Policy Brief No. 001/2018

NAFRI Policy Brief

Unlocking the full potential of Lao PDR's tea sector

Writers

Khamphou Phouyyavong (PhD Candidate), Phanxay Ingxay (PhD), Sengphachanh Sonethavixay, Vagneron Vagneron (PhD)

KEY MESSAGES

- As tea in Laos is mainly grown and collected by smallholder farmers, it has a strong potential to contribute to poverty alleviation and rural development.
- Despite a relatively large production area, the volumes of tea produced and exported remain low, and farmers are confined to low value adding activities and have little bargaining power.
- Laos could take advantage of favorable production conditions, unique varieties and traditional know-how to develop a high quality tea sector.
- Challenges include improving quality at early stage of production (seed, management of tea garden, picking season and practices) as well as farmers' processing capacity.
- Improving farmer capacity can only be successful if the value chain is organized in a way that they can reap the benefits from their efforts towards improved quality.
- The investment (e.g. trade & concession) approval process should take into account the livelihood and benefits of smallholder farmers, and promote fair trade practices between farmers and buyers.

Tea production in the Lao PDR

Tea plants are native to East Asia and evidence of tea consumption in China goes back to the 2nd century BC. In Laos, tea was presumably cultivated and traded as early as the 7th century (Earth Systems, 2016). Forest tea[1] has been grown in Northern Laos for centuries. In the 1920s, the French brought tea from Vietnam to cultivate on the Bolaven plateau and recognized the quality of wild forest teas from Xieng Khouang (Pedersen et al., 2016). The development of the tea sector however was halted in the 1930s by a preferential trade agreement between the British and the French. While commercial tea production came to a stop, traditional tea cultivation remained, although at a much lower scale. In the early 1990s tea production resumed after the adoption of the "New Economic Mechanism" in 1985 and the development of private tea companies. It was however not until the early 2000s that a growth in Chinese demand boosted the tea sector again. While more efforts need to be taken, the tea sector has been developing. Today, the main tea production areas of Laos are located in the Northern Uplands. Phongsaly and Oudomxay Provinces are the leading provinces in terms of tea planted surfaces, volumes produced and number of households engaged in tea production (Table 1). Smaller yet well-established tea production areas may be found in other areas, such as Paksong district in Champasack province or in Peak district in Xiengkhuang province.

[1] *This paper use "forest tea" as a generic term for ancient and wild tea. Ancient tea and wild tea are the same variety but ancient tea refers to the original standing trees usually found deep in the forest. Wild tea can be tea that is naturally regenerating from seeds or is planted by farmers in their land using seed and seedling from the forest.*

Table 1: Tea plantation areas by province[2]

Province	Planted Area (ha)								
	2009	2010	2011	2012	2013	2014	2015	2016	2017
Phongsaly	620	2,460	2,585	2,650	2,655	3,230	3,235	2,812	2,371
Oudomxay	0	555	225	305	215	385	445	122	123
Luangprabang	1,300	450	430	125	695	710	785	785	1,334
Huaphanh	15	110	135	30	45	65	80	110	403
Xayabury	0	0	0	0	0	0	639	790	790
Xiengkhuang	0	0	0	0	0	120	135	290	291
Champasack	220	220	285	285	285	460	460	458	458

Source: Department of Agriculture and PAFOs, 2018

[2] *There are some missing information on tea production at the provincial level.*

Despite a relatively large production area, the total volume of tea produced in Laos is far below regional and global levels. In 2015, Laos produced only 6,295 tons of tea over a total surface of close to 6,000 hectares. In 2015, the national average tea yield (kilograms of fresh tea leaves/hectare) was 1,500 kg/ha with the highest tea yields in Oudomxay (2,000 kg/ha) (MAF, 2016). In comparison, tea yields in Yunnan reached 5,250 kg of fresh leaves per ha in year (Boupha et al., 2010). Not only are tea yields low, they are also very heterogeneous, due to differences in the age of the trees, altitude, varieties, plant density, and farming practices –e.g., land preparation, picking, pruning, use of fertilizers and irrigation. These differences may in turn be explained by the variety of production models and tea varieties present in the country.

Tea varieties and production models

Two main varieties of tea (*Camellia Sinensis*) are cultivated in Laos: i/ the most widespread variety, *Camellia var. assamica*, can be found in wild tea and ancient tea trees and is used to produce pu-erh tea; ii/ *Camellia sinensis var. sinensis* has been more recently introduced in Laos, mainly in Chinese plantations (Pedersen et al., 2016). These two varieties of tea are generally used to produce a wide range of processed (green, black, oolong, pu-erh, white) teas. Not only are the two varieties different in the types of teas they produce, they also give rise to different economic models and different modes of land use (Figure1).

Figure 1: Tea varieties

Variety	Local terminology	Production Management	Market Conditions
Var. assamica	Ancient tea	• Tea tree are old and usually located in remote protected forests • Villagers communally manage tea trees • Tea trees are under the authority of the government, based on Forest Law • Tea trees are harvested by farmers as NTFP • Natural product	• Higher price • High market demand • Chinese market
	Wild tea tree	• Ancient tea trees that naturally regenerate in fallow or forest • Farmer propagation and planting of seedlings from Ancient tea trees • Tea tree are young and short • Tea trees belong to individuals or households • Tea trees are harvested by farmers • Organic or clean agriculture	• Minimum price • Chinese and EU market
Var. sinesis	New Chinese & Vietnamese clones	• Investment model is usual land concession or contract farming • Tea plantation areas are managed by (1) individual households, (2) local or foreign companies • Local labor hired to harvest the tea trees • Use of fertilizers	• Low price • Local and international market

Source: Developed by NAFRI

Domestic tea consumption is low and most of the tea produced in Laos is exported. Tea exports were multiplied by six between 2006 and 2012 (MAF, 2015). Currently, Laos exports low volumes of both green and black teas to Europe and large volumes of mao cha tea to be further processed in Chinese factories to make pu-erh tea. Most of the tea exported by Laos to China is therefore unprocessed or semi-processed. The tea sector therefore has a very important export potential.

Tea related livelihoods

Unlike many other countries where large plantations prevail (e.g., Sri Lanka, Kenya, India), tea in Laos is mainly grown and harvested by smallholder farmers. Tee trees are cultivated in a traditional way, with a very low use of chemical inputs and little processing after harvest. Despite this lack of further on-site processing, various studies show the positive economic impact of tea production on the livelihoods of smallholder farmers, rural communities, ethnic minorities and women (Boupha, 2010; NUDP, 2015; Pedersen et al., 2016).

The Government of Laos has acknowledged the great potential of the tea sector to alleviate poverty alleviation and contribute to rural development in Lao PDR. The 8th Social and Economic Development Plan recognizes the potential for the tea processing industry to generate value within the country, encourages the development of local tea factories in selected provinces, but also foreign investment in industrial tea plantations. The Agricultural Development Strategy to 2025 focuses on developing tea production in the Northern Uplands and on the Boloven Plateau and encourages tea certification (organic, GAP).

Challenges and opportunities for the development of an inclusive tea sector in Laos

Opportunities

Tea produced in Laos has a high market potential that comes from: favorable production conditions (e.g., climate, soil types, and altitude) and the low use of chemicals, especially for wild and ancient tea varieties. This might provide Laos with a comparative edge in the production of organic teas for niche markets, provided that producers are able to become certified. While, Laos already has its own set of organic standards and a local certification body (Kousonsavath et al., 2018), yet exporting organic tea to foreign countries will be more challenging. Fair trade could offer an additional opportunity for tea farmers grouped into cooperatives or associations. Finally, another promising strategy could be to develop private tea brands and/or geographical indications to promote the country's long tradition of tea production and unique tea trees in coherence with the image of a highly biodiverse country with scenic landscapes that Laos has developed. Eco-tourism activities could be developed to further promote Lao teas.

Challenges

Despite relative large areas of planation tea, farmers gain little from value addition because there is very little local value addition. One reason for this is that the main market for tea is China and only Chinese companies and import/export tea. Likewise, quality standards are lacking. Farmers are still developing skills to maintain standards and keep records throughout the production process. Another challenge relates to use of chemicals in and around the tea plantations. Despite being 'labeled' organic, there are some form of pesticides use. Stricter systems for monitoring are needed. Three specific technical issues have also been identified related: 1) the need to improve tea management and cultivation techniques (density of planting, pruning, weeding, and irrigation); 2) improve harvesting techniques; and 3) improvement of soil fertility management. By improving these areas, tea farmers could increase their tea yields tremendously.

Implications for the development of the Lao tea sector

The government recently emphasized that land should generate added value and provide benefits for everyone. While all stakeholders have an important role to play in the sustainable development of the tea sector, the government plays a critical role in providing agreeable terms and conditions for expanding investment in tea that will ensure benefits for farmers, including poor farmers. Lao teas can target niche markets to capture price premiums. Growth of exports of processed tea products can create more income through value addition that is facilitated through increased investment in the strengthening of land zoning and land tenure, farmer advisory services, and quality standards. All are potential ways of improving farmer livelihoods in tea sector. Avoiding monopsony, the Lao tea sector requires a diversity of markets (domestic, regional and international market). Proper and attractive packaging and labeling are key to be successful in this niche market. Many importing countries have strict food labelling requirements including the common name of the food, a list of ingredients and components, name and address of manufacturers, a net quantity declaration in metric measurements, and a "best before date" when required. More responsive government services could boost tea sector development.

Table 2: Tea Value Chain – Need Assessment

Village (farmers, farmer group, village head)

District (farmer group/ association, district authority, & trader/ wholesaler)

Provincial (PAFO, PICO, PRONRE, PPIO, trader/wholesaler)

National (MAF, MOIC, MONRE, MPI, & trader/wholesaler)

Inputs	• Improving tea variety and seed • Promoting use of non-chemical fertilizers • Improving credit access for poor farmers
Planting	• Improving production techniques • Transplanting and intercropping techniques
Harvesting	• Training and promoting of sustainable harvesting techniques • Careful post-harvest handling of the various types of tea to create timely benefits
Processing	• Cleaning equipment and tools • Training on various processing techniques • Pursuing Lao certification (acceptable by international market) including Geographic Indication, organic, fair trade, others
Distribution and Marketing	• Diversifying market (domestic, regional and international market) • Assessing market demand and understanding niche market (not only Chinese) • Designing package • Identifying Lao brand or labeling • Advertising • Improving road access • Reducing transportation cost

Ensuring standard & pursuing certification

Reaching a full potential while preserving the unique character of Laotian tea

Improve production. Good Agriculture Practices (GAPs) and organic guidelines need to be administered effectively to ensure safe production practices of food and food products at the local level. On-farm cultivation trials and demonstrations will help to improve farmers' skills. The private sector has an important role to play in providing technical assistance and support during tea production, increasing access to inputs and materials and to ensure quality control, and providing market access and funds as well as helping to conduct research. On the other hand, the government provides technical service and advice throughout the production management to maintain its competitiveness including promoting local seed varieties.

Improve Harvesting and Post-harvesting. Since weather conditions impact tea quality, tea leaves should only be harvested when conditions are optimal –e.g., cloudy weather, early in the morning, before the sun becomes too strong– and the leaves should be kept in a shady area to prevent the tea from becoming bitter. Sustainable harvesting techniques should be promoted and disseminated among farmers or tea collectors.

Improve processing. Processing equipment should be cleaned and the smoking of tea minimized to ensure high quality standards are maintained. Expanding tea exports requires quality assurance wherein Lao certification should be upgraded and proven acceptable by imported countries.

Improve distribution and marketing. Market research and an assessment of market linkages will significantly improve market access for Lao tea. Lao teas should be promoted by developing tea differentiation strategies (e.g. Geographical Indication, organic and fair trade certifications, brands) together with attractive and credible product labels that draw attention to the uniqueness of Lao tea. At the same time, the access of tea producers, traders, exporters, and marketers to high-value export markets should be supported.

Enhance service delivery and provide an enabling environment. The investment (e.g. trade & concession) approval process should take into account the livelihood and benefits of smallholder farmers. Additional DAFO staff and farmer leaders should receive expert-level training to become tea specialists. The basic knowledge of tea should be enhanced for all producers. Tea producers should be registered and meet certain quality standard levels that would include maintaining simple records on the origin of tea seeds, plants, diseases, yields, prices, sales and names of buyers. Furthermore, there is a need for establishment of Learning Alliance or Task Force to capitalize past experience, and support the coordination of future development of the sector as well as an importance of agreement between development partners on who will take the leading role in supporting the sector.

Table 3: Specific research gaps in Lao tea sector

Value Chain	Gaps
Inputs	• Tea variety selection and protection of tea seeds • Identification and protection of Lao tea varieties through inventory and characterization (e.g. niche, unique, GI) • Identification of forest tea (wild tea and ancient tea) and cultivated tea (external variety e.g. Chinese or Vietnamese clones) areas
Planting	• GAPs in cultivated production systems, organic tea production • Techniques for expanding tea gardens (wild/ancient tea) • Increasing productivity during dry season • Pest and disease control
Harvesting	Sustainable harvesting and post-harvesting techniques
Processing	• Assessment and comparison of existing processing techniques (CBA) • Improving general tea processing (water content, smoke, etc.) and GMPs
Distribution & Marketing	Detailed market analysis for different teas
Whole VC	• Assessment of the economic, social and environmental sustainability of different economic models (spot, CF, concessions). • Statistical analysis from production area and volume, export volume • Understanding the distribution of value between from the farm to the border and to the final consumer.

Development projects	Development partners		
• Lao Upland Rural Advisory Services (LURAS)	• FAO	• SDC	• UNDP
• The Agro-Biodiversity Initiative (TABI)	• AFD	• GIZ	• EU
• Sum Son Seun Jai (SSSJ)	• IFAD	• CARE	• Helvetas
• Northern Uplands Development Programme (NUDP)	• SNV	• OXFAM	• CIRAD

Acknowledgement:

Bounthong Bouahom (Dr.),
Chanphasouk Tanthaphone,
Michael Victor, Andrew Bartlett, Tony Zola.

References:

Agro-biodiversity Project (2016). *Phou San Wild Tea Xieng Khouang Province: From Early Days to Current Production and Market Development.* Gef, FAO, UNDP.
COPE (2014). *Tea Value Chain Stakeholders' Workshop.* Workshop Report. HELVETAS Swiss Intercooperation.
Earth System (2016). *Sustainable Development of the Lao Tea Sector.* Industry Position Paper. MRLG.
Ligne L.D. (2015). *Participatory Value Chain Analysis of Organic Tea in Laos.*
NAFRI & NAFES (2011). *Tea sector development in northern Laos wild tea feasibility and design study.* Final Report. SDC.
NAFRI & NAFES (2011). *Viengxai Tea Mountain.* Study Report. SDC.
NAFRI & NAFES (2011). *Peak Tea Mountain.* Study Report. SDC.
NAFRI, URDP, CIAT Asia and Care International (2010). *Assessment of the Yunnan Market for Lao Forest Tea.*
NAFRI, URDP, CIAT Asia and Care International (2010). *Assessment of the Yunnan Market for Lao Forest Tea.*
NAFRI, URDP (2009). *Developing Tea in Muang Moeng, Bokeo Province.* Field Report.
NUDP (2015). *Tea Production and its Impact on Household's Income to Tea Farming Households in Phongsaly Province, Laos.*
SSSJ (2015). *Progress on supporting tea commercialization in Xaysathan & Pakbeng.* Summary report.
Wu Y., Chanhda, Zhang X., Yoshida A and Wu C.: *Tea industry development and land utilization along the China-Laos border: A case study of Komen Village in Laos.*

Contact address:

Mr. Khamphou Phouyyavong (PhD Candidate)
National Agriculture and Forestry Research Institute (NAFRI)
Ministry of Agriculture and Forestry (MAF)
Email: khamphou_p@hotmail.com
Tel: +856 20 22211712
Office: P.O. Box: 10896

Mr. Phanxay Ingxay (PhD)
Department of Policy and Legal Framework
Ministry of Agriculture and Forestry (MAF)
Email: phanxay.i@gmail.com
Tel: +856 20 95695050
Office: P.O. Box

Schweizerische Eidgenossenschaft
Confédération suisse
Confederazione Svizzera
Confederaziun svizra
Swiss Agency for Development and Cooperation (SDC)

cirad
AGRICULTURAL RESEARCH FOR DEVELOPMENT