



Unlocking the full potential of Lao PDR's tea sector

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KEY MESSAGES

- Tea in Laos is mainly grown and collected by smallholder farmers. It thus 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 are low.
- Laos could take advantage of favorable production conditions, unique varieties and traditional know-how to develop a high-quality tea sector.
- The most pressing issue is to improve quality both inside the tea garden and at later stages (harvesting, processing).
- It is important to note however that improving farmer capacity can only be successful if the value-chain is organized in a way that farmers are able to reap the benefits of their efforts towards improved quality.
- A sustainable and inclusive tea sector strategy focusing on the livelihoods and benefits of smallholder farmers, fair trade practices, building up and/or upgrading local processing facilities and diversified markets should be collectively defined.



Photo by Andrew Bartlett

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, which includes both ancient and wild tea¹, has been grown in Northern Laos for centuries (Marseille, 1990). 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 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.

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

Today, the main tea production areas of Laos are located in the Northern Uplands. Phongsaly and Luang Prabang Provinces are the leading provinces in terms of area of tea planted (Table 1). Smaller yet well-established tea production areas may be found in other areas, such as Paksong district (Champassak province) or in Peak district (Xiengkhuang province).

¹ Ancient tea and wild tea belong to the same variety (*Camellia sinensis* var. *assamica*). While wild tea trees grow naturally deep in the forest environment, ancient tea trees were planted in tea gardens more 100-400 years ago. The main difference between wild and ancient tea trees is therefore that ancient trees do not naturally occur, but were deliberately planted at some stage in the past (Smith, 2010). The Lao PDR may be home to one of the largest areas of naturally growing wild tea trees (*ibidem*).

Table 1: Tea planted areas (hectares) by province

Province	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
Champassak	220	220	285	285	285	460	460	458	458

Source: Department of Agriculture and PAFOs, 2018

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 per 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 reach 5,250 kg of fresh leaves per ha (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 (cf. Table 2). The most widespread variety, *Camellia sinensis* var. *assamica*, grows in the wild in the tropical forests of the Northern upland areas of Laos, and is generally used to produce *Pu'erh* tea. *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 as shown in Table 2.

Table 2: Tea varieties

Local terminology	Production Management	Market Conditions
<i>Camellia sinensis</i> var. <i>assamica</i>. Large-leafed variety of tea grown in India, Burma, Yunnan, Lao PDR and Vietnam, and commonly used for making <i>Pu'erh</i> tea in Yunnan and black tea in Assam.		
Wild tea trees ²	<ul style="list-style-type: none"> Native tea varieties growing naturally in the wild in different areas of the Northern Uplands In most cases, the villagers communally manage the wild tea trees; Tea trees are harvested by farmers; Organic or clean agriculture. 	<ul style="list-style-type: none"> Demand on international markets High market demand in China Price premiums
Wild tea tree gardens	<ul style="list-style-type: none"> Tea gardens developed from domesticated wild tea/ancient trees (wild tea nurseries); Farmer propagation and planting of seedlings from wild tea trees or ancient tea trees Growing mainly organically in natural gardens; Can reach a height of 2-3 meters, retaining a more natural shape; Manual weeding; Tea gardens belong to individuals or households. 	<ul style="list-style-type: none"> Higher prices than tea from industrial plantations Lower prices than wild tea or ancient tea International markets
Ancient tea trees	<ul style="list-style-type: none"> Tea trees were planted from wild tea seedlings in tea gardens over 100 years ago; Tea trees are old and usually located in remote evergreen forests, In most cases, the villagers communally manage tea trees; Tea trees are harvested by farmers as NTFP; Natural product. 	<ul style="list-style-type: none"> Price premiums High market demand, especially in China
<i>Camellia sinensis</i> var. <i>sinensis</i>. Small-leafed variety of tea common in China and lowland areas of South East Asia. Commonly used to produce green tea, and black tea production in Darjeeling (India).		
New Chinese & Vietnamese clones	<ul style="list-style-type: none"> 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 Seedlings may come from wild forest and from neighboring countries (China & Vietnam) 	<ul style="list-style-type: none"> Low price Local and international markets

Source: Developed by NAFRI based on various sources.

Domestic tea consumption is low and most of the tea produced in Laos is exported. The tea sector has a very important export potential: 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 maocha 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.

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. Tea 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). However, any generalization concerning tea incomes is rendered difficult by very large price differences. Tea prices depend on:

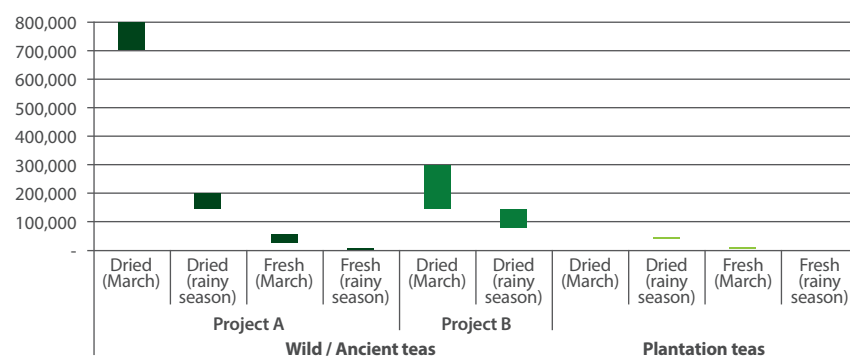
- the area of production;
- the quality of the tea trees (which is determined by the variety, terroir, age of the tree, and harvesting period);
- existing market opportunities;
- the degree of competition between traders;
- processing quality;
- farmers' bargaining power.

In general, prices vary substantially between the spring³ and the rainy season. Figure 1 shows that tea prices may also vary greatly within a single province. In Phongsaly for example, dried tea leaves sold in March commanded the highest prices (700,000-800,000 LAK/kg in Project A and 150,000-300,000 LAK/kg in Project B), while the lowest prices were paid in the rainy season (150,000-200,000 LAK/kg and 80,000-150,000 LAK/kg). The price range was wider in the spring than during the rainy season. Prices for plantation teas were much lower: dried tea leaves were sold only 60,000-80,000 LAK/kg in March and 3,000-5,000 LAK/kg in the rainy season.

² Also called in some areas "natural" or "forest" tea.

³ Peak prices occur between March and May.

Figure 1: Variations in the prices of tea leaves in Phongsaly province



Sources: CCL, Helvetas.

Prices also vary substantially from one province to the other, especially during the peak season (Table 3).

Table 3: Variations in wild/ancient tea prices over the year and between provinces

Unit: LAK/kg	Phongsaly	Xiengkhouang	Oudomxay
Dry leaves			
March	150,000-300,000	250,000-600,000	150,000-350,000
Rainy season	80,000-150,000	100,000-200,000	100,000-200,000
Fresh leaves			
March	25,000-60,000	25,000	25,000
Rainy season	5,000-15,000	10,000-15,000	20,000

Source: Helvetas.

Opportunities and challenges for the development of an inclusive tea sector in Laos

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. Laos already has its own set of organic standards and a local certification body (Kousonsavath et al., 2018) for the domestic market. Fair trade certification could also offer an additional opportunity for tea farmers grouped into cooperatives or associations, especially the branch of fair trade that focuses on smallholder farmers rather than on large plantations (e.g., the Small Producers' Symbol or SPP). Finally, other quality signals could be successfully developed, such as: private tea brands; the One District One product (ODOP) initiative; and/or geographical indications to promote the country's 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. In the case of geographical indications, this would imply being able to prove the historical link between the origin and the product. Eco-tourism activities could also be developed to further promote Lao teas and their unique production methods, and the farmer communities involved in tea production.

Despite relative large areas of tea, many farmers still gain little from tea production as local value-addition remains low. With most of the tea sold in China, the prominence of Chinese in tea processing and trade is hardly a surprise. This may be seen as a tremendous opportunity, the abundance of small Chinese factories ensuring a regular access to the highly lucrative Chinese market. However, it might also be a source of concern

if an important share of the value added is captured downstream, by stakeholders located outside the Lao PDR. Another issue may arise if foreign traders and/or factories compete with (or even hinder the development of) local cooperative processing units willing to buy tea from their farmers throughout the year to supply alternative markets. It is therefore essential to carefully consider how the value chain is organized in order to enable alternative models to exist and to ensure market access for all.

Related to value-addition, the ability to produce high-quality tea is a major challenge as proper quality standards for tea are still lacking and farmers are slowly developing the skills to comply with existing market standards. While organic and/or fair-trade certification seem promising, farmers' ability to comply with strict regulations and to keep records throughout the production process remains a challenge, not to mention the cost of certification to reach foreign markets. Training farmers to improve their understanding of (and compliance with) these standards is essential. Stricter monitoring systems are needed to ensure that tea labeled as organic is genuinely free of chemicals. The creation of cooperatives should also be genuinely encouraged for fair trade to become an option at all.

Last but not least, low tea yields could probably be improved by focusing on appropriate tea management, cultivation and harvesting techniques and better management of soil fertility. To be solved, the question of yields should however not limit itself to technical aspects, but also take into account: what incentives farmers have to improve their yield and what means they are given to do so (e.g., access to rural credit, access to technical and market information).

Implications for the development of the Lao tea sector

The government of Laos has a critical role to play in the development of a sustainable and inclusive tea sector. This may be done by creating the conditions for a fruitful dialogue and consultation between the various stakeholders (e.g., farmers, collectors, processors, investors, exporters, government) in view of developing a common vision and a strategy (development, marketing, communication) for the Lao tea sector. Within this concerted framework, meaningful measures to ensure that the tea value-chain genuinely benefits the farmers should include, among others: the promotion and effective monitoring of fair contracts between farmers and their communities and tea traders; the adoption of strict and effective

rules for foreign investment in tea (to ensure that the investment approval process takes into account the livelihood and benefits of smallholder farmers); the effective prohibition of trade monopsonies; the protection of farmer land rights. Other less top-down approaches involve supporting farmers through farmer advisory services, and training farmers and government staff (PAFO, DAFO) to become tea specialists. Tea producers should be registered and comply with minimum requirements that should include maintaining simple records on the origin of tea seeds, plants, diseases, yields, prices, sales and names of buyers.

There seems to be some space for the establishment of a Tea Learning Alliance to capitalize past experiences, promote information sharing and collectively think about the future of the tea sector and the respective role of the different stakeholders in the definition of a national strategy. This task force could also play a leading role in investigating the diversity of international tea markets and in developing a collective strategy to satisfy such markets. Finally, it could be responsible for collective thinking about how to improve packaging (an important factor of success for the domestic and regional markets) and develop traceability and labelling,

which are essential on foreign markets where companies buy loose tea that they package themselves and where food labelling requirements are often very strict.

Figure 2 summarizes different areas where improvements are needed for the Laotian tea sector to unlock its full potential. These areas cover the entire value-chain and thus a variety of actors, both public and private, that are likely to be called upon to work together. The specific modalities of such cooperation between stakeholders are not detailed here.

Figure 2: Needs assessment

	Needs	Research Gaps
Inputs	<ul style="list-style-type: none"> Improved tea varieties and seeds Organic fertilizers Access to credit 	<ul style="list-style-type: none"> Identification of Lao tea varieties Tea variety selection
Production	<ul style="list-style-type: none"> Good Agricultural Practices Promotion of transplanting techniques Promotion of intercropping 	<ul style="list-style-type: none"> Tea grafting and propagation Tea tree nutrition Pest and disease control
Harvesting	<ul style="list-style-type: none"> Improved harvesting techniques Improved post-harvest handling of tea 	
Processing	<ul style="list-style-type: none"> Dissemination of Good Manufacturing Practices 	<ul style="list-style-type: none"> Cost-Benefit Analysis of existing processing techniques
Quality Control & certification	<ul style="list-style-type: none"> Minimum national quality standards for tea Internal Control Systems Training on standards and certification 	<ul style="list-style-type: none"> Compilation and analysis of existing quality standards for tea
Distribution & Marketing	<ul style="list-style-type: none"> Good knowledge of markets Strong standards and certification system Recognized quality signals (ODOP, GIs) Improved labelling and traceability Advertising Improved road access Fair trade conditions Strict control of concessions 	<ul style="list-style-type: none"> Detailed market analysis for different teas
Value Chain	<ul style="list-style-type: none"> Improved collaboration between value-chain actors Creation of a Tea Learning Alliance Greater sharing of information 	<ul style="list-style-type: none"> Comparative analysis of alternative models (spot, contracts, concessions) Collection of data on production & prices Analysis of value distribution from the farm to the border, and to the final consumer

Notes: in yellow and bold, the most urgent needs to be addressed. More long term needs are indicated in white.

Source: NAFRI.

Key Supporters of the Lao Tea Sector:

Joint development projects

Lao Upland Rural Advisory Services (LURAS), The Agro-Biodiversity Initiative (TABI), Sum Son Seun Jai (SSSJ), Northern Uplands Development Programme (NUDP) - Eco-friendly intensification and climate resilient agricultural system (EFICAS)

Development partners

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References:

- Agro-biodiversity Project (2016). *Phou San Wild Tea Xiang Khouang Province: From Early Days to Current Production and Market Development*, Vientiane: GEF, FAO, UNDP, 45 p.
- Boupha, Thipavong, Damrong Phongduangsy, Khamphou Phouyavong, Viengkham Sodahack, Thongleck Xiong and Adam Folkard (2012). *Phongsaly Tea Mountain Study Report*, Vientiane: Care, SDC, 14 p.
- CCL (2017). *The forest tea – A sustainable livelihood for the upland families of Nyot Ou district*. <https://ccl.exposure.co/the-forest-tea> (Last accessed in March 2018).
- CCL (2017). *Tea value chain assessment in Nyot Ou district, Phongsaly Province*, Field Mission Report.
- COPE (2014). *Tea Value Chain Stakeholders' Workshop*. Workshop Report. HELVETAS Swiss Intercooperation.
- Earth Systems (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*.
- Marseille, A.J.E. (1990). "Les Origines du Thé Shan à Pointes Blanches de Bao Loc. (Haute Donai) Sud-Vietnam", Péninsule, 21(20):99-117.
- 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, Vientiane: SDC.
- NAFRI & NAFES (2011). *Peak Tea Mountain*. Study Report, Vientiane: SDC.
- Smith, D. (2010) *Assessment of the Yunnan Market for Lao Forest Tea*, Vientiane: NAFRI, URDP, CIAT Asia and Care International, 40 p.
- Southavilay, B. and B. Khensabab (2015). *Tea Production and its Impact on Household's Income to Tea Farming Households in Phongsaly Province, Laos*. Vientiane: NUDP, 38 p.
- NAFRI (2009). *Developing Tea in Muang Moeng, Bokeo Province*. Vientiane: URDP Field Report #0901, 11 p.
- 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*.

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