MPWT) and the Provincial Department of Public Works and Transport (DPWT) can jointly identify last-mile connectivity gaps, taking into consideration agriculture production values and climate vulnerability factors.<sup>79</sup> In addition to traditional logistics, there is a need to promote more private investment in value-added services such as cold chain, processing and packaging. Demand for value-added services is expected to increase, and many services will need to be customized for particular types of products.

## 5.5 Promoting private sector investments

Private sector participation in agriculture value chains has been limited in Laos due to lack of incentives for private investment in improving productivity and value addition and constraints to access to credit. Private investment is needed in the areas of plant breeding, the provision of animal feed and medicinal products, and agribusiness. Laos has not established adequate seed regulations to ensure the use of improved seed varieties and does not maintain a reliable catalog of these varieties. Laos has some successes in promoting public-private sector dialogue (PPD) through the Lao Business Forum since 2015. This is the initiative of IFC and the Ministry of Planning and Investment (MPI), while MOIC act as a coordinating body. Most PPDs have been held in the capital city on an ad hoc basis and have had limited impact on mobilizing investments at the provincial level.

---

<sup>78</sup> World Bank, 2021d. Lao Transport Corridor Connectivity Assessment.

<sup>79</sup> Ibid.

Access to credit is essential to develop inclusive export value chains. The Government has been improving the enabling environment for access to credit through SME funds, micro-finance institutions, matching grants and other community funds. However, only a small proportion of farmers have access to finance in the formal banking sector, for which land titles are needed as collateral.

**Improve the policy framework for private sector participation in value chains.** To support the development of value chains and improve productivity and quality, Laos needs to establish adequate regulations and practices for supplying seeds, registering fertilizers, sustaining live-stock and increasing ease of access to finance. At the same time, it is important for the Government to improve its monitoring of private sector investment in agriculture value chains from an environmental and social safeguards perspective. The monitoring mechanism should reflect ASEAN<sup>80</sup> Responsible Investment in Agriculture (RAI) principles, adopted by ASEAN Ministers of Agriculture and Forestry (AMAF) in 2018 to ensure that private investments achieve social, economic and environmental targets while minimizing negative impacts.<sup>81</sup> Building on some successful experiences with public-private dialogue (PPD) in major cities, PPDs are needed at the provincial/district level to offer opportunities for value chain stakeholders to meet, identify needs and obstacles and explore partnership opportunities.

**Promote agri-finance for smallholders.** The Government's current efforts of modernizing land administration and scaling up land registration to extend the benefits of recognized land rights should be expanded and expedited by learning from early phase of implementation. Improved tenure security would enable farmers to use their land as collateral to increase their access to credit. Through the Enhancing Systematic Land Registration Project of the World Bank (P169669), the Government (Ministry of Natural Resources and Environment) is in the process of modernizing land administration and scaling up land registration to extend the benefits of recognized land rights to more of the population, particularly women farmers. On demand side, farmers who lack financial literacy should be supported in making application for loans.

---

<sup>80</sup> ASEAN is the Association of Southeast Asian Nations.

<sup>81</sup> The 10 RAI principles are: (a) Contribute to food security, food safety and better nutrition; (b) Contribute to equitable, sustainable and inclusive economic development and the eradication of poverty; (c) Foster equality, engagement, and empowerment for women, young people, Indigenous Peoples and marginalized groups; (d) Respect tenure of land, fisheries and forests, and access to water; (e) Conserve and sustainably manage natural resources, in particular ASEAN's forests; (f) Support the generation and diffusion of appropriate technologies and sustainable practices for resource-efficient, productive and safe systems; (g) Respect the rule of law and incorporate inclusive and transparent governance structures, processes and grievance mechanisms; (h) Assess and address impacts of investment and promote accountability; (i) Strengthen regional approaches to responsible investment in ASEAN; and (j) Increase resilience and contribute to the mitigation of and adaptation to climate change, natural disasters and other shocks. <https://www.aseanraiguidelines.org/guidelines>.

Table 8. Summary of Recommendations

Priority	Recommended actions	Responsible Ministries/agencies
<b>1</b> <b>Strengthening horizontal and vertical coordination for smallholder inclusion</b>	<b>Promote development of producer organizations</b> Support the scaling up of POs and support their professionalization. Diagnostic tools and guideline can be developed covering such topics as business and financial management, human resources, community and stakeholder engagement and member services delivery. (Short Term-ST)	Ministry of Agriculture and Forestry (MAF), Provincial Agriculture and Forestry Office (PAFO), and District Agriculture and Forestry Office (DAFO)
	<b>Promote contract farming.</b> Improve the enabling environment for contract farming by facilitating interactions and brokering transactions between farmers and buyers, establishing a legal framework for contract farming, putting economic incentives in place, building technical and institutional capacity, and educating farmers and buyers about potential benefits and risks. (ST)	
	<b>Promote Scaling up of the Productive Alliance Model</b> Promote coordination of three core actors: a group of organized smallholder producers, one or more agro-enterprise buyers, and the government. The government should organize an information campaign to raise awareness about the productive alliance program among POs and companies and facilitate the establishment of the tri-partite agreements with the farmer groups and buyers. The provision of matching grants by the government helps in PO capacity building and in co-financing needed infrastructure and equipment (e.g. irrigation storage). (ST)	

(table continues on next page)

Table 8. Summary of Recommendations (*continued*)

Priority	Recommended actions	Responsible Ministries/agencies
<b>2</b> <b>Improving productivity and commercialization to help smallholders integrate into export value chains</b>	<p><b>Strengthen agriculture research in climate-smart agriculture</b>            Continue to invest in CSA research, through National Agricultural and Forestry Research Institute (NAFRI), including on ways to reduce GHG emissions from rice production and development of the climate-resilient varieties (drought, flood, pest resistant varieties). In order to address the challenges of erosion, declining soil fertility and pests, CSAs practices such as agroforestry, sustainable land and water management, integrated pest management, alternative wet-dry system of irrigation management, should be further scaled up through extension services.</p>	NAFRI, PAFO and DAFO
	<p><b>Strengthen agriculture extension service capacity for CSA, GAP and SPS compliance</b>            Promote use of digital platforms to strengthen extension service delivery, including off-the-shelf and affordable digital tools (soil and water testing sensors, disease and pest mapping through GPS and spatial technologies, e-advisory and data-driven decision support systems. Extension services should include measures and approaches tailored to women's needs. Government can partner with private sector/NGOs to offer gender-sensitive extension services to both male and female farmers. (ST)</p> <p>Strengthen staff capacity for GAP certification, especially at the provincial level and extension staff to be trained in the latest GAP practices, so they can in turn provide training to small farmers in complying with Lao Certification Body (LCB) standards. (ST)</p>	MAF (LCB, DOA), Ministry of Natural Resources and Environment (MONRE), PAFO and DAFO, Ministry of Technology and Communication (MTC)  Private Sector/NGOs
	<p><b>Improve smallholders' access to irrigation services</b>            Repair, rehabilitate and upgrade the irrigation schemes and canals that are poorly functioning or have been damaged by floods and other disasters. (ST)</p> <p>Over the medium-term, (a) strengthen irrigation management to ensure adequate resources are provided for operations and maintenance of irrigation systems and (b) support modernization of systems through adoption of irrigation new technologies (pressurized systems, solar pumping). (Medium Term-MT)</p>	Department of Irrigation (DOI), MAF
	<p><b>Promote smallholder access to organic markets and linkages to agro-tourism</b>            Invest in: (a) promoting the use of improved seed varieties; (b) ensuring extension services provide training on the use of GAP/organic farming methods; and (c) strengthening the LCB and provincial level certification system. (ST)</p> <p>Link green and organic agriculture linked with the Government's eco-tourism and agrotourism program. (ST)</p>	MAF (LCB, DOA), Extension departments of DAFO and PAFO

(table continues on next page)

Table 8. Summary of Recommendations (*continued*)

Priority	Recommended actions	Responsible Ministries/agencies
<b>3</b> <b>Strengthening trade facilitation and SPS-related services to promote agriculture exports</b>	<b>Simplify SPS processes through a National Single Window (NSW)</b> Complete the process for MAF and MOH to enter MOUs for the NSW and introduce the NSW to their relevant SPS agencies (DOA/DLF of MAF and Food and Drug Department-FDD- of MOH) to reduce document processing times and eliminate duplication in regulatory and border controls.	MAF (DOA and DLF), MOH (FDD); MOIC (Lao Customs Department, Department of Import and Export), MPWT (Department of Transport)
	<b>Digitize SPS processes</b> Support the digitization and electronic connectivity of the SPS processes to improve access to agriculture records, market and price information; enable traceability and production monitoring; and issuance of SPS certificates at border checkpoints. (ST)	MAF, PAFO and DAFO, MOIC (Lao Customs Department, Department of Import and Export), Ministry of Technology and Communications (MTC)
	<b>Capacity building of SPS staff and investment in SPS testing facilities</b> Build capacity of Provincial and district agriculture staff should on plant and animal inspection and in SPS certification. The staff should receive training on increasingly strict GAP and other technical requirements, in partnership with the private sector. (ST-MT)  Build capacity of laboratory facilities for chemical analysis of food and agrochemicals to meet international standards (ISO 17025) for SPS certification. Provincial and district agriculture staff should be trained in plant and animal inspection and in SPS certification. (ST-MT)	DOA of MAF, DAFO and PAFO  Plant Protection Center and Animal Health Laboratory, MAF Food and Drug Department of MOH
	<b>Improve Coordination through NTFC</b> Promote Inter-ministerial coordination should be promoted through the National Trade Facilitation Committee (NTFC), which determines regulatory reforms, and promotes streamlining and digitizing the application and approval processes of the regulatory agencies. (ST)	NTFC, MAF (DOA/Plant and Animal Quarantine Division; and DLF), MOIC (Lao Customs Department – LCD, Department of Import and Export – DIMEX)  Ministry of Public Work and Transport (MPWT) (Department of Transport); Ministry of Health (Department of Food and Drug)

*(table continues on next page)*

Table 8. Summary of Recommendations (*continued*)

Priority	Recommended actions	Responsible Ministries/agencies
<b>4</b> <b>Improving last-mile connectivity with farms, and related logistics and trade facilitation services</b>	<b>Invest in last-mile connectivity, logistics and value addition services</b> Increase public investments to address last-mile connectivity gaps (e.g. rural roads, improved road maintenance). Promote private investment in value-added services such as cold chain, processing and packaging, including through the productive alliance program. (ST-MT)	Ministry of Public Work and Transport
<b>5</b> <b>Promoting Increased Private Sector Investments</b>	<b>Improve the Policy Framework for Private Sector Participation in Value Chains</b> Remove barriers to the supply of seeds, simplifying fertilizer registration, access to finance. Government to improve its monitoring of private sector investment in agriculture value chains from an environmental and social safeguards perspective. (ST)	MAF, PAFO, MOIC, Ministry of Planning and Investment (Department of Investment Promotion and Special Economic Zone Promotion and Management Office)
	<b>Promote agri-finance for smallholders</b> Scale up land registration program to enable farmers to use their land as collateral to increase their access to credit.	MONRE

Note: ST = Short Term, MT = Medium Term



# REFERENCES

- Asian Development Bank, 2021. Developing Agriculture and Tourism for Inclusive Growth in the Lao People's Democratic Republic.
- BMI, 2022. Market report Vietnam. Hanoi, Vietnam.
- Deutsche Gesellschaft für Internationale Zusammenarbeit, 2014. Implementing SPS measures to facilitate safe trade in Thailand. Bonn, Germany.
- Deutsche Gesellschaft für Internationale Zusammenarbeit, 2017. Sanitary and phytosanitary (SPS) measures. Status report on agricultural trade between Cambodia, the Lao PDR, Vietnam and China. Programme Office. Beijing, China.
- Food and Agriculture Organization, 2021. Assessing alternatives for future cropping systems. Rome, Italy.
- General Administration of Customs of the People's Republic of China <http://english.customs.gov.cn>.
- Huachun, L. and Defang, L., 2016. Tracing cross border livestock movement and the risk of spread of food and mouth disease on the China-Laos and China-Myanmar border in Yunnan province. ADP Project RETA-8163. <https://slideplayer.com/slide/13119319/>.
- Industrial Safety and Hygiene News, 2022. ISO/IEC 17025 - Competence of testing and calibration laboratories. <https://www.ishn.com>.
- Institute of Developing Economies, Japan External Trade Organization, 2017. Logistics costs in Lao People's Democratic Republic. Chiba, Japan.
- International Water Management Institute and Department of Irrigation, 2019. Irrigation sub-sector review. Vientiane, Lao PDR.
- Lao Statistics Bureau, 2021. The 3rd Lao census of agriculture 2019/2020. Ministry of Planning and Investment. Vientiane, Lao PDR.
- Ministry of Agriculture and Forestry, 2015. Agriculture development strategy 2025 and vision 2030. Vientiane, Lao PDR.
- Ministry of Agriculture and Forestry, 2020. Agricultural census 2019/2020. Vientiane, Lao PDR.
- Ministry of Agriculture and Forestry, 2021. Draft 2021 Annual performance report for the agriculture, forestry and rural development sector and plan for 2022. Vientiane, Lao PDR.
- Ministry of Industry and Commerce, 2017. Trade Facilitation Roadmap of Lao PDR, 2017-2022. Vientiane, Lao PDR.
- National Bureau of Statistics of China, 2021. Households' income and consumption expenditure in 2020. Council of the People's Republic of China. Beijing, China. [http://www.stats.gov.cn/english/PressRelease/202101/t20210119\\_1812523.html](http://www.stats.gov.cn/english/PressRelease/202101/t20210119_1812523.html).
- National Institute for Economic Research, 2019. How to maximize the benefits for Lao agriculture from regional infrastructure connectivity: A case study of Lao PDR-China railway. Vientiane, Lao PDR.

- Smith P, Bourgeois Lüthi N. et al., 2015. Movement pathways and market chains of large ruminants in the greater mekong sub-region. World Organization for Animal Health, Paris, Franch.
- United States Department of Agriculture, 2022. Exporter guide. Report No.TH2020-0170. Bangkok, Thailand [https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Exporter%20Guide\\_Bangkok\\_Thailand\\_12-31-2020](https://apps.fas.usda.gov/newgainapi/api/Report/DownloadReportByFileName?fileName=Exporter%20Guide_Bangkok_Thailand_12-31-2020).
- Vientiane Times, 2021. Laos urges China to increase rice import quota to 50,000 tonnes. Vientiane, Lao PDR (May 31).
- Wongpit, P. et al., 2020. Farmers' access to credit in Lao PDR. NAFRI research report. Ministry of Agriculture and Forestry. Vientiane, Lao PDR.
- World Bank, 2014. Lao PDR trade and transport facilitation assessment. Washington DC., United States.
- World Bank, 2018a. Transport Costs and Prices in Lao PDR: Unlocking the potential of an idle fleet. Final report. Washington DC., United States.
- World Bank, 2018b. Transport costs and prices in lao pdr unlocking the potential of an idle fleet. Final report. Washington DC., United States.
- World Bank, 2019a. Background report "Food safety issues in agriculture value chains in Northern Lao PDR". Washington DC. United States.
- World Bank, 2019b. Enabling the business of agriculture. <https://eba.worldbank.org/en/eba>
- World Bank, 2020a. Lao PDR poverty assessment. Washington DC., United States.
- World Bank, 2020b. Beyond the pandemic: Harnessing the digital revolution to set food systems on a better course. <https://www.worldbank.org/en/news/immersive-story/2020/08/06/beyond-the-pandemic-harnessing-the-digital-revolution-to-set-food-systems-on-a-better-course>.
- World Bank, 2020c. From land-locked to land-linked. Washington, D.C., United States.
- World Bank, 2021a. Systematic country diagnostic update. Washington, D.C., United States.
- World Bank, 2021b. Country economic memorandum update for the Lao PDR. Washington, D.C., United States.
- World Bank, 2021c. Corridor logistics assessment in Lao PDR: A closer look at key agricultural commodities. Washington DC.
- World Bank, 2021d. Lao Transport corridor connectivity assessment. Washington DC., United States.
- World Bank, 2022. Lao PDR Economic Monitor. Washington, D.C., United States.
- World Trade Organization, 1998. Understanding WTO agreement on sanitary and phytosanitary measures. Geneva, Switzerland. [https://www.wto.org/english/tratop\\_e/sps\\_e/spsund\\_e.htm](https://www.wto.org/english/tratop_e/sps_e/spsund_e.htm).
- World Trade Organization, 2013. Trade policy review for Vietnam. Geneva, Switzerland.
- ZhiZhi et al., 2018. Asian cattle and beef trade working papers: Developments in the China-Myanmar cattle trade. The University of Queensland: St Lucia QLD 4072, Australia.

# LESSONS LEARNED FROM RURAL POVERTY ALLEVIATION IN NORTHERN LAO PDR

The World Bank's most recent poverty assessment (World Bank 2020) found that the incidence of poverty in the northern provinces is decreasing, while the central region has a significantly larger share of the poor. The provinces of Bokeo, Huaphan, Luang Namtha, Luang Prabang, Oudomxay, Phongsaly, Xayaboury, Xieng Khuang and Northern Vientiane make up the Northern Uplands region, which accounts for more than 60 percent of the country's total land area and half its rural population (Onphanhdla, Philavong, and Phomvixay 2016).

Appendix A summarizes the key factors driving poverty reduction and rapid changes in agricultural production in the northern provinces (Onphanhdla, Philavong, and Phomvixay 2016; World Bank 2020; Lienhard et al. 2019; World Bank 2022a). These factors include (a) targeted government policies to reduce shifting agriculture and encourage agricultural commercialization and modernization; (b) a land use planning and allocation program in upland rural areas, implemented by MAF to eliminate shifting cultivation, conserve forests, and improve land tenure security and household living standards; and (c) development projects in the areas of agroforestry, agroecology, biodiversity conservation, agrobiodiversity-based livelihood development, participatory land-use planning, and nutrition convergence.

Poverty reduction in the north has also been driven by the Government's investment promotion program, which led to an increase in foreign direct investment (FDI) and the development of specific market-led value chains. Local governments have also promoted investment through production zoning to encourage land concessions, land leasing and contract farming. This type of investment has generated significant income and job opportunities for smallholder farmers. Land leases for soybean plantations in Luang Namtha and Xayaboury, kidney bean contract farming in Oudomxay, and mandarin plantations in Luang Namtha have been implemented through this approach.

In the past, informal cross-border trade provided significant opportunities for export to meet Chinese market demands. Many agricultural products were exported with minimal formal trade barriers and no quality standards, based on traditional and informal trade between northern Laos and China.

Since 2010, continuous bilateral cooperation between local governments in northern Laos and the government of Yunnan, a province in southwestern China, has allowed for more formal trade and investment. An example is a program on opium replacement in northern Laos in which 58 Chinese agribusinesses have invested in various types of plantations.

Further, development projects supported by donors and international non-governmental organizations in the north have promoted agroecology and provided significant assistance for agricultural commercialization and value chain development. There has been support for GAP techniques, organic agriculture, post-harvest management, producer group capacity enhancement, farm inputs, matching grants, smallholder-to-market connections, marketing, packaging, semi-processing and agribusiness development.

These interventions, along with cultural and political proximity, easy communication, road connectivity, and trust relationships along the Laos-China border have led to the establishment of a value chain network between smallholder producers, local collectors, exporters and importers. Some value chains with high market demand in China, such as cardamom and tea, have existed for many years. Some Chinese importers have collaborated closely with local collectors, overseeing the entire process through both informal and formal channels.

Better road connectivity between northern Laos and Yunnan has also provided smallholders in northern Lao with more access to improved inputs, tools and machinery. The increasing number of Chinese tourists in the northern provinces has also resulted in increased non-farm incomes from employment in the tourism sector.

Growing demand for food safety in both the domestic and export markets has also prompted smallholder farmers to join farmers associations to improve their farming systems. As demand for clean and safe food rises, farmers are seeking ways to increase their bargaining power in trade agreements.

## References

- Onphanhdla. P, Philavong.V, and Phomvixay.P, 2016. Promoting Farmer Production Groups and Written Contract Farming as Key Success Factors. Evidence from NRI Nam Bank Subproject, Vientiane, Lao PDR.
- Pascal.L, Castella.J.C., Ferrand.P, Morgane.C, Aquino.P, Scopel.É, and Bougnoux.N. 2019. Accompanying the Actors of the Agroecological Transition in Laos. In *The Agroecological Transition of Agricultural Systems in the Global South*, edited by F-X. Côte, E. Poirier-Magona, S. Perret, P. Roudier, B. Rapidel, and M-C. Thirion. Versailles: Editions Quae.
- World Bank, 2020a. Lao People's Democratic Republic Poverty Assessment 2020: Catching Up and Falling Behind. Washington, DC: World Bank.
- World Bank, 2022b. Lao PDR Economic Monitor. Washington, D.C., United States.

# RELEVANT ENABLING POLICIES AND STRATEGIES IN AGRICULTURE SECTOR

The Government has been implementing a number of policies and strategies in order to enhance smallholder productivity and to promote agricultural commercialization. The table below summarizes these related policies and strategies along with implication for smallholder farmers.

Table B.1. Related Enabling Policies

Enabling policies	Description
<b>Agricultural Development Strategy to 2025 and Vision to 2030 Goal (Program) 2: Agriculture Commodity Production</b>	<ul style="list-style-type: none"> <li>• Economy has strongly grown in line with industrialization and modernization direction, comprehensive infrastructure, ensuring economic growth at a constant level; effective, stable, and assured food security which strongly ensures quality in terms of nutrition; producing agricultural products with quantity and quality that are highly competitive as well as are adaptable to climate change.</li> <li>• Agriculture production is in line with sanitary principles, clean, safe for producers' and consumers' health and environmentally friendly.</li> <li>• Agriculture production has made contribution in many aspects such as creation of employment, income generation for people, reduction of gap between cities and rural areas, construction of new rural areas alongside the protection of symbolic cultures of all ethnic people, environmental protection, and stability and balance of the ecological system.</li> <li>• Program Goal 1: Food Production – to ensure nutrition of people to get energy of at least 2,600 kilocalories per person per day, which includes rice and starch covering approximately 62%; meat, eggs, and fish approximately 10%; vegetables, fruits, and beans covering approximately 6%; and fat, sugar, and milk approximately 22%.</li> <li>• Program Goal 2: Agricultural Commodity Production – to make the production of agricultural commodities grow to create the basic factors for industrialization and modernization, ensuring both quantity and quality and aiming to access domestic, regional, and international markets in connection with the improvement of farmers' groups and producers' and agriculture processing associations by making effort toward agriculture production of main goods.</li> </ul>

(table continues on next page)

Table B.1. Related Enabling Policies (*continued*)

Enabling policies	Description
<b>National Agenda to 2023 Promote production to replace importing and to promote exporting goods (transition to production society)</b>	<ul style="list-style-type: none"> <li>• Assist the production and processing of potential products and supporting markets for export.</li> <li>• Promote production and services along the domestic and regional economic corridors.</li> <li>• Develop potential small and medium enterprises related to the promotion of industrial production in special economic zones.</li> <li>• Improve and build a number of necessary infrastructures, logistics, and duty-free trade areas along the Laos and China economic corridor and border trade.</li> <li>• Promote potential agricultural projects for export, especially the export of agricultural products to the Chinese market based on the production lists indicated in the export agreement between the Government of Laos and China.</li> </ul>
<b>Ninth Five-year Plan for Agriculture, Forestry and Rural Development (2021-2025)</b>	<ul style="list-style-type: none"> <li>• Promote micro, small, and medium enterprises and agro-entrepreneurs; improve and develop agricultural value chain.</li> <li>• Enhance capacity of agribusiness and entrepreneurship on agricultural product.</li> <li>• Improve post-harvest handling, processing, and value addition.</li> <li>• Branding, ensure quality and quantity.</li> <li>• Negotiate to open new markets for crops and livestock, such as China of 33 items, Thailand of 10 items, and of Vietnam 10 items.</li> </ul>
<b>Ninth Five-Year Plan for National Social Economic Development (2021-2025)</b>	<ul style="list-style-type: none"> <li>• Agricultural production must be closely linked to the production chains of the processing industry to serve domestic and international demands.</li> <li>• Produce crops and livestock that already have a market and support the needs of new markets.</li> <li>• Improve the efficiency of agricultural production with the use of modern tools, new techniques, science innovations, and new varieties of crops; and transform traditional and fragmented farming practices into production groups or the new cooperative production model using modern technology (e.g., smart farming).</li> <li>• Create access to credit and markets.</li> <li>• Develop strong agricultural infrastructure resilient to natural disasters.</li> <li>• Identify areas and types of farming and animal husbandry that are suitable to the potential of each locality and the actual needs of the market.</li> <li>• Establish higher food safety standards. By 2025, areas for clean and safe agricultural production will have been identified and certified by standards such as GAP, OA, SCV and GI in at least one to two places per district. Food crops and commodities are to be classified. They should have standardize packaging, value added and processed into primary products to account for 50% of the goods entering the market.</li> </ul>
<b>Green and Sustainable Agriculture Framework for Lao PDR to 2030</b>	<ul style="list-style-type: none"> <li>• Emphasizes the necessity for developing appropriate markets that create a demand for sustainably produced food and agricultural commodities. Value chains need to be transparent, fair, and beneficial to all, and consumers need to have the confidence that Lao agricultural products are safe, clean, and of excellent quality.</li> </ul>

# SMALLHOLDERS IN LAOS

Smallholder agriculture in Laos is characterized by scattered, low-productivity farming, poor quality produce, low profitability, and limited economies of scale. According to Decree No. 285/PM, the smallholder is defined as (a) farmers who own fewer than 2 hectares of cropland (small farms presently account for 70 percent of total agricultural land); (b) cattle holdings equal to or fewer than 10 head; (c) farmers who are highly dependent on subsistent agriculture and have low market access; and (d) income of less than LAK 180,000 (\$22.50) per person per month.

Smallholders face a number of challenges, including limited access to quality seeds, fertilizers, agricultural extension services, price information and consumer markets. Linkages with sectors such as agro-processing, manufacturing, finance, transport, logistics and services (wholesale and retail) remain weak. Product distribution continue to be dominated by small operators that lack the scale to profitably aggregate and connect farmers with domestic and neighboring markets.

The latest nationwide agricultural census in 2019/2020 found that about 69 percent of the workforce is employed in the agriculture sector, and that 52 percent (644,098 households) of total agricultural households are smallholder farmers. The agriculture sector is dominated by rice cultivation (90 percent of total farming households). The majority of farmers (74.9 percent) live in rural areas with road access, while 9.6 percent live in areas without road access and 16 percent live in urban areas. Most of smallholders reside in the central region, particularly in Savannakhet province (17.2 percent), followed by the southern provinces of Champassak (9.1 percent) and Saravan (6.9 percent). The remainder are found in northern provinces such as Xayaboury (8.2 percent) and Luang Prabang (7.8 percent). The provinces of Champassak, Saravan, Savannakhet, Vientiane, and Xayaboury have households that plant rice in the wet season. Other primary crops are vegetables such as pumpkin, beans, chilies, garlic, tomato, eggplant, sesame and cabbage. Livestock raised for market include cattle, chickens, ducks, goats and pigs.

The census also found that female-headed farming households are most common in Champassak, Khammuan and Savannakhet provinces. The transition from subsistence to commercial agriculture has benefited some rural communities, but it can also increase vulnerability for women in poor rural areas (Wardle 2020). The World Bank and the Asia Development Bank have documented the significant role of women in agriculture, which is often undervalued (ADB and World Bank 2012). A key finding of the 2020 Gender Equality and Social Inclusion Analysis, undertaken by the Lao Microenterprise Project of USAID, is that decisions about agricultural production and income use are frequently approached as a collective family matter, though this varies by ethnic group (Britt et al. 2022). In Tai families, women take the lead in market



sales, negotiation and managing household expenses, with men preferring to do agricultural work. In Hmong families, men take primary responsibility for determining productive and agricultural activities.

Despite the heavy involvement of women in agricultural work in Laos, women face a number of constraints to fully participating in agricultural investment and commercial agriculture. These constraints include social gender norms; increased workload; limited mobility and literacy; limited access to information on improved technologies, finance, markets, land tenure and basic farm inputs; and extension services and training. Consequently, women farmers are prevented from increasing their income and taking full advantage of domestic and export markets (FAO and Sida 2010; MAF and FAO 2014; ADB and World Bank 2012; Wardle 2020; Britt et al. 2022; Moglia et al. 2020).

## References

- Asian Development Bank and World Bank, 2012. Country Gender Assessment for Lao PDR: Reducing Vulnerability and Increasing Opportunity. Mandaluyong City, Philippines, and Washington, DC: ADB and World Bank.
- Britt, Charla, Oliver-Burgess.A, Siliphong.P, and English.C, 2022. USAID/Laos Country-Level Gender Analysis. Washington, DC: Banyan Global.
- Food and Agriculture Organization, 2018. Lao PDR Country Gender Assessment of Agriculture and the Rural Sector in Lao People's Democratic Republic. Vientiane: FAO.
- Food and Agriculture Organization and Swedish International Development Cooperation Agency, 2010. National Gender Profile of Agricultural Households. Vientiane: FAO.
- Ministry of Agriculture and Forestry and Food and Agriculture Organization, 2014. Lao Census of Agriculture 2010/11: Analysis of Selected Themes. Vientiane: Ministry of Agriculture and Forestry, Government of the Lao People's Democratic Republic.
- Moglia, Magnus, Alexander.K, Larson.S, Giger-Dray.A, Greenhalgh.G, Thammavong.P, Thephavanh.M, and Case.P. 2020. "Gender Roles in Agrarian Transition: A Study of Lowland Rice Farming in Lao PDR." Sustainability 12 (13).
- Wardle and Chris, 2020. "Labour Saving Technology for Rural Women." Review conducted under the Lao Upland Rural Advisory Service (LURAS) Phase II, Vientiane, Lao PDR.

# RESULTS OF KEY INFORMANT INTERVIEW OF FOUR VALUE CHAINS

## Value chain analysis

The four value chains selected for case studies—cassava, beans, citrus, and cattle—reflect the existing potential and challenges to develop local agribusiness along the emerging Lao People’s Democratic Republic and China economic corridor.

Field surveys focused on districts where selected value chains are produced and traded. A total of 5 national and provincial consultation workshops were held. During the study, consultations took place with 33 representatives from the District Agriculture and Forestry Office (DAFO) and its counterpart, the Provincial Agriculture and Forestry Office (PAFO), as well as other line departments, such as the Provincial Industry and Commerce Offices, 24 national key informants from related governments and development partners, and more than 200 key actors along the selected value chains. See table D.1 for the number of each type of key informant and stakeholder interviewed.

Table D.1. Number of Stakeholder Interviews for the Selected Value Chains

Value Chain	Producers	Collectors	Processors	Wholesalers	Retailers	Exporters	Input supplier	Logistics
<b>Beans</b>	22	1	1	2	21	4	11	5
<b>Cassava</b>	37	15	5	5	n.a.	8		
<b>Citrus</b>	9	n.a.	n.a.	13	14	5		
<b>Cattle</b>	34	3	5	8	n.a.	2		
<b>Total</b>	100	19	11	28	45	19	11	5

Source: World Bank based on field survey conducted in 2022.

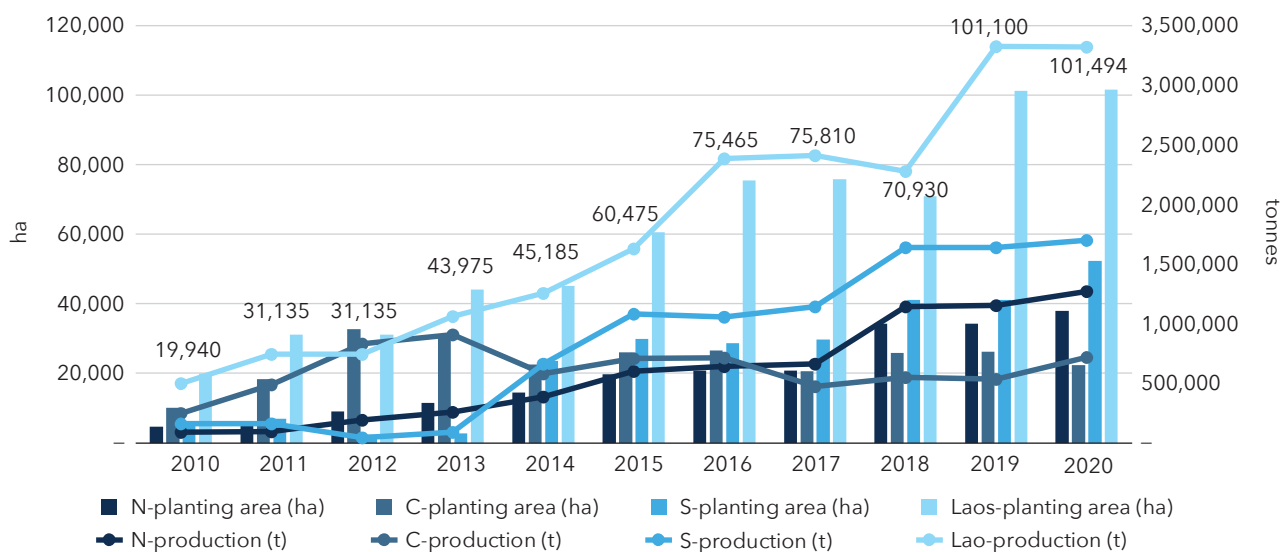
Note: n.a. = not applicable.

## Cassava value chain analysis

### Production

In Laos by 2020, the total cassava planting area and production reached 101,494 hectares and 3,320,372 tons, with an average increase since 2010 of 46.3 and 60.4 percent, respectively. During this period, production increased by an average of 127.6 percent per year in the Northern provinces, compared to 26.1 and 96.5 percent in the Central and Southern regions. Both planting area and production in Champasack, Saravan, and Xayabuly and showed dramatic increases, accounting for over 66.3 percent of total production in Laos in 2020. Small-holder farmers have benefited from the recent high farmgate price of cassava, with net income of about 8 million kip per hectare.

Figure D.1. Cassava Production in Laos by Region Between 2010 and 2020



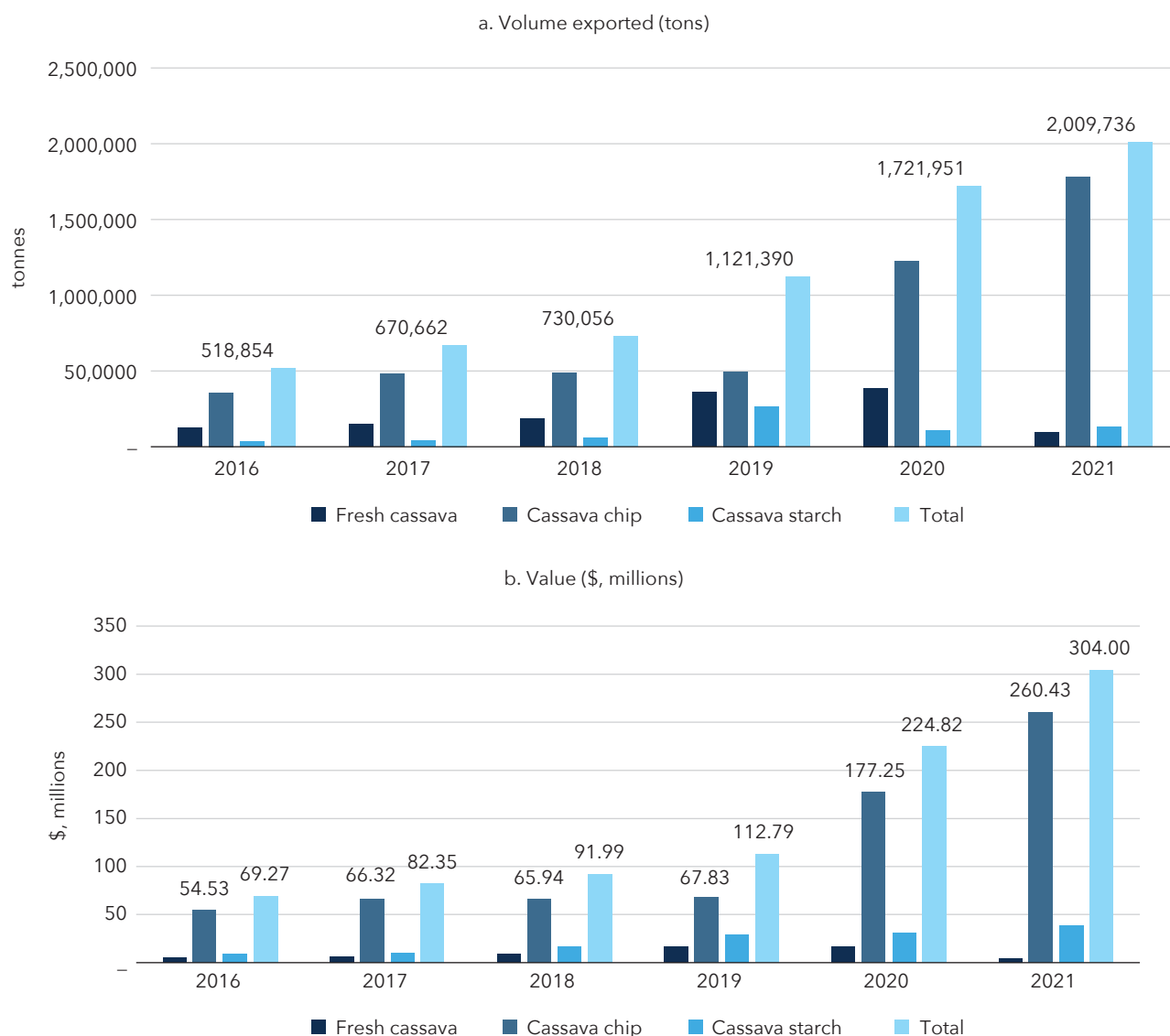
Source: Data from the Statistical Yearbook 2021, Lao Statistics Bureau.

## Exports

In 2021, Laos exported 2,009,736 tons of fresh, dried chip and cassava starch with total exported value of more than \$304 million, ranking it as a top agricultural product export.

In 2021, China, Thailand, and Vietnam were the main importers of cassava from Laos. While the export of dried chip accounted for over 82.7 percent of all cassava produced, cassava starch and fresh cassava exports accounted for only 12.8 percent and 4.5 percent, respectively. Thailand imported about 76 percent of cassava in the form of dried chip (94.1 percent), fresh cassava (5.1 percent), and cassava starch (0.8 percent). During the same year, China imported 70,616 tons, of which, 99.8 percent was cassava starch.

Figure D.2. Volume and Value of Cassava Exported from Laos by Product Type



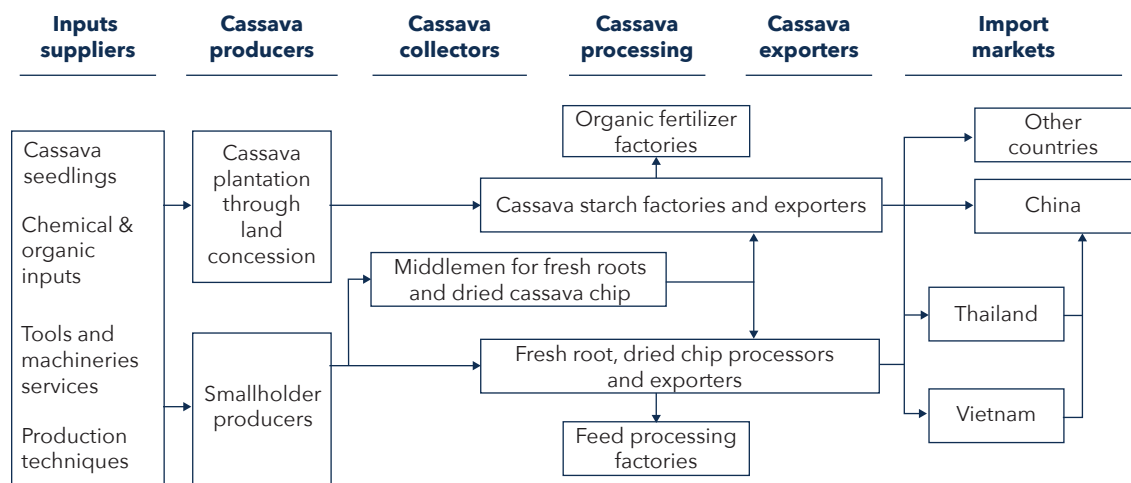
Source: World Bank staff calculations based on data from the Ministry of Industry and Commerce (MOIC).

### Value chain linkages

Both local and Chinese traders have cassava export operations from Laos to China through Yunnan, Thailand, and Vietnam before it is distributed to animal feed factories and other food industries (figure D.3). It was estimated that Lao cassava exported to China is mainly used for ethanol, and less than 15 percent is used in livestock feed and food consumption. In 2020, China imported about 2,757,000 tons of cassava starch, of which only 1.54 percent was imported from Laos.

Table D.2 summarizes the cassava value chain’s strengths, weaknesses, opportunities, and threats (SWOT) analysis and recommendations. The assessment is based on literature reviews, key informant interviews, and field data collection observations. The SWOT analysis and recommendations are made to reflect the value chain process of the selected crop.

Figure D.3. Cassava Value Chain Linkages



Source: World Bank based on field survey conducted in 2022.

Table D.2. Cassava Value Chain Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis and Recommendations

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Input</b>	<ul style="list-style-type: none"> <li>Limited high quality and high yield variety for cassava starch</li> <li>Limited knowledge on disease management and control</li> <li>No proper land suitable selection and land preparation at farm level</li> </ul>	<ul style="list-style-type: none"> <li>Available research and development on cassava variety selection</li> <li>Cassava stems can be stored and propagated at farm level</li> <li>Cheap cassava seedlings</li> <li>Existing land use planning techniques</li> <li>Adaption of tractor for land preparation with labor saving</li> <li>Available tractor service providers for producers</li> </ul>	<ul style="list-style-type: none"> <li>Available research and development on disease-free cassava seedlings in Laos PDR and neighboring countries</li> <li>Easy seedling propagation</li> <li>Adaption of land preparation techniques</li> <li>Application of proper NPK to maintain high yield</li> <li>Intercropping with legume and other crops</li> </ul>	<ul style="list-style-type: none"> <li>Disease outbreak introduced from neighboring countries</li> <li>Invading into new agriculture and forest land without proper monitoring</li> <li>Soil erosion and degradation</li> <li>Land tenure and land use conflict</li> <li>Use of herbicide</li> </ul>	<ul style="list-style-type: none"> <li>Support on research and development on high quality and disease-free varieties</li> <li>Set up cassava seedling center in main production provinces</li> <li>Increase local awareness and technical extension on land use and soil improvement and land tenure</li> <li>Close monitoring by local government on land use</li> <li>Propagate instruction on chemical use</li> </ul>
<b>Production</b>	<ul style="list-style-type: none"> <li>Limited adaption of improved production techniques</li> <li>Rapid soil degradation as there is no proper soil improvement</li> <li>No proper agricultural land use planning and improvement at local level</li> <li>No proper SPS and other technical traceability system in cassava production</li> </ul>	<ul style="list-style-type: none"> <li>Requires minimal labor and farm management</li> <li>Resistant to weather condition</li> <li>High net income of about LAK 8 million per ha per year for improved production system, according to 2022 field survey</li> </ul>	<ul style="list-style-type: none"> <li>Cassava can be planted in former maize and other cropping areas</li> <li>Available improved production techniques</li> <li>Intercropping and rotation with legumes and other crops</li> <li>GAP and organic cassava is in high demand with premium price</li> </ul>	<ul style="list-style-type: none"> <li>Climate change during harvesting season</li> <li>Yield drop resulted from disease outbreak and without soil improvement</li> <li>Lack of labor during harvesting season</li> </ul>	<ul style="list-style-type: none"> <li>Improve local extension on improved production technique focusing on land preparation and soil improvement</li> <li>Introduce intercropping and integrated farming system</li> <li>Conduct land use planning in main cassava production</li> <li>Promote high-value cassava production with GAP and organic system</li> <li>Propagate technical requirements for SPS and others at farm level</li> </ul>

(table continues on next page)

Table D.2. Cassava Value Chain Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis and Recommendations (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Collection</b>	<ul style="list-style-type: none"> <li>• Unclear end-market price and demand</li> <li>• Mixture of informal and formal collection</li> <li>• Foreign collectors are also involved in cassava collection</li> <li>• Not enough storage facilities for small-scale local collectors</li> <li>• Not enough capital</li> <li>• Local traders have limited access information on the Laos portal website</li> </ul>	<ul style="list-style-type: none"> <li>• Existing large-scale cassava dried chip collection in almost main cassava production districts</li> <li>• Existing cassava starch factories in all main cassava production provinces</li> <li>• Cassava processing association has been set up</li> </ul>	<ul style="list-style-type: none"> <li>• Emerging cassava dried chip collectors and exporters</li> <li>• Emerging cassava starch factories in many districts where fresh roots can be produced</li> <li>• Improve contract farming to ensure fair benefit for smallholder producers</li> </ul>	<ul style="list-style-type: none"> <li>• Marketing risk from end markets</li> <li>• Exported through neighboring countries with some transition cost</li> <li>• Low and unfair price paid to farmers due to insufficient market information</li> </ul>	<ul style="list-style-type: none"> <li>• Establish cassava market information platform and cassava processing association</li> <li>• Update and strengthen SPS notification authority through the Laos portal website</li> <li>• Set up collector association to formalize and regulate cassava collection</li> <li>• Promote direct export from Laos to China through railway</li> <li>• Improve facilitation and enforcement of contract farming</li> </ul>
<b>Processing and value addition</b>	<ul style="list-style-type: none"> <li>• Low awareness on proper dried chip processing quality and market requirements</li> <li>• Limited proper drying place for smallholder farmers</li> <li>• Labor intensive for dried chip processing</li> </ul>	<ul style="list-style-type: none"> <li>• Cassava dried chip requires simple equipment and processing technique</li> <li>• Limited dried chip processing investment</li> <li>• Established network with dried chip collectors</li> </ul>	<ul style="list-style-type: none"> <li>• Improve dried chip processing quality</li> <li>• Dried chip can be stored and sell when price is high</li> <li>• Dried chip can be processed as silage for livestock</li> <li>• Increasing demand for both dried chip and starch</li> </ul>	<ul style="list-style-type: none"> <li>• Rain and insufficient sunshine can spoil cassava dried chip quality</li> <li>• Without proper storage, dried chip can be degraded</li> <li>• High competition with neighboring countries</li> </ul>	<ul style="list-style-type: none"> <li>• Disseminate technical requirements for cassava processing at farm level</li> <li>• Disseminate agro-climatic information in main cassava production districts particularly during harvesting season</li> </ul>

*(table continues on next page)*



Table D.2. Cassava Value Chain Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis and Recommendations (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Cassava starch factories</b>	<ul style="list-style-type: none"> <li>• Inconsistent and low-quantity cassava raw material supply</li> <li>• Starch factory requires high investment on equipment and machineries and know-how</li> <li>• Limited local skilled and unskilled labor to work in starch factories</li> <li>• Un-enforcement of contract farming where there is high demand</li> <li>• Consumed cassava starch is imported</li> </ul>	<ul style="list-style-type: none"> <li>• Many hard and soft know-how to produce cassava starch are imported from China</li> <li>• Established fresh root network with local collectors</li> <li>• Established network with export markets</li> <li>• Available cassava starch processing technique and equipment in China</li> </ul>	<ul style="list-style-type: none"> <li>• High demand in export markets for cassava starch</li> <li>• GAP and Organic cassava offer higher price in specialty markets for food</li> <li>• Waste from cassava starch fits well with industrial feed processing industry</li> <li>• More starch factories will be set up</li> <li>• Process consumed cassava starch</li> </ul>	<ul style="list-style-type: none"> <li>• High competition from FDI in the same sector</li> <li>• High competition in neighboring countries</li> <li>• High global market risk without insurance</li> <li>• Basic infrastructure such as environmental control and concern from cassava starch factory</li> </ul>	<ul style="list-style-type: none"> <li>• Promote cassava productive alliance and improve linkage between farmers and factory</li> <li>• Improve access to finance by local cassava starch factories</li> <li>• Promote domestic processing for consumed cassava starch to reduce import</li> <li>• Apply and monitor RAI and GMP principles in starch processing industries</li> </ul>
<b>Transportation and logistics</b>	<ul style="list-style-type: none"> <li>• Transportation and logistics information is not disseminated</li> <li>• High cost to connect to railway</li> <li>• High transportation cost via road and railway to China</li> <li>• Complicated process and fee for railway including for containers, loading, fumigation</li> </ul>	<ul style="list-style-type: none"> <li>• Transportation cost through sea freight is cheaper</li> <li>• Familiarity with transportation through Thailand and Vietnam</li> <li>• Diverse transportation service providers in all provinces</li> </ul>	<ul style="list-style-type: none"> <li>• Existing road with railway, road to road, and road to sea freight connectivity</li> <li>• Local transportation and logistics companies are under learning process</li> <li>• Foreign logistics companies are emerging with more competition in the sector</li> </ul>	<ul style="list-style-type: none"> <li>• Monopoly by large-scale foreign logistics companies</li> <li>• High fuel and high transportation cost</li> <li>• Transit of neighboring product to China with high transportation cost</li> </ul>	<ul style="list-style-type: none"> <li>• Provide up-to-date information on transportation and logistics through trade portal platform</li> <li>• Disseminate and streamline the railway service process and cost</li> <li>• Improve last mile connectivity</li> <li>• Set up a multi-stakeholder platform to address and solve the issues faced by value chain actors</li> </ul>

*(table continues on next page)*

Table D.2. Cassava Value Chain Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis and Recommendations (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Export</b>	<ul style="list-style-type: none"> <li>• Unclear market and price information for Chinese markets</li> <li>• Unclear quality and technical requirements in China</li> <li>• High risk due to business relationship with new Chinese traders</li> <li>• Difficult communication and trade relationship with Chinese</li> <li>• Laos exporters only export to Boten or Bangkok while further logistics are done by Chinese</li> </ul>	<ul style="list-style-type: none"> <li>• Export network has been built by local in the North and Chinese traders with importers in China</li> <li>• Strong value chain linkage through Bangkok freight</li> <li>• Good road connectivity from central to borders</li> <li>• Railway connectivity</li> <li>• Existing cassava processing association</li> </ul>	<ul style="list-style-type: none"> <li>• High demand for both dried chip and cassava starch in China</li> <li>• Bioethanol, feed processing, industrial and food industry still high demand for cassava dried chip and starch</li> <li>• Improve digitalization and traceability system from production to export</li> </ul>	<ul style="list-style-type: none"> <li>• Global market risk when price drops</li> <li>• Competition with neighboring countries</li> <li>• Chinese market risk due to limited market information and assurance</li> </ul>	<ul style="list-style-type: none"> <li>• Provide up-to-date information on demand and price and technical requirements through trade portal platform and cassava processing association</li> <li>• Support business meet and match for exporters and Chinese importers</li> <li>• Introduce and pilot digital traceability system with exporters</li> <li>• Diversify export markets to reduce marketing risk</li> </ul>

(table continues on next page)

Table D.2. Cassava Value Chain Strengths, Weaknesses, Opportunities, and Threats (SWOT) Analysis and Recommendations (*continued*)

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Enabling</b>	<ul style="list-style-type: none"> <li>Limited monitoring mechanism on the cassava sector development</li> <li>Limited access to credit and protection of local traders</li> <li>Lack of implementation plan and resources linking cassava production to livestock sector</li> <li>Weak monitoring of land resources</li> <li>No specific policy and clear mechanism to protect small-holder farmers</li> <li>Weak local government's monitoring on environment issues</li> </ul>	<ul style="list-style-type: none"> <li>Some existing national enabling to support the cassava production</li> <li>Cassava trade agreement has been signed with China</li> <li>Cassava processing association has been set up</li> </ul>	<ul style="list-style-type: none"> <li>Further negotiation through bilateral agreements</li> <li>Improve efficiency of land resources planning, allocation, and use</li> <li>More cassava starch factories are under approving process</li> <li>Adaptation of climate smart agriculture techniques</li> </ul>	<ul style="list-style-type: none"> <li>Land concession by large-scale traders</li> <li>Poor monitoring of land use by local government</li> </ul>	<ul style="list-style-type: none"> <li>Set up a task force to support the cassava production and processing under DOA</li> <li>Streamline and improve access to finance by cassava value chain actors</li> <li>Set up clear action plan and roadmap to link cassava production with livestock development</li> <li>Improve local government's instruction on land resource and environment management</li> <li>Prepare decree and regulations on contract farming to protect cassava farmers</li> </ul>

Source: World Bank based on field survey conducted in 2022.

Note: DOA = Department of Agriculture; FDI = foreign direct investment; GAP = Good Agriculture Practices; GMP = Good Manufacture Practice; NPK = Nitrogen-Phosphorus-Potassiu Fertilizer; RAI = Responsible Agriculture Investment; R&D = research and development; SPS = sanitary and phytosanitary.

### Short term priorities based on SWOT analysis

- ▶ Develop a clear action plan and roadmap to link cassava production and processing with livestock development;
- ▶ Improve a local extension on sustainable production technique by focusing on land preparation, soil improvement, intercropping and integrated farming system;
- ▶ Promote cassava trade through farmer groups / cooperatives for organized aggregation of cassava products and increase in bargaining powers;
- ▶ Promote SMEs for development of cassava starch factories to supply to domestic markets.

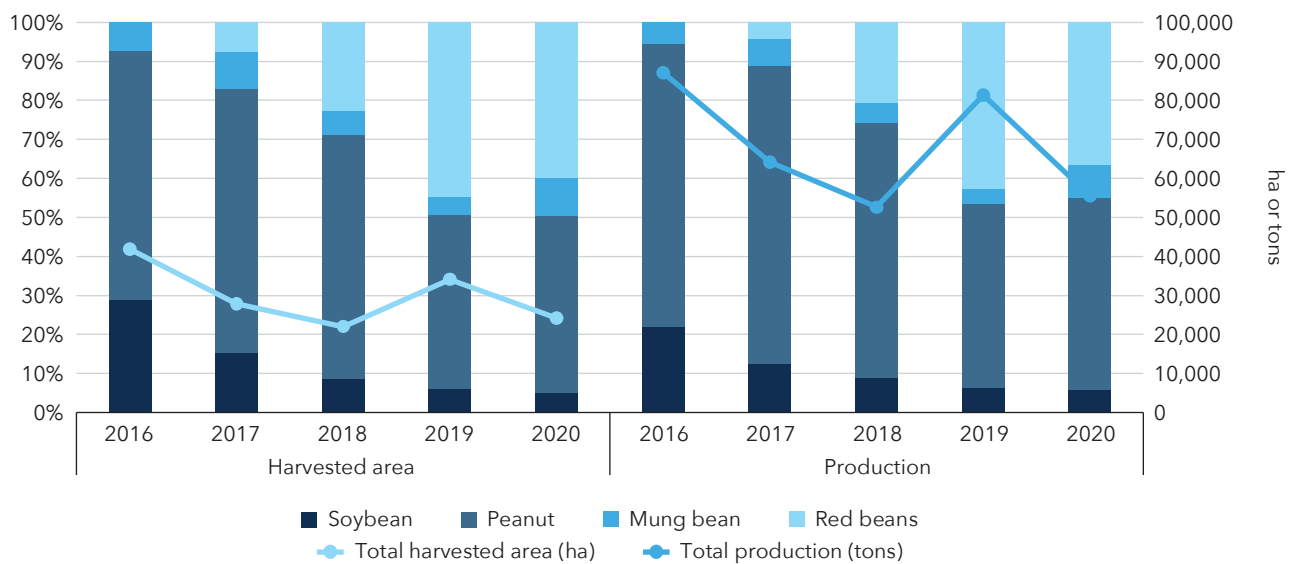
## Beans value chain analysis

### Production

In Laos, beans are widely cultivated as a cash crop and have high export potential (Kousonsavath, C. et al., 2018). The northern part of Laos has seen a significant increase for export of beans in recent years through investment from Chinese agribusiness in response to strong demand from Chinese markets.

Over the past 5 years, the cultivated area and production of beans had decreased from 41,795 hectares (87,160 tons) in 2016 to 24,189 hectares (55,617 tons) in 2020 (MAF, 2021a). Peanuts accounted for about 55 percent and 59 percent of the total area of cultivated beans and production volume across the country, respectively, followed by black and red beans, soybean, and mung bean (figure D.4).

Figure D.4. Bean Production in Laos

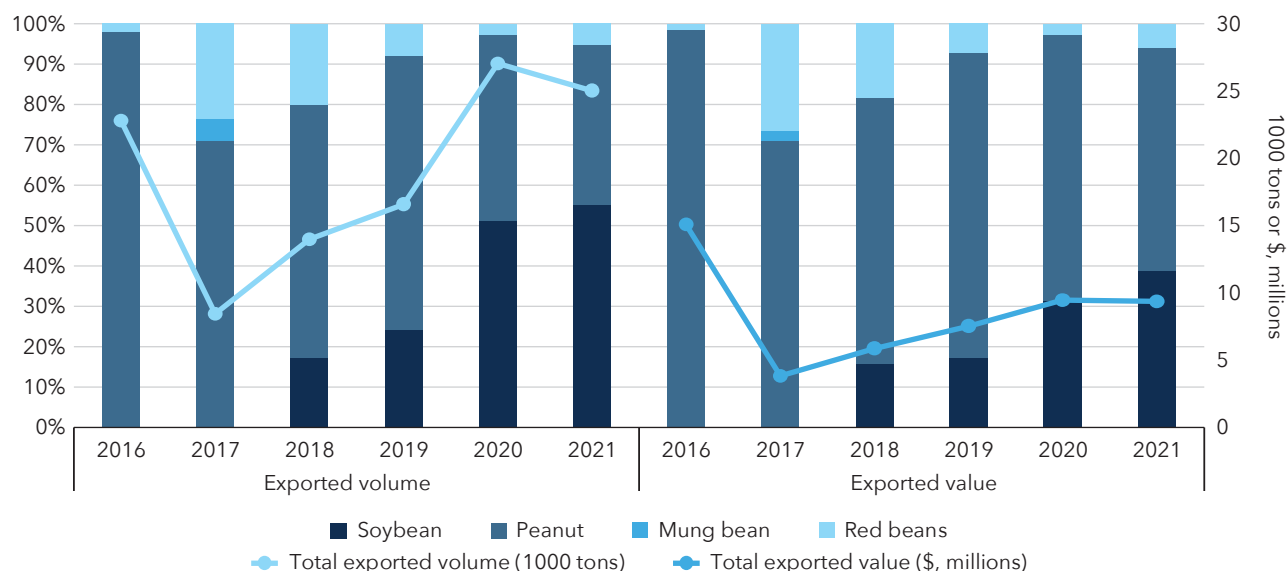


Sources: MAF (2021a).

### Exports

Overall, bean production volume and value exported to the international market increased from about 8,400 tons (\$3.8 million) in 2017 to more than 25,000 tons or (\$9.3 million) in 2021 (figure D.5). Among exported volume, peanuts showed the highest proportion compared with other beans, but the exported trend was minimized from 97 percent in 2016 to 39 percent in 2021.

Figure D.5. Beans Exported from Laos by Type

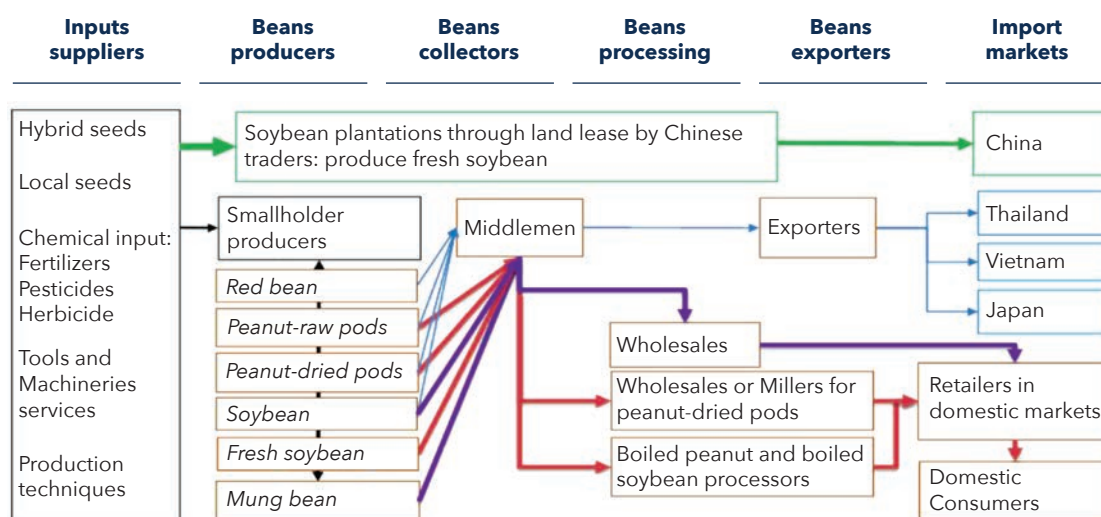


Source: World Bank staff calculations based on data from MOIC, 2022.

### Value chain linkages and operators

Currently, there are six Chinese soybean plantation agribusinesses in Laos, mainly for export to China. These agribusinesses rent rice paddy fields to local farmers in Bokeo, Luang Namtha, and Xayaboury provinces. Their fresh soybean products are distributed to markets in Guangdong, Shanghai, and Yunnan and provinces (figure D.6).

Figure D.6. Bean Value Chain Linkages



Source: World Bank based on field survey conducted in 2022.

Table D.3. presents strengths, weakness, opportunities and threats (SWOT) analysis and recommendations for bean value chain. The assessment is based on literature reviews, key informant interviews, and field data collection observations. The SWOT analysis and recommendations are made to reflect the value chain process of the selected crop.

Table D.3. Bean Value Chain SWOT Analysis

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Inputs</b>	<ul style="list-style-type: none"> <li>• No improved and hybrid bean variety available at farm level</li> <li>• High cost for fertilizer and other chemical inputs</li> <li>• Limited access to credit for improved production inputs, e.g., machineries and tools</li> <li>• Limited irrigated land for bean production in dry season</li> <li>• Short of young labor</li> </ul>	<ul style="list-style-type: none"> <li>• Many lands are suitable across the country for bean production in dry season</li> <li>• Lower land cost compared to neighboring countries</li> <li>• Available local bean varieties</li> </ul>	<ul style="list-style-type: none"> <li>• Promote bean production in irrigated land during dry season</li> <li>• Government has increased support in irrigation schemes where beans could be produced in dry season</li> <li>• Introduce high yield, hybrid varieties</li> </ul>	<ul style="list-style-type: none"> <li>• Competition with other high-value cash crops in dry season</li> <li>• Advanced bean sector development in neighboring countries</li> <li>• Climate change resulted in the same harvesting season in China</li> </ul>	<ul style="list-style-type: none"> <li>• Increase R&amp;D on bean varieties</li> <li>• Promote domestic fertilizer and other chemical inputs and machinery industries</li> <li>• Improve access to finance for improved inputs</li> <li>• Support on irrigation schemes through modernization and natural-based solutions</li> <li>• Provide more favorable enabling for young employment in agriculture</li> </ul>
<b>Production</b>	<ul style="list-style-type: none"> <li>• Limited improved production technique</li> <li>• Small-scale farming for smallholder producers</li> </ul>	<ul style="list-style-type: none"> <li>• Indigenous knowledge on bean production</li> <li>• Could be intercropping and rotation with other crops</li> </ul>	<ul style="list-style-type: none"> <li>• High income through improved production techniques of about LAK 31 million per hectares per season, according to the field survey</li> </ul>	<ul style="list-style-type: none"> <li>• Climate change and natural disaster on flood and draught</li> <li>• Overwhelming investment in large-scale bean plantation</li> </ul>	<ul style="list-style-type: none"> <li>• Improve technical extension at farm level for improved production techniques</li> <li>• Improve traceability and certification systems for SPS, GAP, organic bean production</li> </ul>

(table continues on next page)

Table D.3. Bean Value Chain SWOT Analysis (*continued*)

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Production</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>• Weak traceability, SPS inspection, and certifying at smallholder farming</li> <li>• High cost of inspection for smallholder producers</li> <li>• Low adaptation of climate smart agriculture practices</li> <li>• Low price offered by local collectors</li> </ul>	<ul style="list-style-type: none"> <li>• Advantage over mono-cropping system and early harvesting</li> <li>• Available GAP and organic agriculture practices</li> <li>• High protein and oil with inexpensive raw materials</li> <li>• Under supply of domestic production</li> </ul>	<ul style="list-style-type: none"> <li>• Improved techniques could be learned from existing contract farming and bean plantation</li> <li>• Soil nutrient improvement for other crops after bean cultivation</li> <li>• Improvement of post-harvest handling and preliminary processing</li> </ul>	<ul style="list-style-type: none"> <li>• High competition with neighboring countries</li> <li>• Pest and disease control</li> <li>• Lack of labor for bean farming</li> </ul>	<ul style="list-style-type: none"> <li>• Promote economy of scale for bean cultivation</li> <li>• Promote sustainable agriculture practices and climate smart agriculture</li> <li>• Introduce market-led, high-value bean varieties</li> <li>• Promote earlier harvesting season for export to China</li> </ul>
<b>Collection</b>	<ul style="list-style-type: none"> <li>• Fragmented with small quantity and quality with high transition cost</li> <li>• High competition from imported bean products with higher quality</li> <li>• Limited local and domestic markets</li> <li>• Limited working capital and storing facilities for local collectors</li> </ul>	<ul style="list-style-type: none"> <li>• Diversified utilizations for fresh, dry and processed purposes</li> <li>• Undersupply for local and domestic demand</li> <li>• Collection of other crops and NTFPs</li> <li>• Can be stored</li> <li>• Bean plantation by Chinese companies is collected and exported by Chinese</li> </ul>	<ul style="list-style-type: none"> <li>• Local under-supply of bean and increasing demand for more protein diet awareness</li> <li>• Local collection networking could be scaled up</li> <li>• Improvement of storing facilities</li> <li>• Linking to large-scale traders and processors</li> </ul>	<ul style="list-style-type: none"> <li>• High competition from neighboring countries with lower production cost and high-quality bean products</li> <li>• High competition from neighboring countries with more developed bean processing industry</li> </ul>	<ul style="list-style-type: none"> <li>• Set up local bean collection association to promote the productive alliance and linking to export markets</li> <li>• Train smart farmers to become bean collectors and entrepreneurs</li> <li>• Promote local produced bean products in domestic market</li> <li>• Improve access to finance for local bean traders</li> </ul>

*(table continues on next page)*



Table D.3. Bean Value Chain SWOT Analysis (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Processing and value addition</b>	<ul style="list-style-type: none"> <li>• No locally owned bean-based processing factory in Laos</li> <li>• No local capacity on bean processing industry</li> <li>• No available industrial scale bean processing equipment and know-how</li> <li>• Unclear action plan to link bean production to livestock industry</li> </ul>	<ul style="list-style-type: none"> <li>• Indigenous processing technique for home consumption for tofu and other local foods</li> <li>• Could be locally processed by smallholders for local markets</li> </ul>	<ul style="list-style-type: none"> <li>• Process into food and drink bean milk with fortification</li> <li>• Increasing demand for industrial feed processing</li> <li>• Local large-scale agribusiness is interested in soybean processing</li> <li>• Substantial demand for foreign investment in feed processing and feed industry</li> </ul>		<ul style="list-style-type: none"> <li>• Subsidize and preferential support for local bean processing industry</li> <li>• Incentivize FDI and domestic investment in bean processing industries for food and drink</li> <li>• Prepare a clear action plan and roadmap linking bean production to livestock and other industries</li> </ul>
<b>Export</b>	<ul style="list-style-type: none"> <li>• Limited demand and market information for bean in China</li> <li>• Limited business network for local traders with importers</li> <li>• Only Chinese investors with contract farming are able to export</li> <li>• High transportation cost with cold chain requirement for fresh bean export to China</li> <li>• Registration with GACC takes time with high transition cost of up to \$40,000 per case</li> <li>• High investment in storing facilities with cold chain</li> </ul>	<ul style="list-style-type: none"> <li>• Official export agreements with China have been signed</li> <li>• Some large-scale foreign investment and joint ventures have signed export agreements with importers in China</li> <li>• Bilateral and informal trade agreement with Thailand and Vietnam</li> </ul>	<ul style="list-style-type: none"> <li>• More efficient land concession and contract farming could be improved</li> <li>• Improvement of environment and social conditions and smallholder inclusion in the investment contract</li> <li>• Export to China has been smoother after easing of COVID-19 pandemic</li> </ul>	<ul style="list-style-type: none"> <li>• Fresh bean must be sold in retail market in 8 days, if not it will be spoiled</li> <li>• Fresh bean must be harvested prior to harvesting season in China</li> <li>• Environmental concern for intensive production system by Chinese plantation and exporters</li> </ul>	<ul style="list-style-type: none"> <li>• Improve market information through trade portal platform</li> <li>• Link exporters to local traders and producer groups through trade agreement or contract farming</li> <li>• Improve and enforce contract farming between exporters and farmers</li> <li>• Include know-how transferring when drafting the contract farming</li> <li>• Timely negotiation with GACC and Yunnan to ease and support the fresh bean export</li> </ul>

(table continues on next page)

Table D.3. Bean Value Chain SWOT Analysis (*continued*)

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Enabling</b>	<ul style="list-style-type: none"> <li>Limited-service provision on inputs, technical advisory, credit, and marketing</li> <li>Existing national strategies and plans but limited implementation at local level</li> <li>Limited technical and financial support from government</li> <li>Unclear technical contents, conflict solution in contract farming</li> </ul>	<ul style="list-style-type: none"> <li>Strong impact pathway for food safety and nutrition improvement from beans</li> <li>Beans are considered as high-value cash crops with high income for farmers involved in contract farming or land rental</li> </ul>	<ul style="list-style-type: none"> <li>Beans have been highlighted in many national strategies and plans as production for domestic and export markets, e.g., ADS, national agenda</li> <li>Development projects are interested in promotion of bean production</li> <li>Relevant lessons learned from neighboring countries</li> </ul>	<ul style="list-style-type: none"> <li>Many foreign direct investors and traders to overwhelm the bean sector development in Laos</li> <li>Unclear local government policies and regulations to monitor investment in beans</li> </ul>	<ul style="list-style-type: none"> <li>Support R&amp;D on bean production and processing technologies</li> <li>Improve relevant sectors including service provision on credit and marketing</li> <li>Prepare clear national and local action plans to develop bean value chain</li> <li>Prepare clear instruction on investment promotion in bean plantation with smallholder inclusion and environmental concern through RAI</li> </ul>

Source: World Bank based on field survey conducted in 2022.

Note: ADS = Agriculture Development Strategy 2025; FDI = foreign direct investment; GACC = General Administration of Customs; GAP = Good Agriculture Practices; NTFPs = Non-Timber Forest Products; RAI = Responsible Agriculture Investment; R&D = research and development; SPS = sanitary and phytosanitary.

### Short term priorities based on SWOT analysis

- ▶ Strengthening and harmonizing policy, regulatory and incentive framework for market-based beans production.
- ▶ Improving knowledge of farmers and extensionists on bean value-chains and design and management.
- ▶ Enhancing public-private collaboration and partnerships to mobilize resources for market-based beans production development.
- ▶ Knowledge-exchange networks developing to connect bean production stakeholders along value chains for sharing best practices for replication.
- ▶ Upscaling and replication of market-based beans production in Lao PDR, supporting by effective marketing, knowledge management, and monitoring progress and evaluating results.

## Citrus value chain analysis

### Production

In Laos, the smallholder production yield is rather low at about 8.5 tons per hectare (The Agro-Biodiversity Initiative 2018). Causes include serious disease problems, insufficient irrigation, minimal fertilizer application and farm management, lack of high-quality breeding stock management, and inadequate replacement of old and diseased trees. At regional and global levels, average yields in most Asian countries are lower than those in Western countries, where 40 tons per hectare would not be considered an exceptionally high yield. In contrast, average yields in Republic of Korea are 26 tons per hectare; in Thailand, 15 tons per hectare; and in Taiwan, 15 tons per hectare.

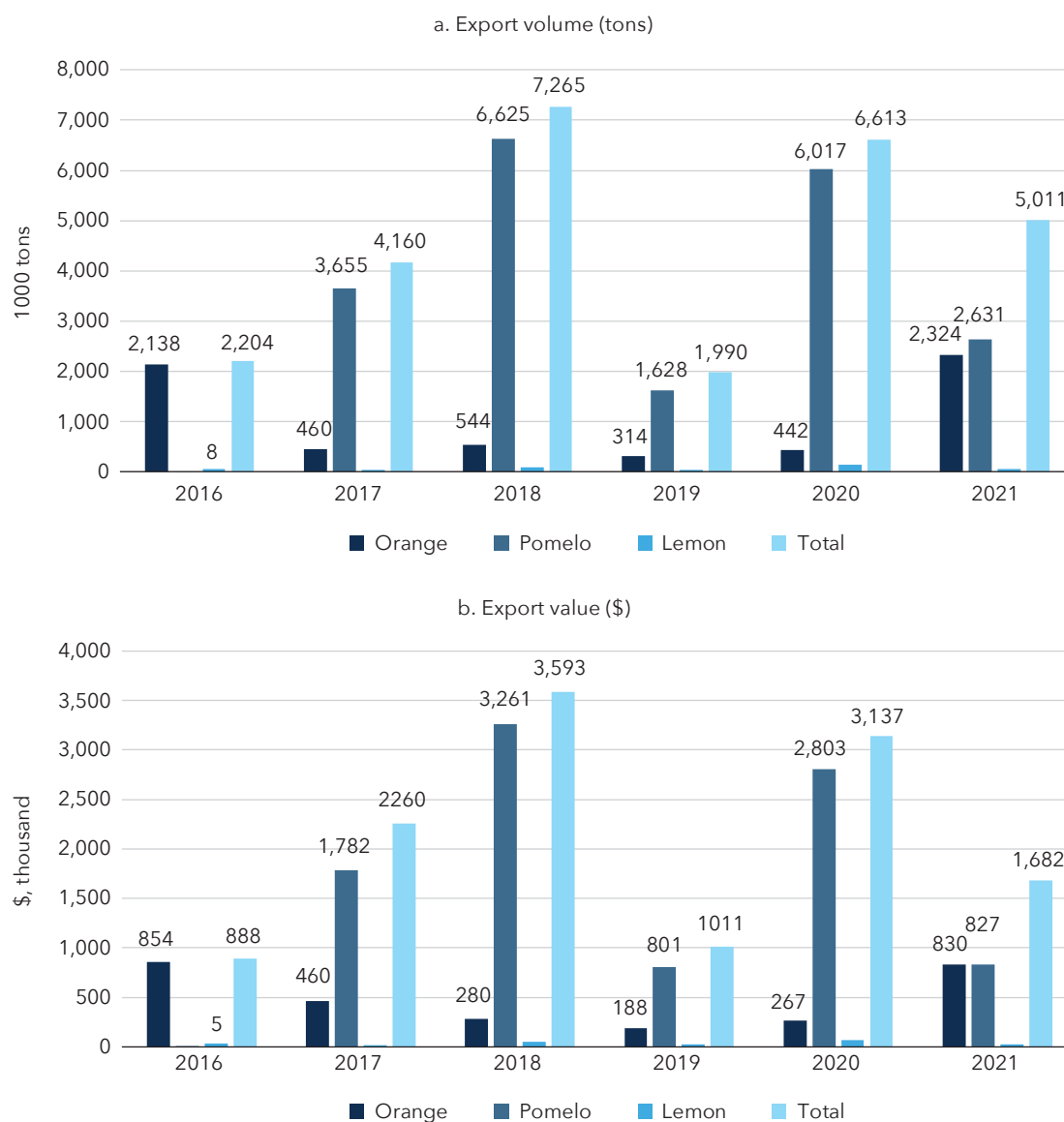
### Export

In November 2021, Laos signed a citrus export agreement with China aiming to initially export 50,000 tons with a value of \$50 million. Due mainly to C-19 and export containment from China, citrus fruits have not been exported as scheduled. However, Laos is both an exporter and importer of citrus fruits. See figure D.7 for export volume and value from 2016 to 2021. In 2021, the country imported a total of 5,397.5 tons of citrus with an exporting value of \$1.89 million (figure D.7).

China and Thailand are the two main export markets for Lao citrus, accounting for nearly 100 percent of export volume and 93 percent of export value, respectively. While the import volume and value of citrus was 6,659,562 tons and about \$2.3 million, respectively, all orange imports were from China with a volume and value of 3,007 tons and \$0.98 million, respectively (table D.4).

For local oranges, almost all producers and traders reported that locally produced oranges are still undersupplied particularly during the off-season between February and October when no local oranges are produced. Some producers recounted those oranges are produced in Laos with fewer chemicals and are in high demand in local markets as well as in neighboring countries, particularly Vietnam.

Figure D.7. Volume and Value of Citrus Exported from Laos by Product Type



Source: World Bank staff calculations based on data from MOIC, 2022.

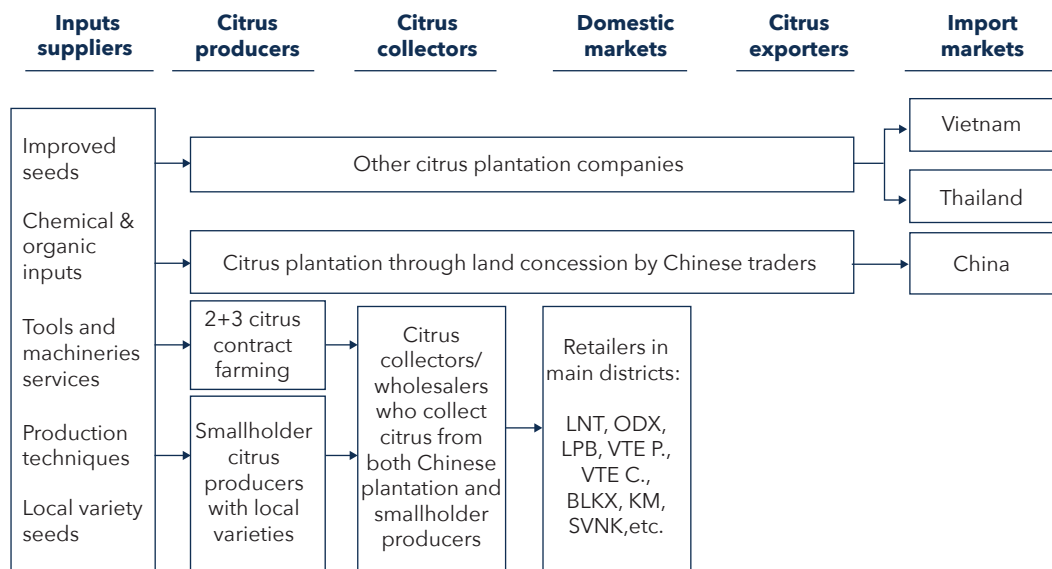
Table D.4. Lao Imports of Citrus by Country in 2021

	China		Thailand		Vietnam		Total import	
	Kilogram	\$	Kilogram	\$	Kilogram	\$	Kilogram	\$
<b>Orange</b>	3,007,105	986,222	n.a.	n.a.	n.a.	n.a.	3,007,105	986,222
<b>Pomelo</b>	47,102	18,841	2,435,335	766,156	413,800	199,740	2,896,237	984,736
<b>Lemon</b>	n.a.	n.a.	88,960	94,353	667,260	192,629	756,220	286,982
<b>Total</b>	3,054,207	1,005,063	2,524,295	860,509	1,081,060	392,369	6,659,562	2,257,940

Source: World Bank staff calculations based on data from MOIC, 2022.

### Value chain linkage and operators

Figure D.8. Citrus Value Chain Linkages to Chinese Markets



Source: World Bank based on field survey conducted in 2022.  
 Note: [Note: LNT = Luang Namtha, ODX = Oudomxay, LPB = Luangprabang, VTE P. = Vientiane Province, VTE C. Vientiane Capital, BLKX = Bolikhamxay, KM = Khammouane, SVNK = Savannakhet.]

Table D.5. presents strengths, weakness, opportunities and threats (SWOT) analysis and recommendations for citrus value chain. The assessment is based on literature reviews, key informant interviews, and field data collection observations. The SWOT analysis and recommendations are made to reflect the value chain process of the selected crop.

Table D.5. Citrus Value Chain SWOT Analysis

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Input</b>	<ul style="list-style-type: none"> <li>Improved varieties are not locally available</li> <li>High cost for imported fertilizer and chemical inputs</li> <li>Limited land resources with sufficient irrigation system for citrus production</li> </ul>	<ul style="list-style-type: none"> <li>High agro-ecological condition across the country</li> <li>Natural and low chemical inputs by local smallholder farming</li> </ul>	<ul style="list-style-type: none"> <li>Introducing the market-led, improved varieties</li> <li>Application of organic fertilizer and IPM practices</li> <li>Production of niche and high value citrus produce</li> </ul>	<ul style="list-style-type: none"> <li>Over control by Chinese investors for large-scale citrus production</li> <li>Weak monitoring of chemical inputs used by the intensive plantation</li> </ul>	<ul style="list-style-type: none"> <li>Support on R&amp;D on citrus variety improvement</li> <li>Promote using local produce organic fertilizer, compost, and bio-IPM</li> </ul>

(table continues on next page)

Table D.5. Citrus Value Chain SWOT Analysis (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Input</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>Lack of local labor for intensive citrus plantation</li> </ul>	<ul style="list-style-type: none"> <li>Different harvesting seasons from China and other neighboring countries</li> </ul>	<ul style="list-style-type: none"> <li>Introduction of environmentally friendly inputs and practices</li> </ul>		<ul style="list-style-type: none"> <li>Agroecological zoning and Improve irrigation scheme in prioritized zones</li> </ul>
<b>Production</b>	<ul style="list-style-type: none"> <li>Weak technical extension for SPS and other technical requirements, traceability systems</li> <li>High fixed investment cost for smallholder farmers</li> <li>Low investment and low productivity for local farming</li> <li>Limited local markets during harvesting season</li> <li>Low farm gate price offered by local collectors</li> <li>Limited local knowledge on pest and disease control</li> </ul>	<ul style="list-style-type: none"> <li>Available local citrus varieties</li> <li>Available national expertise on GAP, organic, and other conventional farming practices</li> <li>High income for smallholder farmers</li> <li>Available improved production techniques with Chinese citrus plantation in many provinces</li> </ul>	<ul style="list-style-type: none"> <li>Good local orange varieties are available in many areas in Laos</li> <li>Improved production techniques exist in current foreign and Chinese citrus plantations and in neighboring countries</li> <li>Introduction of natural based-system for irrigation, pumping and watering, and climate smart farming practices</li> <li>High potential for off-season citrus production for both domestic and export market</li> <li>Promotion of agro-forestry farming system</li> </ul>	<ul style="list-style-type: none"> <li>Over-use of pesticide and chemical inputs</li> <li>Climate change and natural disasters affecting the citrus production</li> <li>High competition with Chinese FDI in citrus production</li> <li>Pest and disease outbreak</li> <li>Closure of borders and no export to Chinese markets</li> </ul>	<ul style="list-style-type: none"> <li>Produce technical guideline and improve local technical extension quality for SPS and GAP system for citrus production</li> <li>Promote accessing to credit for improvement of production techniques and tools</li> <li>Provide matching grant to farmers groups through productive alliance</li> <li>Timely and widely disseminate agro-climatic information</li> </ul>

*(table continues on next page)*

Table D.5. Citrus Value Chain SWOT Analysis (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Collection</b>	<ul style="list-style-type: none"> <li>• Fragmented without collection organization</li> <li>• Competition with imported oranges</li> <li>• High transportation cost and low profit margin</li> <li>• Not stable networking between smallholder producers and local collectors</li> </ul>	<ul style="list-style-type: none"> <li>• High domestic market demand particularly during the off-season</li> <li>• Flexible collection combining other fruits</li> <li>• Local produced citrus collection network has been set up</li> <li>• Large-scale plantation has set up value chain for export markets</li> </ul>	<ul style="list-style-type: none"> <li>• Local produced citrus is under-supplied with a lot of import year round</li> <li>• Wholesale and retail markets are expanding in main districts</li> <li>• Supply to processing factories in the future</li> <li>• Creation of job and income for local collectors</li> </ul>	<ul style="list-style-type: none"> <li>• Lower production cost in neighboring countries with better citrus quality</li> </ul>	<ul style="list-style-type: none"> <li>• Set up collector association linking to producer groups</li> <li>• Promote marketing and consumption of local citrus through mess media and events</li> <li>• Set up local multi-stakeholder platform to promote and address issues faced by local citrus collectors</li> </ul>
<b>Processing and value addition</b>	<ul style="list-style-type: none"> <li>• Know-how and processing equipment is not available for smallholder farmers</li> </ul>	<ul style="list-style-type: none"> <li>• Some lessons learned in local SMEs on orange processing</li> </ul>	<ul style="list-style-type: none"> <li>• Process into different final products by farmer organizations or local agribusiness</li> <li>• Smallholder producer group could have better link to these large-scale processors</li> <li>• Producer groups could set up their own processing facilities</li> </ul>	<ul style="list-style-type: none"> <li>• Imported processed citrus products</li> </ul>	<ul style="list-style-type: none"> <li>• Advocacy on processing trainings for young farmer organizations and smart farmers</li> <li>• Promote local processing for citrus products with favorable enabling</li> </ul>

*(table continues on next page)*



Table D.5. Citrus Value Chain SWOT Analysis (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Export</b>	<ul style="list-style-type: none"> <li>• Difficult access to Chinese markets for local producers</li> <li>• High fixed investment and working capital for export-oriented enterprises.</li> <li>• High transition cost for export to Chinese markets including</li> <li>• High technical requirements for including cold chain for official export to China</li> </ul>	<ul style="list-style-type: none"> <li>• High demand for off-season citrus in China</li> </ul>	<ul style="list-style-type: none"> <li>• Improvement of citrus productivity and quality</li> <li>• High demand for other export markets</li> </ul>	<ul style="list-style-type: none"> <li>• Over-control by Chinese plantation and exporters</li> <li>• Climate change and delay in harvesting season</li> </ul>	<ul style="list-style-type: none"> <li>• Include local citrus in the trade negotiation</li> <li>• Build local capacity on SPS and other technical requirements</li> <li>• Link exporters to local farmer organization and include conditions in the investment agreement</li> <li>• Promote local investment in citrus plantation and export</li> </ul>
<b>Enabling</b>	<ul style="list-style-type: none"> <li>• Poor infrastructure including road access to citrus production center</li> <li>• Limited access to services such as organic fertilizer, microfinance, information, and farmer organization</li> <li>• Limited specific enabling supports to the citrus value chain development</li> <li>• Limited information on suitable agroecological zoning for citrus production</li> </ul>	<ul style="list-style-type: none"> <li>• National marketing promotion through ODOP</li> <li>• Local governments have promoted their citrus production through their special events</li> </ul>	<ul style="list-style-type: none"> <li>• Some national strategies have prioritized citrus production for commercialization</li> <li>• Some provinces have included citrus as their priorities for commercialization</li> </ul>	<ul style="list-style-type: none"> <li>• High competition and advanced citrus industry development in neighboring countries</li> </ul>	<ul style="list-style-type: none"> <li>• Improve infrastructure to citrus production center</li> <li>• Develop relevant sectors including fertilizer, access to finance, market information, and farmer organization</li> <li>• Prepare clear roadmap and action plan at national and local levels to develop citrus industry</li> <li>• Consolidate and disseminate information on agroecological suitability for citrus production</li> </ul>

Source: World Bank based on field survey conducted in 2022.

Note: GAP = Good Agriculture Practices; IPM =integrated pest management; ODOP = One District One Product; R&D = research and development; SMEs = small and medium enterprises; SPS = sanitary and phytosanitary.

## Short term priorities based on SWOT analysis

- ▶ Initiate a R&D program for improvement of market-oriented citrus varieties;
- ▶ Develop a clear roadmap and action plan at national and local levels to develop citrus industry;
- ▶ Conduct agroecological zoning for citrus growing, particularly in potential irrigation scheme area;
- ▶ Develop a pilot project in an irrigated area in the central part of Laos based on the best management practice of citrus growing from the northern part, and provision of matching grant to farmers groups through productive alliance;
- ▶ Promote marketing and consumption of local improved citrus varieties through mess media and events.

## Cattle value chain analysis

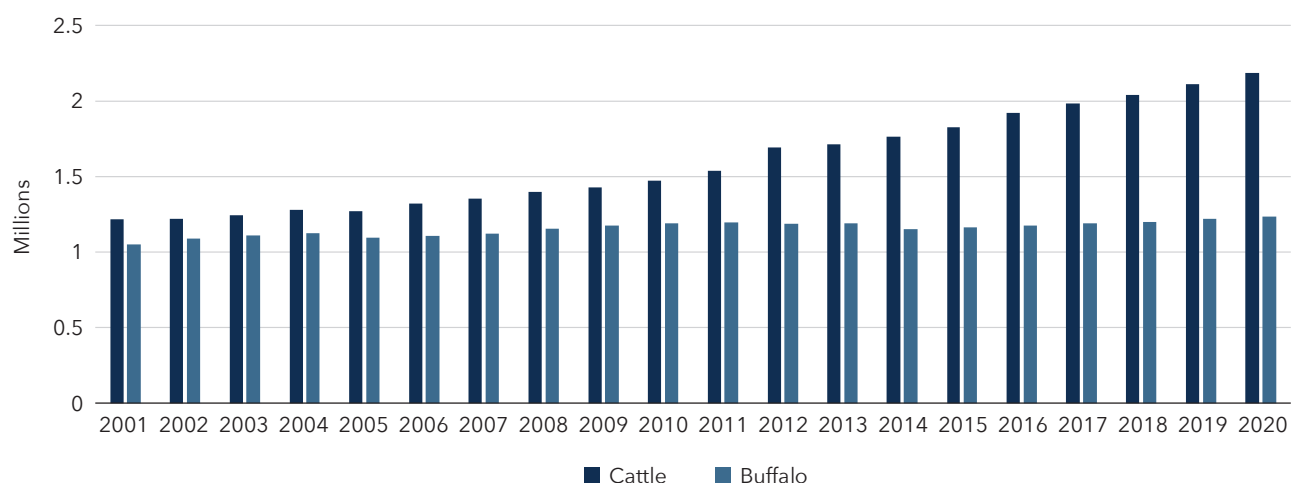
### Production

According to the government's National Urgent Agenda, cattle production ensures food security and commercialization. It is also a major capital reserve of smallholder farming households. The 2019/2020 Agricultural Census reported 644,098 agricultural households representing 52 percent of all households. Among agricultural households, 297,400 (or 46 percent) have an average of 4.2 cattle. Close to 49 percent of them raise cattle for cash income while nearly 29 percent and 22 percent of them raise cattle for breeding and meat consumption, respectively.

Figure D.9 presents trends in Laos cattle and buffalo populations over the last 20 years from 2001 to 2020. The cattle population increased from 1.21 million head in 2001 to 2.18 million head in 2020 (FAO, 2022). About 64,300 cattle (3 percent of the total cattle population) were from 625 registered cattle farms and considered beef cattle<sup>82</sup> (MAF, 2021a). About 97 percent of the total cattle population in Laos belongs to smallholder farmers and is dominated by native breeds, particularly Asian cattle. About 600,000 head (30 percent of all cattle) are local breeder cows with the potential to deliver 480,000 calves annually. Roughly 330,000 cattle were slaughtered annually for domestic consumption while an estimated 80,000-100,000 cattle were exported formally or informally to neighboring countries, such as China and Vietnam (MAF, 2021b). The introduction of live cattle trade from Laos to China through the formal animal quarantine in Luang Namtha since 2021, and the strict border restriction imposed by Chinese authorities since the COVID-19 outbreak of 2020, have led to a sharp decline in exported live local cattle numbers.

<sup>82</sup> Beef cattle may be defined as cross-breed cattle. Whole mature weight could be at least 350 kilograms to be accepted for an international beef cattle market, such as China's

Figure D.9. Cattle Herd Population in Three Regions from 2001 to 2020



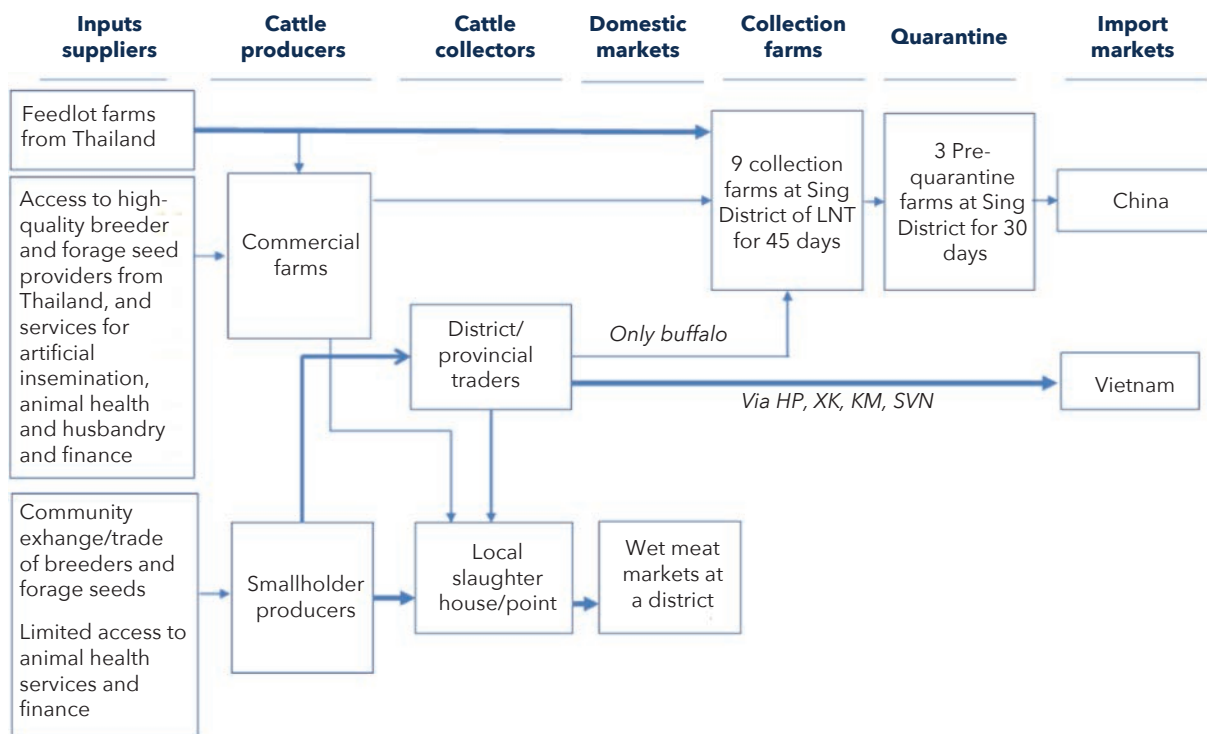
Source: FAO (2022).

## Export

The trade of live cattle to neighboring countries has changed since the 1980s, when most cattle went to Thailand, and since the early 2000s most cattle have been traded to Vietnam and China. Continuous economic growth and urbanization in China and Vietnam led to an increased demand for more red meat from beef and is the main driver of this change. In general, there are three main trading channels for local cattle: (i) trade between districts within a province, mostly from remote districts to the capital district of the province; (ii) trade between provinces, mostly from low-demand provinces to high-demand provinces such as Champasack, Luang Prabang, Savannakhet, and Vientiane; and (iii) informal and formal cross-border trades mostly from the bordering provinces of the country such as Huaphanh, Khammouan, Savannakhet, and Xieng Khuang to Vietnam (see figure D.10).

### Value chain linkage and operators

Figure D.10. A Snapshot of Live Cattle Value Chains



Source: World Bank based on field survey conducted in 2022.

Note: HP = Huaphah; KM = Khammuan; LNT = Luang Namtha; SVN = Savannakhet; XK = Xiwng Khuang province.

In 2017, the Laos and Chinese governments signed an agreement to formalize cattle trade by strengthening cattle trade facilitation and setting up the Pre-Export Quarantine Farms (PQF) operated by three concession companies in the epidemic-free zone for foot and mouth disease, which is within 5.6 square kilometers of the Laos and Chinese border in the Sing district of Luang Namtha province.

In early 2021, China announced the commencement of official cattle export trade with Laos and issued a health and quarantine protocol. Only two of the three concession companies licensed to build quarantine facilities have been approved by the General Administration of Customs China (GACC) and the Department of Livestock and Fisheries (DLF) of Laos to quarantine and export cattle to China. The official GACC-DLF designated FMD-free control zone boundary shows the facilities of the Xishuangbanna Yehong Trading Company and the Lao Guotong Cattle Development Company are located within the designated boundary.

The inaugural shipment of 2,013 head of cattle, with an estimated value of at least \$4 million, from quarantine companies in the Sing district to China through the new official quarantine trade channel occurred during the week of April 26 to May 5, 2021.

Table D.6. presents strengths, weakness, opportunities and threats (SWOT) analysis and recommendations for cattle value chain. The assessment is based on literature reviews, key informant interviews, and field data collection observations. The SWOT analysis and recommendations are made to reflect the value chain process of the selected crop.

Table D.6. Cattle Value Chain SWOT Analysis

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Input</b>	<ul style="list-style-type: none"> <li>Lack of access to investment funds for purchasing quantity and quality products and maintaining customer services has made SMEs unable to complete with Chinese, Thai, and Vietnamese companies that do business for agricultural inputs in Laos</li> <li>Lack of access to low interest-rate loans is a major constraint for Lao start-up SMEs and cooperatives to develop this input business</li> </ul>	<ul style="list-style-type: none"> <li>Smallholder farmers have long been involved in a forage development project, particularly CIAT since 1997</li> <li>Most livestock development projects have adopted forage technology interventions to help smallholder farmers fatten their animals</li> <li>Some forage market elements have recently emerged at small-scale, but unstable</li> </ul>	<ul style="list-style-type: none"> <li>Development of railway and trade between Laos and China has also provided opportunities for smallholders to improve their production by accessing new farming techniques and low prices of agricultural inputs, such as market-oriented seeds and breeds, inputs such as fertilizers, cheaper machineries, tools and equipment, and some financial sources</li> </ul>	<ul style="list-style-type: none"> <li>Continuous depreciation of the kip against the U.S. dollar and Thai baht have weakened the Lao companies' abilities to complete with Chinese, Thai, and Vietnamese companies;</li> <li>Lao companies are at the early stages of development of upstream (breeding) farms, particularly in Kanethao and Xayabul</li> </ul>	<ul style="list-style-type: none"> <li>Access to financial services for low interest-rate loans to smallholders and SMEs is critical as an entry point for business development</li> <li>This concept has been implemented by many ODA, soft-loan, and NGO livestock development projects possibly due to supply-pushed or project-oriented extension modes without proper linkage to commercial cattle development aiming for export</li> </ul>

(table continues on next page)

Table D.6. Cattle Value Chain SWOT Analysis (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Input</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>• Most inputs such as animal breeders, fertilizers, forage seeds, agricultural tools and machineries, and animal medical equipment and vaccines supplied to commercial cattle farms are mostly imported from China, Thailand and Vietnam</li> <li>• Most businesses for animal health services are available in urban areas (mainly a district center of province), but not effectively available for rural areas due to high cost of logistic and cold chain for keeping vaccines</li> </ul>	<ul style="list-style-type: none"> <li>• This could be an entry to further development of the forage market of which smallholders are largely dominant through establishment of farmer groups and cooperatives and financial assistance</li> </ul>	<ul style="list-style-type: none"> <li>• With increase in number of cattle farms in Laos, input services, such as animal health and husbandry services and forage suppliers, are in demand</li> <li>• This demand particularly creates opportunities for smallholders to participate in growing forages and weaning calves and selling to commercial farms</li> <li>• SMEs and smallholders might increasingly access cheaper agriculture inputs from China due to lower logistical railway costs</li> </ul>	<ul style="list-style-type: none"> <li>• Large investment and technical assistance mainly support selected farms (subsidized by government) and some ODA and soft-loan projects, with some being partnerships with the three quarantine companies</li> <li>• There is a concern that subsidies may weaken the overall farm business environment</li> </ul>	<ul style="list-style-type: none"> <li>• With proper designed financial and technical intervention, and adoption of agri-industrial business approaches, these opportunities will allow more smallholders to participate in cattle industry development by selecting specialized services, such as selling forages to and weaning calves for commercial cattle farms</li> <li>• An animal health services business is critical for the cattle industry development yet access to services in rural areas remains difficult and shall be subsidized</li> </ul>

(table continues on next page)

Table D.6. Cattle Value Chain SWOT Analysis (*continued*)

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Production</b>	<ul style="list-style-type: none"> <li>Key challenges include large financial access, sustainable management of financial loans, high and intensive production costs for raising breeder and feeder cattle, and under-development of modern slaughter house as alternative market</li> <li>Most smallholders' bovine systems are subsistence with vulnerability to animal diseases and climate change, and are difficult to be developed into more productive and intensive systems</li> <li>The foreign investment policies for the livestock sub-sector for PQF and collection farms, particularly land concession, are unclear and lack details</li> </ul>	<ul style="list-style-type: none"> <li>The government has recently promoted the development of commercial cattle farms through the 2021 national project which aims to export 50,000 head in the next 3 years</li> <li>Smallholders' bovine systems are considered to be extensive and cost effective due to low labor and investment inputs</li> <li>Due to their weight of more than 350 kg, only smallholders' buffalos are qualified to export to Chinese markets</li> </ul>	<ul style="list-style-type: none"> <li>Given annual quota of 500,000 head, Chinese markets offer considerable opportunity for Laos to supply its commercial cattle with an export value of at least \$500 million annually</li> <li>Low population and abundance of available land areas for grazing may provide favorable investment conditions for large commercial cattle farm development</li> <li>Cattle industry to be developed from subsistence to market-oriented cattle farming systems based on proper agro-ecological zoning</li> </ul>	<ul style="list-style-type: none"> <li>With unpredictable weather due to climate change phenomena, there are reports of frequent disease outbreaks such as FMD and lumpy skin disease either in Laos or the ASEAN region, which could disrupt the export of live cattle to China</li> </ul>	<ul style="list-style-type: none"> <li>Selected strategic locations for development of large-scale commercial cattle farm development linked to dry ports and railway stations should be prioritized by the government to promote and attract both FDI and investment partnerships with selected commercial farms</li> <li>Government should provide favorable investment policy conditions to FDI similar to those in SEZs</li> <li>Due to their extensive production systems, smallholders may focus on raising more buffalos to export to China</li> </ul>

*(table continues on next page)*



Table D.6. Cattle Value Chain SWOT Analysis (*continued*)

	<b>Weakness</b>	<b>Strengths</b>	<b>Opportunities</b>	<b>Threats</b>	<b>Recommendations</b>
<b>Collection</b>	<ul style="list-style-type: none"> <li>Development of dry ports near strategic railway stations is at a primary stage where institutional supporting systems to be replicated as one-stop service system remain unclear</li> </ul>	<ul style="list-style-type: none"> <li>Government urgently promoted private investment of dry ports near railway stations, particularly in Luang Namtha, Luang Prabang, Oudomxay, and Vientiane provinces</li> </ul>	<ul style="list-style-type: none"> <li>Further development of collection points of cattle in central and southern regions of the country are necessary for aggregation of commercial cattle which are linked to the collection farms and PQFs in Luang Namtha using railway for transport</li> </ul>	<ul style="list-style-type: none"> <li>As dry ports, which are linked to the collection points, will be managed by private companies, government may not be able to use them systematically</li> </ul>	<ul style="list-style-type: none"> <li>Collection points shall be established near a highway or dry port of the railway stations in the central part, namely Vientiane, and aim to be approved as the FMD free zone</li> <li>The dry port should be an integral part of a new cattle-industrial zone where one-stop service system for transferring and exporting live cattle is developed and implemented</li> </ul>
<b>Domestic markets</b>	<ul style="list-style-type: none"> <li>Smallholders' bovines are considered the main supply of domestic beef markets and are slaughtered at the slaughter houses and points in each district with minimum hygiene standards</li> <li>Domestic markets for beef products are dominated by wet meat markets which are required to be consume within 48 hours</li> </ul>	<ul style="list-style-type: none"> <li>Demand for domestic live cattle for farms and beef markets remains relatively high, particularly in the central district of a province</li> </ul>	<ul style="list-style-type: none"> <li>Smallholder producers and local actors involved in an export crop value chain to China could provide some benefits linked to cattle smallholders</li> </ul>	<ul style="list-style-type: none"> <li>Low supply of smallholders' cattle could sometimes lead to high prices of beef products</li> </ul>	<ul style="list-style-type: none"> <li>Formation of farmer groups and cooperatives is necessary for enabling smallholder producers to increasingly access financial and technical assistance, thereby improving their production systems</li> </ul>

(table continues on next page)

Table D.6. Cattle Value Chain SWOT Analysis (*continued*)

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Transportation and logistics</b>	<ul style="list-style-type: none"> <li>Geographical dispersal of smallholder cattle production systems, particularly in rural areas, often leads to high logistical costs of buying and collecting their animals</li> </ul>	<ul style="list-style-type: none"> <li>Further development of railway and highway could lead to lowering logistical costs for transporting live cattle</li> </ul>	<ul style="list-style-type: none"> <li>Railway development provides possibility to lower cost of transporting live cattle from the southern and central parts to PQF and collection farms</li> </ul>	<ul style="list-style-type: none"> <li>Increased prices of global gasoline together with depreciation of currency could have a major impact on the logistical system</li> </ul>	<ul style="list-style-type: none"> <li>Development of large commercial farms, collection points, dry ports, and railway stations should be strategically decided to lower logistical costs</li> </ul>
<b>Export</b>	<ul style="list-style-type: none"> <li>Exporting cattle to China is considered a high-risk value chain for live-animal trade due to various factors including live-stock disease outbreak (FMD, lumpy-skin disease), insufficient supply of animals, requirement of concentrated feed, strict COVID-19 measures by the Chinese authority, and price sensitivity from Chinese markets</li> </ul>	<ul style="list-style-type: none"> <li>The agreement between Lao and Chinese governments was signed to promote the export of cattle to China</li> <li>The PQFs and collection farms were developed in Sing district of Luang Namtha</li> <li>Government initiated national projects that support development of breeding and feedlot farms, particularly in northern Laos</li> </ul>	<ul style="list-style-type: none"> <li>Opportunities to attract FDI globally to develop commercial cattle farms in Laos</li> </ul>	<ul style="list-style-type: none"> <li>There is a risk of having a single market of live cattle trade from China as the purchase prices of cattle are set by the Chinese</li> </ul>	<ul style="list-style-type: none"> <li>Pilot projects for smallholders are needed and started with fulfilling domestic markets, and gradually linked to the new cattle-industrial zone</li> <li>As the feedlot cattle industry requires intensive investment which creates financial and technical barrier for small producers, the first entry for small producers could be participation in supplying forage and crop to animal feed companies or feedlot farms in the zone through effective contract farming</li> </ul>

*(table continues on next page)*

Table D.6. Cattle Value Chain SWOT Analysis (*continued*)

	Weakness	Strengths	Opportunities	Threats	Recommendations
<b>Export</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>• Development of high-value or intensive agriculture products with optimizing smallholders' participation should be considered as a long-term approach</li> <li>• Supporting systems (e.g., input, financial assess, human resource) for smallholders need to be developed to support this value chain</li> </ul>				<ul style="list-style-type: none"> <li>• At the same time, intervention for effective technical assistance and provisional institutional mechanism are critical for inclusive development</li> <li>• As smallholders' buffalos are also in high demand by Chinese markets, the government should promote and support smallholders' buffalo production systems</li> </ul>
<b>Enabling</b>	<ul style="list-style-type: none"> <li>• Sectoral approaches from each government authority remain a barrier for the development of the Lao cattle industry</li> </ul>	<ul style="list-style-type: none"> <li>• Government and international development organizations are working closely to provide institutional supports to strengthen the cattle supply chain</li> </ul>	<ul style="list-style-type: none"> <li>• Railway connectivity of railway will eventually lead to development of roads that could connect more smallholder production sites to the supply chain for export</li> </ul>	<ul style="list-style-type: none"> <li>• Government's limited budget allocation and human resources may weaken enabling systems</li> </ul>	<ul style="list-style-type: none"> <li>• Development of a cattle industry requires effective cross-sectoral government support of which MAF is at the core of commanding necessary cooperation and support from other government authorities</li> </ul>

Source: World Bank based on field survey conducted in 2022.

Note: ASEAN = Association of Southeast Asian Nations; CIAT = International Center for Tropical Agriculture; FDI = foreign direct investment; FMD = foot and mouth disease; MAF = Ministry of Agriculture and Forestry; NGO = nongovernmental organization; ODA = official development assistance; PQF = Pre-Quarantine Farms; SEZ = Special Economic Zone; SME = small and medium enterprises.

## Short term priorities based on SWOT

- ▶ Develop a pilot project aiming at improving local cattle breed through introduction of Brahman bulls and service for artificial insemination. Within 3 years, cross-bred cattle from smallholders could be sold through a high value chain for international export markets like China. The pilot project should focus on an irrigated agriculture zone such as Khammouan and Savannakhet provinces where by-product crops are available to be used for animal feed while an upland zone in the central part of Laos is selected for cattle extensive farming system where high quality breeders are raised;
- ▶ Promote smallholder groups/cooperatives' forage and crop production which links to SME feed factories and commercial cattle farms under a government-initiated program.
- ▶ Support initiation of smallholders' business for animal health services in a project-targeted area.
- ▶ Promote smallholders to raise more buffalos as demand for Lao buffalos in Vietnam and China remains high. Due to continuous increase in fuel price, smallholder farmers may raise more buffalos to replace their tractor.
- ▶ For emerging livestock value chains like cattle, support for public institutions like animal health services are critical for ensuring disease testing, vaccination, and deployment of appropriate breeding and feeding techniques in order to meet the standards required for integration into regional and international value chains. A One Health approach should be implemented to empower and facilitate zoonotic disease control and prevention, as well as to promote improved animal health and production. The integration of animal health surveillance systems (livestock and wildlife) with human health systems will aid in the detection of pathogens and the management of cross-border transboundary disease. It is important to recognize that applying One Health approaches in food systems would address some of the most pressing emerging and global public health threats, including food safety and Antimicrobial Resistance (AMR).

## References

- Food and Agriculture Organization (Accessed date March 28, 2022). Crops and livestock products data from Corporate Statistical Database website <https://www.fao.org/faostat/en/#data/QCL>.
- Kousonsavath, C. et al., 2018. Analyzing Mung Bean Value-Chains in the Lao PDR. National University of Laos: Vientiane, Lao PDR.
- Ministry of Agriculture and Forestry, 2021a. Statistical Yearbook 2021. Department of Agriculture of Ministry of Agriculture and Forestry, Vientiane, Lao PDR.
- Ministry of Agriculture and Forestry, 2021b. Cattle Production Project for Export. Department of Livestock and Fisheries of, Vientiane, Lao PDR.
- The Agro-Biodiversity Initiative, 2018. Concept Note: Sustainable Native Orange Production." National Agriculture and Forestry Research Institute, Vientiane, Lao PDR.
- The International Center for Tropical Agriculture, 2021. Policy Brief on: Sustainable Cassava Production and Marketing in Lao PDR. Cali, Colombia.



# OVERALL SWOT ANALYSIS OF AGRICULTURE EXPORT VALUE CHAIN

Table E.1. below presents the overall SWOT analysis of the agriculture export value chain, which is common process along the value chains.

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Input</b>	<ul style="list-style-type: none"> <li>Improved and hybrid seeds and breeds are not locally available</li> <li>Limited use of labor-saving agricultural modern machineries</li> <li>Not available credit to invest in improved inputs</li> <li>Lack of young labor for farming in central region along Mekong River</li> </ul>	<ul style="list-style-type: none"> <li>Raw materials for industrial feed and fertilizer are locally produced</li> <li>Suitable agroecological system for many crops</li> <li>Large natural grassland for livestock</li> <li>Easy communication for communities in Northern provinces with Chinese traders</li> </ul>	<ul style="list-style-type: none"> <li>Access to some improved inputs, market-oriented seeds and breeds, fertilizer and chemical inputs, machineries, tools and equipment for production and processing in China</li> <li>Diversification of agroecological conditions for different crops and fruits</li> </ul>	<ul style="list-style-type: none"> <li>Loss of local biodiversity due to monocropping with hybrid variety</li> <li>Lower price of production inputs and production cost in neighboring countries</li> <li>Land concession with un-fair and inefficient enforcement by local government</li> </ul>	<ul style="list-style-type: none"> <li>Support on local R&amp;D on improved seeds and breeds</li> <li>Promote agricultural machineries and modernization</li> <li>Adoption of agroecological zoning and land use planning</li> <li>Support on small-scale, natural-based irrigation schemes</li> </ul>

(table continues on next page)

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Input</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>• High cost of fertilizer due to imported or not locally available</li> <li>• Limited access to flatland and irrigation</li> </ul>	<ul style="list-style-type: none"> <li>• More young local farming along the railway compared to central region along Mekong River</li> <li>• Abundant biodiversity and landscape in the North</li> </ul>		<ul style="list-style-type: none"> <li>• Limited young farm labor and SMEs in agriculture sector</li> </ul>	<ul style="list-style-type: none"> <li>• Support on local fertilizer and feed industry to create more jobs for young labors</li> <li>• Prioritize main crops and fruits production for each district and province along the railway</li> </ul>
<b>Production</b>	<ul style="list-style-type: none"> <li>• Limited access to improved production technique and technical extension</li> <li>• Low productivity, quality and quantity with low capital investment</li> <li>• Small-scale, fragmented and limited diversified products with limited collective action</li> <li>• High production cost and low competitiveness</li> </ul>	<ul style="list-style-type: none"> <li>• Low level use of chemical inputs and easy adaption of GAP and organic systems</li> <li>• Close proximity to China where there is high demand but no suitable land for many crops</li> <li>• Existing integrated farming system with diversified cropping systems</li> </ul>	<ul style="list-style-type: none"> <li>• Opportunities for farmers to improve their productivity, quality and quantity through collective action</li> <li>• Many lessons learnt on farmers organization linking to export markets</li> <li>• Lesson learnt from matching grant supported by projects</li> <li>• Some available platforms such as the Lao Farmers Network to support information sharing</li> </ul>	<ul style="list-style-type: none"> <li>• More intensive farming system with higher productivity in neighboring countries</li> <li>• Climate change, natural disasters and limited resilience, response and safety net on agricultural production</li> <li>• Contract farming has not been well monitored and facilitated by government</li> </ul>	<ul style="list-style-type: none"> <li>• Provision of technical trainings and matching grant for farmer organizations</li> <li>• Strengthen farmer organization and contract farming models</li> <li>• Build capacity of DAFO/PAFO on GAP, OA for SPS and other traceability system inspection and certification</li> <li>• Promote and focus on niche, high-value and off-season crop and fruit production</li> </ul>

(table continues on next page)



Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Production</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>Limited awareness on quality control, traceability and certification system</li> <li>Limited extension capacity on SPS and other technical requirements at farm level</li> <li>Limited information sharing on SPS and other technical requirements for Chinese markets</li> <li>High transition cost for farm registration, inspection and certification for Chinese markets</li> <li>Limited production techniques for off-season crops and fruits</li> <li>Limited adaptation to and mitigation of climate change and natural disasters and risks</li> </ul>	<ul style="list-style-type: none"> <li>Comparatively high income from high-value crops and fruits such as beans and citrus</li> <li>The process for SPS and other technical requirements have been mapped with some technical guidance</li> <li>Some available agroclimatic information that could be disseminated</li> <li>Some expertise at national level for SPS, GAP and OA at DOA and DLF linkages to neighboring, ASEAN compliance and conformity</li> <li>Some niche local crop varieties which only available in specific areas</li> </ul>	<ul style="list-style-type: none"> <li>Some farmers (groups) models in GAP and OA practices meeting SPS and other requirements for China and other countries</li> <li>Adaptation of climate resilience agricultural through diversified cropping and integrated farming system</li> </ul>	<ul style="list-style-type: none"> <li>Environmental and socio concern resulted from miss-use and over-use of chemical inputs with weak M&amp;E system</li> <li>No technical feasibility study before introducing new crops</li> </ul>	<ul style="list-style-type: none"> <li>Link farmers to markets through productive alliance and trader association</li> <li>Disseminate information on technical requirements for Chinese and other export markets</li> <li>Promote the use of agro-climatic information at local level</li> </ul>

*(table continues on next page)*

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Collection</b>	<ul style="list-style-type: none"> <li>• Small and inconsistent volume and quality supply from small-holder producers resulted in high transition cost and low profitability for collection</li> <li>• Limited working capital of local collectors</li> <li>• Unorganized distribution networks with low business skill</li> <li>• Limited linkage with export markets</li> <li>• No clear collection and marketing regulation and management for illegal collection</li> </ul>	<ul style="list-style-type: none"> <li>• Local network established with some Chinese traders and exporters involved</li> <li>• Easy communication since most of local collectors are able to speak Chinese with long-term business relationship</li> <li>• Some cash advance for crop collection from Chinese traders</li> <li>• Diversified business models collecting main crops, fruits and livestock</li> <li>• Local government support</li> </ul>	<ul style="list-style-type: none"> <li>• Emerging and potential for production of pro-poor to high-value crops with local network established</li> <li>• Regular stakeholder discussion conducted to address and find solutions joining by local government and traders e.g. promoting price for tax and fee collection</li> <li>• Local governments have prioritized some agricultural production for commercialization</li> </ul>	<ul style="list-style-type: none"> <li>• Weak competition with large-scale Chinese and other investors</li> <li>• Unpredictable demand and price as it is totally determined by end-buyers in China</li> <li>• Local collectors are lack of working and fixed capital and have limited access to credit</li> <li>• High marketing risk</li> <li>• In-compliance with technical requirements</li> </ul>	<ul style="list-style-type: none"> <li>• Promote productive alliance through matching grant schemes</li> <li>• Train local collectors to access to credit and improve business skills</li> <li>• Set up collector's association linking to export markets</li> <li>• Formalize and regulate collection of some crops and fruits with high demand</li> <li>• Strengthen local stakeholder platform to support local collectors and smallholder producer inclusion</li> </ul>

*(table continues on next page)*

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Processing and value addition</b>	<ul style="list-style-type: none"> <li>Established export value chain of raw materials</li> <li>Strong marketing networking among Chinese traders</li> <li>Market information is not available for local traders for price, seasonality, regulatory and technical requirements, and risks</li> <li>Limited processing equipment and investment for local traders</li> <li>Limited value addition without grading, grinding, packaging and labeling services</li> <li>Limited local market and low visibility and little recognition in other markets for local processed products</li> <li>Limited awareness and capacity on Good Manufacturing Practices (GMP)</li> </ul>	<ul style="list-style-type: none"> <li>Agricultural production profile in Laos is considered as conventional, organic with low chemical inputs in Chinese markets</li> <li>Informal trade with some bilateral trade agreements between Northern provinces and Yunnan</li> <li>Long business relationship between local and Chinese agribusiness in the North</li> <li>Regulations regarding registered collectors, traders and exporters have been clarified in many provinces</li> <li>Preliminary processing is done locally for some NTFPs and crops</li> </ul>	<ul style="list-style-type: none"> <li>Contract farming has been recognized as an inclusive, responsive, pro-poor arrangement for developing value chains</li> <li>There are also opportunities for pre-financing from Chinese traders when there is high demand for NTFPs and crops</li> <li>Contract farming through which is normally enforced for quality requirements by the traders</li> <li>Some preliminary processing tools and equipment could be established</li> </ul>	<ul style="list-style-type: none"> <li>High competition from neighboring countries with lower processing cost</li> <li>No mechanism to reduce marketing risk for local traders and producers</li> <li>Limited diversified export markets with local value addition and processing</li> <li>Price is highly decided by Chinese traders whilst collecting price is different from place to place</li> </ul>	<ul style="list-style-type: none"> <li>Promote local processing for either preliminary of final products with</li> <li>Strengthen marketing information dissemination</li> <li>Streamline application process and access to credit for local processors</li> <li>Promote related service industries for packaging, labeling</li> <li>Set up networking between producers and processors through productive alliance, and export associations</li> <li>Conducted specific supply and demand study to promote domestic production and marketing in export markets</li> <li>Promote and apply GMP principle in agricultural processing industry</li> </ul>

*(table continues on next page)*

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Export</b>	<ul style="list-style-type: none"> <li>• Insufficient information on supply and demand of agricultural products</li> <li>• Reliance on informal trade with neighboring countries</li> <li>• Strict technical requirements and high fee for official export to China</li> <li>• No strict SPS inspection when export to Thailand and Vietnam when there is high demand</li> <li>• Low competitiveness compared to neighboring countries</li> <li>• Limited export and import networking between Laos and China</li> <li>• Insufficient export facilities and equipment for cold chain</li> <li>• Slow custom clearance and high logistic cost</li> <li>• Coordination among line government agencies is not sufficient and timely support</li> </ul>	<ul style="list-style-type: none"> <li>• Long-term relationship through cross border with China</li> <li>• Laos could fill some demand gaps for some crops, fruits and livestock</li> <li>• Some Lao crops are re-exported from Thailand and Vietnam to China</li> <li>• Strong relationship with Thai and Vietnamese traders along borders</li> <li>• Strong bilateral trade relationship with neighboring countries</li> </ul>	<ul style="list-style-type: none"> <li>• Efficiently utilize export opportunities through opium replacement programs or bilateral local government's trade agreements</li> <li>• SPS and other technical requirements have been used in Northern provinces which could be scaled up</li> <li>• Many export agreements have been signed and could be formalized</li> </ul>	<ul style="list-style-type: none"> <li>• Limited understanding and information on demand and price in China</li> <li>• Local traders face difficulties in approaching further Chinese market over the border</li> </ul>	<ul style="list-style-type: none"> <li>• Conduct supply study and inventory to evaluate comparative advantage of the main crops from Laos</li> <li>• Conduct demand and market study prior to the trade negotiation with China</li> <li>• Support on meet and match between local traders with Chinese importers through various trade events and platform</li> <li>• Bridging large-scale exporters with local collectors and producer groups through networking and productive alliance</li> <li>• Set up a task-force to monitor and support the implementation of export agreement signed between Laos and China</li> <li>• Improve trade portal information with up-to-date information on technical requirements, market information, etc.</li> <li>• Digitalization and advance custom clearance</li> <li>• Promote modern facilities including cold chains</li> </ul>

(table continues on next page)

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Import</b>	<ul style="list-style-type: none"> <li>• Limited information and unclear process of import for local traders and exporters</li> <li>• Limited information for Chinese market, price and preferences</li> <li>• Unclear profit margin and risk management mechanism along the value chain</li> <li>• High import tax without trade agreement and special program with China</li> </ul>	<ul style="list-style-type: none"> <li>• High profile of Lao agricultural products with natural and less chemical use</li> <li>• Long informal, and bilateral trade relationship between Northern Laos and China</li> <li>• Some off-seasonal and niche crops and fruits with high demand in huge markets in China</li> <li>• Geographical and cultural proximity between Northern Laos and Yunnan</li> <li>• Many cross-border trade channels between Northern Laos and Yunnan</li> </ul>	<ul style="list-style-type: none"> <li>• 14 trade agreements signed with continuous negotiations for other crops to China</li> <li>• Importing quota through Opium Replacement program</li> <li>• Thailand and Vietnam require less strict technical inspection and certifying process compared to China</li> <li>• Many provinces along Thai and Vietnamese borders are in either formal or informal cross-border trader relationship</li> </ul>	<ul style="list-style-type: none"> <li>• High competition from neighboring countries</li> <li>• Cross-border trade formalization with strict technical requirements</li> <li>• Without sustainable management and monitoring some NTFPs face distinctive risk</li> <li>• Closure of borders without notifications</li> </ul>	

*(table continues on next page)*

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Enabling</b>	<ul style="list-style-type: none"> <li>• Research institutes and the private sector are not adequately represented and engaged in the discussion and establishment of standards, guidelines, and systems</li> <li>• Limited SPS and other technical capacity, laboratory and infrastructure to comply with high-end markets requirements in China and others</li> <li>• Limited innovative ITC and digital system to monitor and manage the traceability on technical requirements</li> <li>• Legal policies and regulations are ineffectively implemented at local levels for socio and environmental concerns</li> </ul>	<ul style="list-style-type: none"> <li>• Nation Agenda and other enabling supports have been issued to promote the export of agricultural export and replacement of import</li> <li>• Existing bilateral platforms and trade negotiation including through the Opium Replacement program</li> <li>• Major connectivity with central and southern region though NN13 and NS13</li> <li>• Some local capacity on technical production and marketing negotiation have been built</li> </ul>	<ul style="list-style-type: none"> <li>• Government has highlighted smallholder farmers inclusion</li> <li>• Laos is also working to improve the enabling environment for smallholder investment through SME funds, commercial banks, microfinance institutes</li> <li>• Local capacity on production technologies and market information could be improved</li> <li>• More connectivity with Thailand and Vietnam with cheaper transportation cost</li> <li>• Increase public income through more effective tax and fee collection for more formal trading</li> <li>• Bilateral local agreement with Yunnan provides strong advantage in the North</li> </ul>	<ul style="list-style-type: none"> <li>• Weak monitoring and enforcement of concession and contract farming by local governments</li> <li>• In-transparent and low income from land concession</li> <li>• Low monitoring capacity to comply with environmental and social safeguard</li> <li>• Laos could not preposition itself for export to China as there is no preferential technical requirements</li> <li>• High reliance on information from Chinese investors without clear and transparent information traceability system</li> <li>• Government can not monitor the quality of foreign investment</li> </ul>	<ul style="list-style-type: none"> <li>• Set up a specific platform involving all line government agencies, private sectors and DPs supporting the agricultural export to China</li> <li>• Improve soft and hard capacities on SPS and other technical requirements</li> <li>• Promote digitalization and other ITC on traceability, inspection and certification system and market information</li> <li>• Disseminate and closely monitor the implementation of related regulations at local levels</li> <li>• Improve enabling to access to finance by local producer groups and traders</li> <li>• Facilitate contract farming enforcement</li> <li>• Support business matching with good profile Chinese traders</li> </ul>

*(table continues on next page)*

Table E.1. Overall SWOT Analysis of Agriculture Export Value Chain (*continued*)

	Overall weakness	Overall strengths	Overall opportunities	Overall threats	Recommendations
<b>Enabling</b> ( <i>continued</i> )	<ul style="list-style-type: none"> <li>Limited credit access by local value chain actors</li> <li>Long trade negotiation process with high transition cost over traders and producers</li> <li>No clear enabling policies on contract farming and business matching</li> <li>Lack of local investment and organized supports and coordination among local government offices on production and marketing</li> <li>Limited information available on supply, demand, business.</li> <li>Different regulations on local tax and fees</li> <li>Inefficient business enabling, one-door service.</li> </ul>	<ul style="list-style-type: none"> <li>Existing framework on tax and fees enforced adapted from relevant national policies and decree e.g. tax and fee collection</li> <li>Some provincial government have used only up to 50% of actual market price as reference price for levying tax and fees which highly encourage more traders being involved in some VC</li> <li>Existing collaboration between government departments and banks to support accessing to finance for producer groups</li> </ul>	<ul style="list-style-type: none"> <li>Some special programs such as opium replacement can be negotiated to support the VC development</li> <li>Further technical collaboration with Yunnan government agencies and other provinces along borders with China, Thailand and Vietnam</li> </ul>	<ul style="list-style-type: none"> <li>Covid-19 and other issues resulted in border closure</li> </ul>	<ul style="list-style-type: none"> <li>Streamline export negotiation with China, Thailand and Vietnam</li> <li>Business enabling for one-door service</li> <li>Promote foreign direct investment through joint-venture with Responsible Investment in Agriculture (RAI) principle</li> <li>Closer monitor environmental and input use regulations</li> <li>Improve the last-mile infrastructural shortage</li> <li>Strengthen technical collaboration with China, Thailand and Vietnam</li> </ul>





# VALUE CHAINS ANALYSIS: A SYNTHESIS

Table F.1 below presents a synthesis of the value chains analysis which summarized from the literature reviews.

Table F.1. A Synthesis of the Value Chains Analysis

Product	Production profile and trends	Market and cost drivers	Barriers to competitiveness
<b>Established</b>			
<b>Rice</b>	<p><u>Area</u>: 762,000 hectares.</p> <p><u>Output</u>: 1.5 million tons.</p> <p><u>Geography</u>: Concentrated in central region (59% of output in 2019). Savannakhet is the largest producer of paddy rice.</p>	<p><u>Market</u>: Laotians' preference for a glutinous (or sticky) rice makes country vulnerable to domestic production shocks and price fluctuations.</p> <p><u>Average export value</u> (last 5 years): \$12.3 million.</p> <p><u>Demand</u>: Lack of a significant consumer class with high purchasing power.</p> <p><u>Margins</u>: The ratio of farm gate prices to wholesale or retail prices in the Laos is the lowest among its peers, which dampens farm supply responses.</p> <p><u>Cost</u>: High production costs, especially labor costs, erode potential profits for rice producers.</p>	<p><u>Farm Productivity</u>: Limited access to high quality seeds leads to low yields and milling rates.</p> <p><u>Processing</u>: Fragmented milling sector dominated by small operators using old technology.</p> <p><u>Quality</u>: Low-quality management at the farm and immediate post-farm levels.</p> <p><u>Regulatory</u>: Failure to provide incentives for product quality.</p>

(table continues on next page)

Table F.1. A Synthesis of the Value Chains Analysis (*continued*)

Product	Production profile and trends	Market and cost drivers	Barriers to competitiveness
<b>Vegetables</b>	<p><u>Area</u>: 162,000 hectares.</p> <p><u>Geography</u>: Central and South.</p> <p><u>Typology</u>: High share of women.</p> <p>Trends:</p> <p>(i) Production has increased steadily from 2005 peaking in 2015–2016 with output reaching 1.6 million tons and cultivated area reached more than 160,000 hectares in 2019.<sup>a</sup></p> <p>(ii) Growth in contract farming by foreign companies that support farmers with seeds, fertilizers, plastic sheeting, and drip irrigation.</p>	<p><u>Market</u>: A movement to grow organic produce for the local and tourist markets is emerging.</p> <p><u>Average export value</u> (last 5 years): \$25.9 million.</p> <p><u>Demand</u>: In Vientiane, consumers with higher incomes and education levels are willing to pay more for quality food compliant with sanitary standards and meeting their expectations in terms of taste, packaging, and appearance. New patterns are driving innovation in processing, packaging, and branding in micro, small, and medium-size processing enterprises.</p> <p><u>Cost</u>: Lack of labor is a common problem among the country's vegetable farmers and traders.</p>	<p><u>Farm Productivity</u>: Pests and diseases; Limited access to quality seed varieties; Lack of off-season seeds, Customary farming on small plots limits economies of scale.</p> <p><u>Wholesale and Retail</u>: Informal marketing methods with no arrangements with traders.</p> <p><u>Processing</u>: Limited due to lack of technical knowledge and access to finance.</p> <p><u>Quality</u>: Inadequate knowledge of food safety regulations among farmers.</p>
<b>Growing</b>			
<b>Bananas</b>	<p><u>Typology</u>: Average banana plot is 2 hectares; raw and solar-dried bananas sold at farm gate level.</p>	<p><u>Market</u>: Retailers sell raw bananas, solar-dried bananas, and banana crisps; 15% of farm output is sold to distributor and exports to China; 5% is exported to Thailand.</p> <p><u>Demand</u>: Joint Laos-Chinese companies export to China; Thai importers sometimes buy directly from farms.</p> <p><u>Average export value</u>: \$159.6 million (last 5 years).</p>	<p><u>Assembly and Wholesale/Retail</u>: Informal middlemen traders with trucks buy from farmers and sell 50% of farm output directly to local markets despite higher prices in capital and export markets.</p> <p><u>Processing</u>: Limited due to lack of technical knowledge and access to finance.</p>
<b>Pork</b>	<p><u>Pig meat</u>: 70,345 metric tons (2018).</p> <p><u>Typology</u>: Smallholders average 5 pigs / Household.</p>	<p><u>Middleman</u> transport to slaughterhouse and also sell directly to butchers in the fresh market (5–6 pigs per day).</p> <p>Average export value: \$1.12 million (last 5 years).</p>	

(table continues on next page)

Table F.1. A Synthesis of the Value Chains Analysis (*continued*)

Product	Production profile and trends	Market and cost drivers	Barriers to competitiveness
<b>Coffee</b>	<p><u>Area</u>: 94,000 hectares (2018).</p> <p><u>Output</u>: 165,888 metric tons; \$98.6 million (2019).</p> <p><u>Geography</u>: South (96%); Champasack, Sekong, and Saravan (Bolaven Plateau).<sup>b</sup> Smallholder farmers, groups and cooperatives account for the majority of production.</p> <p>Trends:</p> <ul style="list-style-type: none"> <li>(i) Renewal of plantations and replacement of the Robusta variety with Arabica in smallholder plantations.</li> <li>(ii) Increase in large-scale industrial plantations.</li> <li>(iii) the expansion of coffee areas in the north, particularly in Louangphabang.</li> </ul>	<p><u>Market</u>: Largely exports; Small domestic market and limited coffee culture.</p> <p>Arabica has higher profit margins than Robusta in all value chain segments.</p> <p><u>Demand</u>: 90% of Laos coffee exports are coffee beans mostly to Belgium, Germany, Japan, Thailand, and Vietnam (2018).</p> <p>Exporters buy green unroasted coffee beans from collectors and pack to export markets for value-added roasting.</p> <p><u>Average export value</u>: \$72.1 million in last 5 years.</p> <p><u>Cost</u>: High cost of labor, fertilizers, and machinery.</p>	<p><u>Farm Productivity</u>: Traditional practices linked to shifting cultivation; inconsistent planting; and poor tending hinders productivity.</p> <p><u>Processing</u>: Downstream actors lack the capital to invest in color sorting machinery, limiting quality.</p> <p><u>Assembly and Wholesale/Retail</u>: Unpredictable transport fees and taxes.</p> <p><u>Regulatory</u>: Sector institutions for exports have limited enforcement capacity.</p> <p><u>Quality</u>: Organic coffee is a major niche product; accounts for about 71.8% of certified organic land.<sup>c</sup></p>
<b>High Potential</b>			
<b>Cattle</b>	<p>Largely smallholder production.</p> <p><u>Herd size</u>: 2.11 million (2019).</p> <p><u>Cattle meat</u>: 33,656 metric tons (2021).</p> <p><u>Geography</u>: Central: 55%</p> <p>North: 25%</p> <p>South: 20%.</p>	<p><u>Average export value</u>: \$5.7 million (last 5 years).</p>	<p><u>Farm Productivity</u>: Breeding using group bulls; low use of exotic breeds and artificial insemination.</p> <p>Feeding using crop residue, grass, or forage; no domestic feed production.</p> <p><u>Processing</u>: Small slaughterhouses; daily capacity of 200 kg; some are government owned.</p> <p><u>Quality</u>: Operate with poor hygiene standards and limited oversight.</p>

Sources: MAF, 2021; World Bank (2018); World Bank (2021); World Bank (2022).

a. In 2016, the southern region produced more than 50 percent (856,000 tons) of the vegetables in the Lao PDR. However, in 2017 and 2018, vegetable production declined by about 30 percent compared to 2016 production, but later started to increase again in 2019.

b. About 78,875 hectares in the Bolaven Plateau, where much of this coffee is grown, was planted in 2018.

c. Followed by rice (17.2 percent) and vegetables and fruits (7.2 percent). Other agricultural products with organic certification are tea, mulberry (for tea and silk), soybeans, sugarcane, honey, jams, and wine.

## References

- Ministry of Agriculture and Forestry, 2021. Statistical Yearbook 2021. Department of Agriculture, Vientiane, Lao PDR.
- World Bank, 2018. Commercialization of Rice and Vegetables Value Chains in Lao PDR: Status and Prospects. Washington, D.C., United States.
- World Bank, 2022. Field value chain studies on cassava, legume, citrus and cattle. Washington, D.C., United States.

# INSIGHTS FROM KEY INFORMANT INTERVIEWS ON COMPLIANCE WITH CHINESE TECHNICAL REQUIREMENTS

Key informant interviews were conducted with 19 traders and exporters who are dealing with one or more of the four value chains: cassava, beans, citrus, and cattle. These traders and exporters have dealings with Chinese, Thai, and Vietnamese markets. Interviews with traders provided insights on difficulties and constraints in compliance with sanitary and phytosanitary (SPS) and technical requirements imposed by the Chinese markets.

Table G.1. Key Informant Interviews with Traders and Exporters

Value chain	Traders and Exporters (number)
<b>Beans</b>	4
<b>Cassava</b>	8
<b>Citrus</b>	5
<b>Cattle</b>	2
<b>Total</b>	19

Table G.2. Technical Requirements for Cassava Export from Laos to China

Process	Brief description on requirements	KII interview results and observation
<b>General principles</b>	<ul style="list-style-type: none"> <li>• Dried cassava chips and cassava starch.</li> <li>• Comply with all applicable Chinese phytosanitary law and regulations, health and safety standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Cassava dried chip does not require strict compliance with SPS requirements for farm registration.</li> </ul>
<b>Registration</b>	<ul style="list-style-type: none"> <li>• Agribusinesses with cassava farms and plantations, production capacity, treatment, packing houses, and export volume are registered by MAF and GACC for traceability and assurance that sources of cassava products must come from the registered list.</li> <li>• For cassava starch, a Certificate of Analysis (COA) must be submitted with Material Safety Data Sheet.</li> <li>• MAF provides GACC with the list prior to export season, which GACC publishes on its website.</li> </ul>	<ul style="list-style-type: none"> <li>• For cassava dried chip, registration requirements are not strictly complied.</li> <li>• Cassava producers do not face difficulties as they have not been registered.</li> </ul>
<b>Cassava farms management and processing</b>	<ul style="list-style-type: none"> <li>• A tight surveillance and integrated management, focusing on quarantine pests.</li> <li>• MAF will supervise, guide, and record monitoring of pests and treatment and provide record to GACC when needed.</li> </ul>	<ul style="list-style-type: none"> <li>• Cassava processors reported that inspection process is not complex.</li> </ul>
<b>Management of packing house</b>	<ul style="list-style-type: none"> <li>• MAF shall pay attention to monitoring and evaluation for producers and entrepreneurs in cassava harvesting, processing and storage.</li> <li>• Dried cassava chips are to be processed with clean, with no other object mixed in, and have adequate sun drying or oven drying to preserve high quality of dry cassava products.</li> <li>• The packing materials must be clean, unused and comply with relevant Chinese phytosanitary requirements including wood packaging materials.</li> <li>• Products must be fumigated before loading onto truck with clear packing list, total net weight, total gross weight, total packages, packing material and country of origin.</li> <li>• Cassava starch factories must be Good Manufacturing Practices (GMP) certified and under regular inspection of DOA</li> <li>• Box or package shall be labelled in English and Chinese with cassava exporter's name, types of products, and production place with registered number with "Exported to China."</li> <li>• All relevant documents such as SPS certificate, Invoice and Packing, Certificate of Origin (Form E), Export License, etc. must be included when export to China with no detection of concerned pests in the consignment.</li> </ul>	<ul style="list-style-type: none"> <li>• Processors and traders do not feel compliance requirements are difficult.</li> </ul>

(table continues on next page)

Table G.2. Technical Requirements for Cassava Export from Laos to China (*continued*)

Process	Brief description on requirements	KII interview results and observation
<b>Pre-departure quarantine</b>	<ul style="list-style-type: none"> <li>MAF will issue SPS certificate with registered number with declaration of free from any concerned pest.</li> <li>Cassava starch sample must be tested prior to the export.</li> </ul>	<ul style="list-style-type: none"> <li>It normally cost about US\$ 40 per shipment for SPS certificate.</li> <li>Costs are incurred from inspection from DOA and GACC if any.</li> </ul>
<b>Entry quarantine</b>	<ul style="list-style-type: none"> <li>GACC authorizes the entry with check of relevant documentation and records. Unauthorized orchards or packing houses will not be allowed entry. Only shipment with cold treatment is qualified. If pests are detected, the consignment will not be allowed to entry.</li> </ul>	
<b>Compliance inspection</b>	<ul style="list-style-type: none"> <li>GACC will send quarantine inspectors to verify and confirm consistency with requirement with MAF assistance, and any related costs will be borne by Laos.</li> </ul>	<ul style="list-style-type: none"> <li>GACC may send their inspectors once a year together with DOA/PAFO/DAFO staff.</li> <li>All costs incurred will be paid by producers and exporters.</li> </ul>

Source: Protocol on Phytosanitary Requirements for the Export of Cassava from Lao PDR to China between GACC and MAF of Lao PDR and Field Survey conducted in 2022.

Note: DAFO = District Agriculture and Forestry Office; DOA = Department of Agriculture; GACC = General Administration of Customs; MAF = Ministry of Agriculture and Forestry; PAFO = Provincial Agriculture and Forestry Office; SPS = sanitary and phytosanitary.

Table G.3. SPS and Technical Requirements for Export of Fresh Beans to China

Process	Brief description on requirements	Interview results and observation
<b>General principles</b>	<ul style="list-style-type: none"> <li>• Fresh beans; the plump and immature fresh vegetable soybean (<i>Glycine max</i> (L.) Merr).</li> <li>• Comply with relevant Chinese food safety and phytosanitary laws, regulations and Chinese National Food Safety Standards.</li> </ul>	<ul style="list-style-type: none"> <li>• Very strict regulation for fresh soybean and kidney bean as they are for agri-food products.</li> </ul>
<b>Registration</b>	<ul style="list-style-type: none"> <li>• The soybean farm, packing house, treatment, production capacity, actual annual volume (by variety), export volume (by variety and importing country, if any) is registered by MAF and GACC.</li> <li>• MAF provides GACC with the list prior to export season and GACC publishes on its website.</li> </ul>	<ul style="list-style-type: none"> <li>• Strict soybean registration but soybean easily inspected as it is planted during dry season in irrigated paddy fields.</li> <li>• Although finding large-scale land with sufficient irrigation is difficult for agribusiness, land could be split into several pieces.</li> <li>• Local producers experience more difficulty than Chinese plantation.</li> </ul>
<b>Beans farms management</b>	<ul style="list-style-type: none"> <li>• At farm level, a DAFO staff must be observing the whole process and provide certification through either PAFO/DOA.</li> <li>• MAF shall conduct pest survey and integrated pest management targeting quarantine pests of concern to China during the growing season of fresh beans by adopting internationally recognized phytosanitary investigation and inspection methods and keeping records.</li> <li>• Upon request by GACC, MAF will provide GACC with survey report, control records, and other information it requests.</li> <li>• Although, free from the quarantine pests of concern to China (<i>Aleurodicus dispersus</i>, <i>Bactrocera cucurbitae</i>, <i>Dysmicoccus neobrevipes</i>, <i>Phenacoccus solenopsis</i>, and <i>Mikania micrantha</i> Kunth), if a harmful organism is found in production, processing, and storage or during export inspection, MAF should immediately suspend the export of products from the related establishment and inform GACC of the situation.</li> </ul>	<ul style="list-style-type: none"> <li>• Despite strict technical inspection by PAFO and DAFO for chemical input use, the level of chemical inputs and pesticide use by Chinese traders is unclear; only Chinese agribusinesses know at which level they conform when passing GACC.</li> <li>• The fees and charges are unclear for regular monitoring by DOA, PAFO, and DAFO; however, all administrative costs and fees are charged to producers and exporters who registered their farms.</li> <li>• Costs incurred during inspection by Chinese GACC are also charged to producers and exporters, which was estimated to be about \$30,000 before the farm was registered with GACC.</li> <li>• Local producers experience high costs and difficult registration with GACC.</li> </ul>

(table continues on next page)



Table G.3. SPS and Technical Requirements for Export of Fresh Beans to China (*continued*)

Process	Brief description on requirements	Interview results and observation
<b>Management of packing house</b>	<ul style="list-style-type: none"> <li>• Picking and other processing procedures, removal of stems and leaves, and free from live insects, insect eggs, soil, weed seeds, plant debris, and gravel.</li> <li>• Fresh vegetable soybean covered by this phytosanitary certificate was produced by production name, processing, and storage establishment; compliance with protocol requirements between China and Laos on inspection and quarantine for export of fresh beans to China, signed on (date) in (place).</li> <li>• Proper storing facilities must comply with and be inspected by GACC, DOA, PAFO, and DAFO.</li> </ul>	<ul style="list-style-type: none"> <li>• Proper technical requirements for picking, washing, grading, storing, and cold chains for soybean must be complied with as fresh beans can spoil easily.</li> <li>• Cost for cold chain facility and transportation is relatively high for Laos producers.</li> <li>• Chinese plantation experiences challenges with the technical requirements particularly on cold chain.</li> </ul>
<b>Pre-departure quarantine</b>	<ul style="list-style-type: none"> <li>• Fresh beans exported from Laos to China shall be packed in clean, hygienic, ventilated, and new packing materials that comply with phytosanitary requirements.</li> <li>• Fresh beans will be exported to China with product name, producing area, name and registration number of processing unit, and name and address of the exporter in Chinese and English labeled clearly on each package.</li> <li>• The whole process of packing, storing, and transporting the fresh beans exported to China shall prevent contamination from pathogenic microorganisms or toxic and harmful substances and comply with the relevant safety and sanitary requirements of both sides.</li> <li>• All produce must be inspected and certified by PAFO/DAFO staff before departure and shipment with SPS certification, Certificate of Origin (Form E), Invoice and detailed packing list, Export license must be presented.</li> <li>• No contamination of pathogenic microorganisms or toxic and harmful substances is allowed during inspection at GACC.</li> <li>• All SPS and other technical requirements must be certified by both DOA and GACC.</li> </ul>	

*(table continues on next page)*

Table G.3. SPS and Technical Requirements for Export of Fresh Beans to China (*continued*)

Process	Brief description on requirements	Interview results and observation
<b>Entry quarantine</b>	<ul style="list-style-type: none"> <li>GACC authorizes the entry with check of relevant documentation and records. Unauthorized orchards or packing houses will not be allowed entry. Only shipment with cold treatment are qualified. If pest are detected, the consignment will not be allowed entry.</li> </ul>	<ul style="list-style-type: none"> <li>How strict GACC inspection is of fresh soybean when importing is unclear; however, the consignment will not be allowed entry if any certificates, documents, and technical requirements are not met.</li> </ul>
<b>Compliance inspection</b>	<ul style="list-style-type: none"> <li>GACC will send quarantine inspectors to verify and confirm consistency with requirements with assistance from MAF.</li> </ul>	<ul style="list-style-type: none"> <li>If found in non-compliance, GACC will organize further technical inspection together with DOA.</li> <li>All costs must be paid by producers and exporters.</li> </ul>

Source: Protocol on Inspection and Quarantine requirements for the Export of Fresh Beans from Lao PDR to China between GACC and MAF of Lao PDR and Field Survey conducted in 2022.

Note: DAFO = District Agriculture and Forestry Office; DOA = Department of Agriculture; GACC = General Administration of Customs; MAF = Ministry of Agriculture and Forestry; PAFO = Provincial Agriculture and Forestry Office; SPS = sanitary and phytosanitary.

Table G.4. SPS and Technical Requirements for Official Export of Citrus from Laos to China

Process	Brief description	Interview results and observation
<b>General principles</b>	<ul style="list-style-type: none"> <li>Mandarins, pomelos, and lemons.</li> <li>Comply with all applicable Chinese phytosanitary law and regulations and health and safety standards.</li> <li>All produce must be inspected and certified by the DOA, PAFO, and DAFO for citrus varieties, SPS, and other technical requirements.</li> </ul>	<ul style="list-style-type: none"> <li>Chinese citrus plantation do not experience difficulty; however, local producers feel technical requirements are very challenging.</li> </ul>
<b>Registration</b>	<ul style="list-style-type: none"> <li>Orchards, packing houses, and cold treatment facilities are registered by MAF and GACC for traceability and assurance the sources of citrus come from the registered list.</li> <li>MAF provides GACC with the list prior to export season, which GACC publishes on its website.</li> <li>Orchard farms and cold storage house must be registered as proper facilities and with traceability by GACC and DOA.</li> </ul>	<ul style="list-style-type: none"> <li>All costs of registration are paid by producers and exporters.</li> <li>Only Chinese plantation can export to China and are familiar with the process without difficulty.</li> <li>Local producers feel all technical requirements are difficult.</li> </ul>

(table continues on next page)

Table G.4. SPS and Technical Requirements for Official Export of Citrus from Laos to China (*continued*)

Process	Brief description	Interview results and observation
<b>Management of orchard</b>	<ul style="list-style-type: none"> <li>• Strict farm management and pest control throughout the whole production process with strict cold storage and cold chain management.</li> <li>• Tight surveillance and integrated management focusing on quarantine pests.</li> <li>• Apply GAP for hygienic conditions, timely disposal of fallen fruits, and IPM.</li> <li>• MAF will supervise, guide, and record monitoring of pests and treatment and provide record to GACC when needed</li> <li>• Pomelos must be bagged during growth.</li> <li>• Mandarins and lemons will undergo cold treatment with 1.67°C and 3°C for 18 consecutive days.</li> </ul>	<ul style="list-style-type: none"> <li>• Citrus plants that have been observed to be pest-disease must be separated and properly recorded. Similarly, those citrus that are damaged have to clearly recorded in the system. DAFO staff will be allocated weekly to inspect and monitor production process.</li> </ul>
<b>Management of packing house</b>	<ul style="list-style-type: none"> <li>• Export citrus must come from registered orchard farm and cold storage house with proper labelling.</li> <li>• Hand picking with removal of fruits with disease, insects, rotting leaves, or other plant debris.</li> <li>• Packing materials must be clean, unused, and comply with relevant Chinese phytosanitary requirements, including wood packaging materials.</li> <li>• Harvesting, post-harvest handling, and grading are required immediately after hand picking with proper packaging.</li> <li>• Box shall be labelled in English with fruit name, production place with registered number, and “Exported to China” label.</li> </ul>	<ul style="list-style-type: none"> <li>• Current citrus exporters experience challenges with high investment to meet cold chain requirements.</li> </ul>
<b>Pre-departure quarantine</b>	<ul style="list-style-type: none"> <li>• A 2% sample is taken from each batch for phytosanitary inspection by MAF in first two years followed by a 1% sample if no quarantine problem is found (30 fruits were sampled in each batch).</li> <li>• DOA and PAFO will conduct sample testing before issuing the SPS certificate to look for contamination with pest disease.</li> <li>• MAF will issue SPS certificate with registered number and declaration free from any concerned pest.</li> </ul>	<ul style="list-style-type: none"> <li>• Normal fee for SPS certificate is about \$40 per trip; however, higher cost is mainly associated with pre-registration and inspection process.</li> </ul>

*(table continues on next page)*

Table G.4. SPS and Technical Requirements for Official Export of Citrus from Laos to China (*continued*)

Process	Brief description	Interview results and observation
<b>Entry quarantine</b>	<ul style="list-style-type: none"> <li>• GACC authorizes entry with check of relevant documentation and records.</li> <li>• Unauthorized orchards or packing houses will not be allowed entry.</li> <li>• Only shipment with cold treatment are qualified.</li> <li>• If pests are detected, the consignment will not be allowed entry.</li> <li>• Citrus must be delivered through proper cold treatment with pest detection before export to China under inspection by GACC.</li> </ul>	
<b>Compliance inspection</b>	<ul style="list-style-type: none"> <li>• GACC will send quarantine inspectors to verify and confirm consistency with requirements with assistance of MAF.</li> <li>• If any pest is found, the orchard, farm, and cold storage house will be inspected before the next export application.</li> </ul>	<ul style="list-style-type: none"> <li>• Any related costs will be borne by Laos side.</li> </ul>

Source: Protocol for SPS and technical requirement for export of citrus from Laos to China between GACC and MAF of Laos. Vientiane, Laos and Beijing, P. R. China, and Field Survey conducted in 2022.

Note: DAFO = District Agriculture and Forestry Office; DOA = Department of Agriculture; GACC = General Administration of Customs; GAP = Good Agriculture Practices; IPM = integrated pest management; MAF = Ministry of Agriculture and Forestry; PAFO = Provincial Agriculture and Forestry Office; SPS = sanitary and phytosanitary.

Table G.5. SPS and Technical Requirements for Official Export of Cattle from Laos to China

Process	Brief description	Interview results and observation
<b>Product specification</b>	<ul style="list-style-type: none"> <li>• Slaughter bovine refers to cattle and buffalo being younger than 4 years old and slaughtered within 7 days after entering China for human consumption.</li> </ul>	<ul style="list-style-type: none"> <li>• GACC added stricter requirements on weight of at least 350 kg per head and breed types that are difficult for Laos farmers and traders to comply with.</li> <li>• Only cross-breed cattle and buffalo can be exported, and there is limited support from a breeding improvement program.</li> <li>• Only Laos cattle with approval of origin are eligible for tax exemption from Laos and China.</li> <li>• Current transborder cattle value chain has been disrupted, and local traders were affected.</li> </ul>

(table continues on next page)

Table G.5. SPS and Technical Requirements for Official Export of Cattle from Laos to China (*continued*)

Process	Brief description	Interview results and observation
<b>Establishment of FMD-free zone</b>	<ul style="list-style-type: none"> <li>FMD-free zone should be established with a distance of no less than 3 km and as close as possible to Chinese entry port.</li> </ul>	<ul style="list-style-type: none"> <li>Identifying suitable land for setting up FMD-free zone became a difficult task for MAF as most land areas were occupied.</li> <li>It is costly to transport Laos cattle by truck from central and southern regions to FMD-free zone.</li> </ul>
<b>Establishment of the PQF</b>	<ul style="list-style-type: none"> <li>MAF shall initiate inspection and quarantine procedures on slaughter bovine to be exported according to protocol and requirements set forth in China's import permit.</li> </ul>	<ul style="list-style-type: none"> <li>Long time required at PQF has significantly increased cost before export, which discourages other traders from being involved in the value chain.</li> </ul>
<b>Establishment of collection farms</b>	<ul style="list-style-type: none"> <li>Collection farms shall be established and animals to be exported should be raised on them for at least 45 days.</li> <li>Collection farms should be approved by MAF.<sup>a</sup></li> </ul>	<ul style="list-style-type: none"> <li>It is difficult for companies to identify suitable land for collection farms as all cultivation lands are occupied by smallholder farmers.</li> <li>Long time periods at collection farm also increases costs.</li> <li>Services for all detailed requirements at collection farm must be provided by three concession companies with higher costs.</li> </ul>
<b>Requirements of export documents</b>	<ul style="list-style-type: none"> <li>MAF is responsible for inspection and issuance of a health certificate and provides the documents to GACC in advance for approval with animal health certificates.<sup>b</sup></li> </ul>	<ul style="list-style-type: none"> <li>DLF, PAFO, and DAFO develop a surveillance system in compilation with GACC's standards.</li> <li>These agencies are struggling in terms of sufficient budget allocations and human resources at the ground level.</li> <li>Imported cattle from Thailand must pay import tax in China, which highly discourages traders in value chain.</li> </ul>

*(table continues on next page)*

Table G.5. SPS and Technical Requirements for Official Export of Cattle from Laos to China (*continued*)

Process	Brief description	Interview results and observation
<b>Transporting</b>	<ul style="list-style-type: none"> <li>• Examined within 24 hours before loading.</li> <li>• No reports of disease occurrence in the previous 6 month.</li> <li>• Forage and bedding materials from areas approved by GACC.</li> <li>• MAF approves disinfected and cleaned vehicles.</li> </ul>	<ul style="list-style-type: none"> <li>• Exporter complained that given limited time for loading, transporting, and documenting processes for animals, these processes actually took longer than expected.</li> <li>• Exporting, trade facilitation system, and exporting documentation take time as they require paperwork without digitalization and create delay in transporting animals.</li> </ul>

Source: The protocol between the Ministry of Agriculture and Forestry of Laos and the General Administration of Customs of China on the quarantine and health requirements for slaughter bovine to be exported from Laos to China (2019) and Field Survey conducted in 2022.

Note: The brief descriptions are based on. DAFO = District Agriculture and Forestry Office; DLF = Department of Livestock and Fisheries; FMD = foot and mouth disease; GACC = General Administration of Customs; MAF = Ministry of Agriculture and Forestry; PAFO = Provincial Agriculture and Forestry Office; PQF = Pre-Export Quarantine Farms.

Foot Note:

a. Requirements include: (i) biological safety standards; (ii) separation of male from female bovines; (iii) confirmation of the last 6 months that there is no laboratory etiologic positive case of the diseases; (iv) application of ear tag approved by GACC; (v) vaccination against FMD and hemorrhagic septicemia; and (vi) disinfection of vehicles and appliance used for transportation from collection farms to PQFs.

b. Animal health certificate includes: (i) an official statement that the animals are met with all requirements of the protocol; (ii) quantity of exported animals with the unique identification number; (iii) results of clinical examination; (iv) name, dosage, usage date of parasiticide; (v) embarkation, port of departure, means of transportation and plate number of vehicle, disinfectant name used for vehicle, and its usage date; (vi) name and address of exporter and importer; and (vii) date of issuance of the certificate and signature and printed name of MAF veterinary officer.

## References

- Ministry of Agriculture and Forestry (MAF) and General Administration of China Custom (GACC), 2013. Protocol on SPS and technical Requirements for the export of Cassava from Laos to China between GACC and MAF of Laos. Vientiane, Laos and Beijing, P. R. China.
- Ministry of Agriculture and Forestry and General Administration of China Custom, 2019. Protocol for SPS and technical requirement for export of cattle from Laos to China between GACC and MAF of Laos. Vientiane, Laos and Beijing, P. R. China.
- Ministry of Agriculture and Forestry and General Administration of China Custom, 2021a. Protocol on SPS and Technical requirements for the export of Fresh Beans from Laos to China between GACC and MAF of Laos. Vientiane, Laos and Beijing, P. R. China.
- Ministry of Agriculture and Forestry and General Administration of China Custom, 2021b. Protocol for SPS and technical requirement for export of citrus from Laos to China between GACC and MAF of Laos. Vientiane, Laos and Beijing, P. R. China.

# LESSONS LEARNED FROM INTERNATIONAL AND LAOS EXPERIENCES FOR SMALLHOLDER INCLUSION IN VALUE CHAIN DEVELOPMENT

Appendix H summarizes the lessons learned regarding smallholder inclusion in value chain development in Laos.

## **Vertical coordination through contract farming**

Contract farming is a transaction-based strategy for agro-food value chain cooperation that has the potential to lower transaction costs associated with acquiring agricultural products and getting them to market. There is no single model for contract farming<sup>83</sup>, but it often entails an agreement between producers and at least one buyer to acquire and sell agricultural products under predetermined conditions. Agreements are frequently used to overcome market failures in the delivery of agricultural inputs, technologies and services such as finance, extension, training, transportation and logistics.

International experiences to date suggest that rice and other staples are not suitable for contract farming. Because companies can obtain supply from multiple sources, they have limited incentives to introduce contracts for standard varieties for which there are no quality specifications and multiple buyers. Farmers may decide to consume the contracted crop or side sell to one of many other buyers with cash who are ready to pay a spot price. The main examples

---

<sup>83</sup> Contract farming can involve various levels of intensity. Market specification agreements relate only to the forward selling of a commodity to a company. Resource-providing agreements would combine that plus the provision of inputs, perhaps on credit. Management sharing arrangements combine these agreements with the buyer also potentially deeply involved in broader farm management decisions. In nucleus estate models, a central farm is run by a company which then contracts with nearby farmers, usually for intensive production.

of contract farming for rice relates to varieties that can command a premium on national or international markets, such as aromatic varieties and organic rice. There are several ongoing contract farming schemes for these, including in Cambodia, India, Laos and Vietnam.

In Laos, a policy called Turning Land into Capital was introduced in 2006 to modernize agriculture through economic incentives that encourage smallholder farmers to practice more intensive land management. Consequently, several land concessions were granted to both domestic and foreign investors from China, Thailand and Vietnam. In addition, contract farming has been promoted as a way to increase agricultural production and commercialization across the country. In this context, the Government has worked to strengthen the capacity of the MAF to effectively regulate concession investment and contract farming.

Contract schemes has been used in the country for cassava, tea, coffee, sugar cane, banana, maize, sweet corn, soybeans, rubber, horticulture and rice. Studies of completed projects have found that farmers cultivating crops under contract generally have higher yields and income from the sale of crops and livestock than farmers in the same village who are not under contract. The majority (88 percent) of farmers surveyed said their financial situation improved (Onphanhdala, Philavong, and Phomvixay 2016). Although contract farming and crop concessions have likely contributed to the growth of agricultural productivity, their effects have been mixed for smallholder farmers, who are often reduced to plantation labor. As farmers have switched to producing cash crops or resettled away from their farming lands, they have received higher cash incomes but are more exposed to price shocks, food insecurity and higher levels of debt. Further, they face worsening environmental conditions with increased use of agro-chemicals, soil degradation and erosion, and the loss of a more resilient and loss of diversified farming system.

In contract farming, while investors could assure a certain quantity and quality of supply and have lower production risk compared to the opened market, they also face: 1) marketing risk resulted from price and demand fluctuation in end-market; 2) limited local awareness on contract farming process, contents, conditions, obligations and dispute solution mechanism; and 3) producer's side-selling product to other traders during high demand. On another hand, through contract farming farmers would have more opportunities to obtain stable markets, access to inputs, credit, technical extension services, infrastructure and other social benefits. It also provides farmers with minimum price and overcomes individual constraints on production and marketing through joining the group for contract farming; however, famers still face price risk if marketing information and their negotiation power is limited. Moreover, farmers also face high production and processing risk if investors do not provide sufficient technical support.

Therefore, it is important to improve awareness among local stakeholders of their roles, responsibilities and obligations. Investing contracts between local government and investor witnessed by line provincial and district offices serves as a key pillar for the 2+3 tea CF model, which should be transparent, public and accepted by all parties. The sub-contract signed between trader and producer groups greed by all members is very crucial, and some contents should regularly be discussed by the two parties, and monitored by local government.



These include the issues on minimum price, cash payment by selling time, side-selling during high demand, production and picking quality, and provision of inputs and technologies from investors (MRLG, 2022).

Development Projects such as Community Organization, Participation and Empowerment (COPE) project under Helvetas, had been facilitating establishment of contract farming agreement investors and producer groups with promising results. The Agriculture For Nutrition (AFN) project funded by IFAD has also been linking collectors to producers groups even though no contract farming was applied.

## **Horizontal coordination through producer organizations and cooperatives**

Producer organizations (POs), including cooperatives and self-help groups, are associations that support the interests of their members. They can assist farmers in accessing markets, credit, and advisory and technical services. Some perform a wide range of services, while others have a narrower focus. Some POs are stand-alone entities, although they are more commonly part of larger networks, associations or federations of similar entities, often focused on a specific issue or commodity.

The aggregation of smallholders into POs has several potential benefits. For example, it allows for the delivery of sufficient quantities of high-quality produce without buyers having to deal with hundreds or thousands of individual farmers. POs can offer a central point of contact and reduce transaction costs by facilitating transport and logistics, storage, and quality control.

In general, POs have developed or expanded as a result of donor support or government policy. In much of Asia, cooperatives have long served as tools for implementing government policy. Legal reforms and technical assistance programs in many countries have sought to give greater functional autonomy to cooperatives and improve their governance arrangements and performance. Yet the landscape is filled with discontinued or poorly performing cooperatives, leaving a residue of mistrust in government and in collection action, which is often difficult to overcome with new initiatives.

In Laos, all existing farmer producer groups (FPGs) and farmer organizations are attached to a series of development projects promoted by donors and the Government. Lao Agriculture Competitiveness Project (LACP), for example, aims to make agriculture more productive and competitive in the target areas. All FPGs are organized at the village level and work together as a team of 25 to 60 members, both men and women. The FPG leader signs contracts on behalf of group members, which sometimes causes members to feel a lack of engagement. To be sustainable, FPGs need continued support in administration, knowledge and skills in GAP, contracting, marketing, production planning, crop farm management, and acquisition of inputs (seed, fertilizers, machinery). By creating FPGs in rice, maize and horticulture, farmers have started to become entrepreneurs and establish linkages along value chains.

The Lao Farmer Network is a national farmer organization that began with 17 local farmer organizations in 10 provinces in 2014, and by 2022 had increased to 59 local organization in 13 provinces, with a total or more than 4,000 individual farmers. The network is an informal entity that is not officially registered. Run by a secretariat, it facilitates the sharing of information, experiences and resources; improved access to credit; and access to external support through development partner projects and farmer-to-farmer knowledge exchanges.

## **Productive alliances**

Productive alliances involve three core actors: a group of organized smallholder producers, one or more agro-enterprise buyers and the public sector. The approach aims to promote horizontal alliances among producers and vertical alliances between producers and buyers. Typically, a multi-party business agreement is signed among the agency in charge of the program or project (a ministry or project management unit), the commercial partner, a service provider and a producer organization. The agreement specifies product characteristics, such as varieties to be grown; the quantity to be purchased; production methods; and logistical arrangements, such as how and when the product will be delivered; as well as ways in which the price is set and payment made. The agreement also indicates any contributions by the buyer, such as the provision of inputs and technical assistance. Most productive alliance programs and initiatives provide some grant resources for technical assistance and relationship building between a farmer group and a company; and also help to co-finance infrastructure and equipment (e.g., related to irrigation or commodity storage).

International experiences indicate that successful commercial relationships between farmer groups and agribusinesses take time to emerge and mature, with mutual trust built up and the relationship being able to weather the inevitable storms that emerge in agriculture due to natural events or volatility in the end market. Project-, commodity-, and area-specific programs may accelerate things, but huge overall shifts at the sectoral level cannot be expected within short periods of time. For much of the past decade, the Vietnamese government has been implementing various programs to incentivize and support different types of contractual and alliance relationships between farmers, farmer groups, and agribusinesses.

MAF has introduced the productive alliance model, through Lao Agriculture Competitiveness Project which so far shows that smallholder farmers have been successfully integrated into G-value chains for rice, vegetables, and maize through the project's matching grant program, combined with support for aggregation (e.g., farmer associations), business development, and technical support.

Some other development projects have facilitated in establishment of stakeholder platform for specific products aiming to strengthening producer groups linking to markets and obtaining more support from government. This includes among others, SDC-GRET (Professionals for Fair Development) support on Bamboo and NTFPs stakeholder dialogue in Houaphanh province which helps developing value chains handicraft and other NTFPs through link farmers to diversified markets with better quality and more quantity products.

## **Agriculture productivity support**

Under funding from Swiss Agency for Development and Cooperation (SDC), the Lao Upland Rural Advisory Service (LURAS) project has introduced the Green Extension Strategy (GE) to support the scaling up of sustainable agriculture by facilitating socioecological learning processes, for example, support farmers to analyze local problems and opportunities and test alternative practices under local conditions. Through such learning approach, farmer making decisions on their farming practice and production based on the likelihood of financial returns (LURAS 2022a). The GE also supports farmers in analyzing local constraints and opportunities, testing alternative practices on their farms, and sharing the results through various channels. A combination of GE learning centers and multipliers could increase the number of successful smallholder farmers producing high-quality crops (LURAS 2022a). Other development partners such as IFAD, the World Food Programme and Village Focus International have adopted a similar learning approach to support farmers in their project areas. The GE also includes partnerships between different organizations who implement a range of methods to create a win-win for smallholders.

## **Matching grant and access to micro-finance**

LURAS (2022b) has been providing business and small grants to rural youth since 2016 under a scheme called Agripreneurs for a Green Rural Economy and Employment. The scheme offers opportunities for young people who want to start micro-enterprises in their communities. Other development partners offer matching grants for producer groups or local agribusiness through, for example, the Soum Son Seun Jai program (Community-based Food Security and Economic Opportunities Programme), and LAO/028 project of IFAD; the World Bank's LACP; GIZ's Promotion of Sustainable and Deforestation-Free Agricultural Practices and Value Chains; and USAID's microfinance activity to link smallholder producer groups and markets. This and other microfinance schemes allow farmers to access group-based credit at reasonable interest rates; if managed well, these schemes can be sustainable over the long term. Many approaches have been implemented, such as savings and credit groups initiated by the Women's Union, and commercial services supported by the United Nations Capital Development Fund through its Making Access to Finance More Inclusive for Poor People program.

However, when forming producer groups to be granted, a clear strategy and financial supporting roadmap with clear grant using guideline is need in order to sustain the value chain development. Smallholder producers should be voluntarily joining with strong group management. A clear investment plan with co-financing and strong commitment from either producer groups or local SMEs with fair benefit and conditions among producers and collectors is also needed (IFAD-AFN).

Recognizing difficulties on access to finance by producer groups and local traders, many development projects and government initiatives and programs funded by donor agencies have granted the groups and/or co-financing with local SMEs to set up the upstream value chain linkages with some achievements; however, there was challenge in terms of transparency in selection, utilization and monitoring process. Commitment from Local government involved and

grant receivers is highly critical to efficiently use the grant avoiding free of charge scheme. This indicates the importance of strong and transparent selection criteria with M&E mechanism to be assessed by third party in order to sustain the grant and facilitate the value chain development.

## **Access to international certifications and markets**

Several projects have supported producer groups certified for organic certifications to access to international markets.

GIZ's Support for regional economic cooperation in Asia (SRECA) has highlighted the necessary to have export guidelines and manual for related government offices, business association and trade promotion agencies in local language particularly for local SMEs; therefore, their business practices are in alignment with requirements from China. It is also crucial to link smallholder farmers to export-oriented associations or trade promotion agencies in order that they could access to information on the Chinese markets. Better awareness on requirements such as SPS regulations, packaging, and MRL (Maximum Residue Limites) standards among others can be improved through on-site trainings offered by either local exporters or Chinese companies who are familiar with the constant changing regulations regarding food safety and export to China.

ADB and AFD have been supporting tea, coffee, rice and silk for Geographical Indication certification aiming to protect the origin resources and provide entry point for international markets for these smallholder producer groups. Linking producer groups and local SMEs to high-end markets through such international certifications requires external supports including technical and marketing advisories on strengthening internal control and traceability systems, finding and communicating with importers. It is also crucial to trade-off the cost of certification and price premium with extra income to incentivize smallholders so that they are committed to comply with such practices

Lessons from EU-CLEAN project show that government's role to control and monitor the import and use of chemical inputs is critical especially a list of prohibited herbicide should be clearly propagated at farm level where such international certification scheme is targeted. Once good achievement has been reached in one producer group, a clear strategy to scale out is needed in order that more smallholders are able to involve and benefit from the project.

Experiences from Helvetas-COPE/BioTrade projects indicate that although the Lao Certification body is not yet accepted by the International markets, several national inspections have been trained for international inspection. The Lao certification team could set up the basic regulations with producer groups, strengthen internal control system with much lower cost before they are supported to any international ones.

## **Multi-stakeholder platform**

When promoting the value chain approach, local government needs clear understanding on how to facilitate each actor involved particularly producer groups and traders. Establishment of local multi-stakeholder platform participating by local government, decision-makers, traders,

and producers is also important to improve networking among smallholders and traders (GRET-Bamboo-Rattan project). Although, it is not easy to have an efficient multi-stakeholder platform at national level, some projects have supported similar taskforce at national level (SDC-MRLG (Mekong Region Land Governance project), GIZ-RGIL (Responsible Governance of Investment in Land) which trying to improve the cross-ministerial coordination. Such active business dialogue platform has improving value chain development for coffee and tea (Helvetas-LURAS) in Northern provinces.

FAO recently launched the Hand-in-Hand initiative in Laos with the goal of fostering partnerships, alliances, and synergies among public and private actors, as well as international development partners, to unlock the country's agricultural potential. This initiative has the potential to serve as an inclusive platform for promoting an inclusive value chain through agriculture-based livelihood development activities and the promotion of small and medium-sized commercial agriculture.

## Responsible investment on agriculture (RAI)

Some donors such as World Bank, SDC, GIZ and other development projects have paid more attention to impact of investment on smallholder land tenure issues, the RAI principle has been introduced at some provinces and should be continuously monitored and evaluated. The relevant investment promotion regulations issued by government should be more efficiently implemented at local level to ensure land tenure security for smallholder farmers (SDC-MRLG).

## References

- Food and Agriculture Organization, 2020. Special Report 2019: FAO/WFP Crop and Food Security Assessment Mission to the Lao People's Democratic Republic. Rome: Food and Agriculture Organization.
- Food and Agriculture Organization and the Ministry of Agriculture and Forestry, 2021. Hand-In-Hand Initiative Lao People's Democratic Republic concept note – Unlocking the Potential of Agriculture to Eradicate Poverty and Malnutrition. Vientiane, <https://doi.org/10.4060/cb7430en>.
- Lao Upland Rural Advisory Service, 2022a. Project overview: green extension strategy. Vientiane, Lao PDR.
- Lao Upland Rural Advisory Service, 2022b. Agribusinesses and Entrepreneurship. Vientiane, Lao PDR.
- Mekong Region Land Governance, 2022. Draft Report on Case Study on Contract Farming in the Lao Tea Sector.
- Onphanhdla, P, V. Philavong, and P. Phomvixay. 2016. Promoting farmer production group and written contract farming as key success factors: evidence from NRI Nam Bank subproject, Vientiane, Lao PDR.
- Swinnen, J. 2016. The state of agricultural commodity market in depth, 2015–2016. Technical Note. Rome: Food and Agriculture Organization.





