

THE EXPORT POTENTIAL OF LAOS AGRI-FOOD TO THE EU MARKET

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ABSTRACT

Laos has been granted unilateral, duty-free, quota-free access for all exports - except arms and ammunition - from the European Union (EU); however, its exports are facing several issues and challenges in the sector of agri-food products. This study aims to understand the export potential of Lao agri-food products, export impediments, and composition of market access for exporting Lao agricultural products to the EU market. Based on the analysis, the paper provides policy recommendations for export facilitation in the agri-food sector. The Normalized Revealed Comparative Advantage (NRCA) and Export Potential Index (EPI) are used to measure the trade flow based on UN COMTRADE and BACI datasets. First, the findings show that the European market stands as Laos' fourth largest trading partner in terms of agricultural trade flows, particularly agri-food products. However, due to a lack of export diversification, agricultural export products accounted for only 8% of total exports to the EU in 2020. Next, the findings show potential high demand agri-food products for export to the EU include non-roasted & non-decaffeinated coffee, banana, as well as fresh or dried and husked rice. The measurement of comparative advantage index (NRCA > 0) shows the export potential of agricultural products from Laos had an increasing trend from 90 products in 2012 to 107 products in 2020, even though there had been a decrease between 2016 and 2020. Third, the critical requirements of the EU for Lao agricultural exports have become a significant market impediment, as many Lao exporters are not well-versed with EU market, along with firms' limited ability to produce high-quality products to keep up with EU standards. Because the majority of firms in Laos at present are small and medium-sized businesses, they cannot run their operations internationally. Fourth, the results also indicated that a lack of technical support from relevant stakeholders, new EU rules and regulatory enforcement on agri-food importing, the COVID-19 pandemic, and high transportation costs are all important challenges facing Lao exporters. In addition, obtaining an organic certificate on product standards and safety requirements is another big issue facing Lao exporters. Finally, the domestic business association does not function effectively in enhancing economies of scale and helping with market negotiation. The policy recommendations are discussed in this study, with the aim to find insights for promoting agri-food export from Laos to the EU market.

Key words: Agri-Food, EU Markets, Export Potential, Laos, and Trade Flow Analysis. JEL Codes: F13, F14, F15, Q12, Q13, Q17

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ACRONYMS AND ABBREVIATIONS

AFTA	ASEAN Free Trade Agreement
ASEAN	Association of Southeast Asian Nations
BACI	International Trade Database at the Product-level
CEO	Chief Executive Officer
CEPII	Research and Expertise on the World Economic
CIF	Cost, Insurance, and Freight
DIMEX	Department of Import and Export
EBA	Everything But Arms
EC	Economic Census
EPI	Export Potential Index
EU	European Union
FOB	Free on Board
GDP	Gross Domestic Product
GSP	Generalized Scheme Preference
ITC	International Trade Centre
Lao PDR	Lao People's Democratic Republic
LNCCI	Lao National Chamber of Commerce and Industry
LSB	Lao Statistics Bureau
MOIC	Ministry of Industry and Commerce
NRCA	Normalized Revealed Comparative Advantage
PDI	Product Division Admin Indicator
PNG	Papua New Guinea
RCA	Revealed Comparative Advantage
RCEP	Regional Comprehensive Economic Partnership
UK	United Kingdom
UN COMTRADE	United Nations Commodity Trade Statistics Database
USA	United State of America
WTO	World Trade Organization

1. Introduction

Laos is a land-locked country located in the heart of the Indochinese Peninsula. It shares borders with Cambodia, China, Myanmar, Thailand, and Vietnam. The main driving forces by economic sectors to the national GDP are services, industry, and agriculture, which account for 38.4, 37.8 and 13.7%, respectively¹ in 2019. Nearly 67% of the population is still living in rural areas² where up to 72.2% of people over 10 years old are self-employed in agricultural sector³, as the source of income and earnings (Laos Statistics Bureau (LSB), 2019a, 2019b, 2020). Increasing integration with the international economy has helped Laos to develop and expand its exports of agricultural products. As for agricultural exports, while their export value is not as sizeable⁴ as natural resource-based exports (mining and hydropower), they can be a potential important export sector. Laos joined the Association of Southeast Asian Nations (ASEAN) in 1997, before joining the WTO in 2013 and participated in all ASEAN-plus free trade agreements, namely ASEAN+1 and ASEAN+5⁵. Since then, it has enjoyed both the preferential trade systems under ASEAN comprehensive trade agreements in the region, and unreciprocated preferences like the generalized system preferences (GSP) granted by developed countries. In addition, bilateral trade agreements and special preferences received from Laos' dynamic neighbouring countries such as China, Vietnam, and Thailand⁶ have also played an important role in increasing exports of Laos, particularly in the agricultural sector over the last few decades.

Laos' agricultural commodities exports are highly dependent on a few countries in the region. Laos primarily exports raw and intermediate products that are part of the manufacturing value chains of neighbouring countries. In other cases, such products are to be exported to countries where Laos has GSP benefits. According to the Department of Import and Export (DIMEX) import and export statistical report in 2020, China, Vietnam, and Thailand were three major importing countries of agricultural products exported from Laos. Natural rubber latex, fruits, root crops, rice, maize, beans, and vegetables are standard agricultural export products to these destinations. These countries have also held a large proportion of foreign investment inflows in the agricultural sector of Laos over the last decade⁷. Crops planted in Laos are mainly grown by small landowner farmers with relatively little concern on quality control. Thus, exports under border trade are preferable systems among traders who can circumvent strict import quality regulations and the import quota imposed by importing countries. For instance, in 2019, only 19% of total exports to China used form E to certify product

¹ Author calculated based on the Statistical Yearbook 2020, Laos Statistics Bureau. The tax and import duty also contributed to around 10.13% to the GDP (constant price 2012).

² Sourced from Laos Poverty Report 2018/2019.

³ Percent of working hours measured from 7 main activities (Laos Expenditure and Consumption Survey 2018/2019).

⁴ By calculating exporting data retrieved from Department of Import and Export (DIMEX), Ministry of Industry and Commerce (MOIC), it was found that Laos agriculture export in 2020 accounted for 15% in total export whereas 30% and 21% were the exports of electricity and mining, respectively.

⁵ ASEAN+ Australia, China, Japan, South Korea, New Zealand under Regional Comprehensive Economic Partnership (RCEP).

⁶ With regard to the import and export statistics from DIMEX, MOIC Laos.

⁷ According to the foreign investment report 2019 from Ministry of Planning and Investment, Laos http://investlao.gov.la/lo/resources/statistics/>.

of origin under the ASEAN – China Free Trade Agreement, indicating that border trade may be a preferable option for traders to export agricultural products to China.

Besides vicinity markets in the region, European markets are also a regular destination of Laos agricultural products. The EU is Laos' joint trading partner, particularly under the "Everything But Arms" (EBA) initiative offered by the EU. The bilateral trade between Laos and the EU approximately increased by 2% per year from 2012 to 2020⁸. The EU became Laos's fourth most significant trading partner, with a 3.6% share of total trade in 2020 (EU, 2021b). Laos' annual average growth rate of export to the EU between 2016 to 2020 was 5.1%. However, Laos is not a significant trading partner for the EU. It was ranked in 108 out of 199 countries with exports to the EU. Only clothing was a prominent export item that accounted for about 54% of total export to the EU in 2020 (EU, 2021c). The ranking indicates that even though the EU is Laos's traditional exporting market with EBA, Laos needs to diversify the export items to cover a larger variety of commodities, particularly in agricultural products which can potentially be an important export to the EU markets.

Agri-food exports to the EU have significantly benefited from the EBA but appear to be underutilized. Under the EU's EBA, all agri-food products from Laos can be exported to EU markets without any tariff restrictions. Belgium, Italy, Germany, Sweden, the Netherlands are Laos' top five prominent markets for agri-food exports⁹. These countries account for more than half of Laos' total agri-food export to the EU. Nonetheless, those countries' import values for agri-food are relatively low compared to garments and footwear, which accounted for over 70%¹⁰ of total export. In addition, the lack of export diversity, high market competition and strict quality control measures imposed by EU countries have become big challenges of Laos' agri-food export to the EU. According to the DIMEX, exports of agri-food to the EU from Laos are highly concentrated on four items: sugar, coffee, vegetables, and rice, which can be perceived as the most successful products in utilizing the EBA benefits. Thus, there is still much untapped potential to explore the EU market under EBA utilization further.

To address the issues mentioned above, a study on stylized reflection of contemporary exports of Laos agri-food to the EU is proposed here for exploring future market opportunities. It will help to identify Laos' agri-food export potential, as well as the quality of products and standard requirements needed to fulfill the EU's criteria. The study is expected to extensively expand and fill the gaps of previous studies that mostly report the impacts on agriculture exports only in general terms (EU, 2021a; Leebouapao & Voladeth, 2011; Phetmany & Phimmavong, 2016). For the purposes of this study, the research objectives will include the following aspects:

- To understand the overview of agricultural trade flows in the European market
- To evaluate the export potential of Laos agri-food products to European countries
- To understand critical requirements and composition of market access for exporting Laos' agricultural products

⁸ Authors' calculations using the export data from DIMEX, MOIC Laos.

⁹ The agri-food in this context, the authors define as instant and raw coffee, sugar, tropical fruits, rice, cereal, tapioca starch, food ingredients, processed vegetables and fruits, tea, products from milk/eggs/honey, edible oil, sauces, banana, vegetables and meats.

¹⁰ Average percentage of garments and footwears shared in total imports from Laos of Germany, Belgium, and Netherlands calculated by authors.

- To develop policy recommendations for export facilitation accordingly

The paper is organized as follows: the next section presents a review of relevant literature. The third and fourth sections present the research methodology and the results of trade flow analysis, respectively. Policy recommendations are given in section five. Conclusions form the last section.

2. Literature Review

2.1. Rules and Regulations

Exporting countries' producers and exporters need to comply with mandatory technical regulations issued by public institutions to ensure environmental protection, consumer health, and quality of products. Rules and regulations can be different from one product type to another, as well as the countries of import and export. Regulations, standards, and certifications for agricultural product exports are broadly categorized into two broad ideas: 1. technical regulation and controls for importing (mandatory), and, 2. voluntary certification. The compulsory technical regulation primarily involves commercial quality and labelling, food safety, and phytosanitary rules. In contrast, voluntary certifications are non-compulsory standards and certifications. Producers, farmers, and exporters can decide whether to comply with those voluntary standards and economic consequences. This certification creates accessibility to particular markets with higher value-added such as Japan, the USA, and the EU (FAO, 2007).

Exporting to the EU market and EU countries is more complicated and requires more paperwork than when compared to Laos' neighbouring countries. Laos currently exports both organic rice and ordinary (non-organic) rice to the EU market. For both types of products, it is necessary to comply with 12 processes involving 13 stakeholders. Seven and nine documents are required for the ordinary and organic rice export processes, respectively. In particular, exporting ordinary rice requires two more documents: quality control and herbicide certificates. Organic rice exporters must apply for organic certification, and food and drug certification. In addition, EU importers may need to conduct field surveys and on-site testing before signing the contract. Exporting to Vietnam is relatively easy with only six processes, six stakeholders, and three documents required. The documentation process includes a certificate of origin, certificate of Phyto-sanitary, and invoice and packing list (De et al., 2016).

2.2. Generalized Scheme of Preferences (GSP)

The EU's Generalized Scheme of Preferences (GSP) aims to remove import duties from venerable exporting countries. Laos has been closely working with the EU under the EU-ASEAN Cooperation Agreement to enhance trade activities and investment relations. A WTO member since 2013, Laos is currently eligible to benefit from the EU's EBA. According to the 2020 data, the total trade value between Laos and the EU is roughly 436 million EUR (US\$ 511), in which Laos' export worth to the EU is 307 million EUR (US\$360). The exported items are dominated by agricultural products, footwear, and textiles (EC, 2020).

2.3. Overview of Key Concepts

2.3.1. UN COMTRADE and BACI

The framework of trade flow analysis helps to understand the pattern of trade, concentration, or the extents of diversification, trends of flow, and improvements required for particular destinations, and value and supply chains (Bajracharya, 2021). UN COMTRADE provides trade flow information that includes value and quantities since 1962, based on HS and SITC classification (UNSTATS, 2020). In a hypothetical perfect world, if the data is collected, shared, and reported accurately, the first country reported import from the second country would be identical with the second country report export to the first country (no statistical discrepancies or 'gaps' in data collection). It should be noted that the data can be different between the importing and exporting countries, because, in UN COMTRADE, the import data include costs, insurance, and freight (CIF), while exports are free on board (FOB). This method may create a difference of about 10 to 20% in the reported values, or even more. For instance, in 2001, Pakistan exported US\$236 million worth of various products to China, but at the same time, China reported that it imported US\$557 million worth of goods form Pakistan (World Bank, 2010).

Based on the UN COMTRADE data, the BACI database (Based pour l'Analyse du Commerce International) was developed by CEPII (Centre d'Etudes Prospectives et d'Informations), a French research institute focusing on economic research. The BACI offers disaggregated data on bilateral trade flow from over 200 countries and 5,000 products (CEPII, 2021).

The UN COMTRADE relies on import and export data from various countries. As was mentioned before, in an ideal setting, the import and export values should be perfectly identical between the importer and exporter countries. However, in practice, this requirement virtually does not hold for the following reasons:

- The imported values generally include cost, insurance, and freight (CIF), whereas export value is free on board (FOB). Therefore, import values are sometimes overestimated in comparison to export value, due to the costs occurring during the process.
- There is uncertainty on the final destination of export and discrepancies in the classification of exported products.

Under BACI, the CIF costs have been assessed and subtracted from the reported import values. As a result, the import and export values should be in balance. In addition, BACI considers the reliability of each country's reporting and assigns different weights to restore each bilateral trade flow (Fang & Diao, 2021). A study on Papua New Guinea (PNG) agri-food trade trends applies the BACI international trade database to assess the movement in agri-food trade in PNG between 2001 and 2016. In addition, the BACI database was also used to estimate the changes in overall agricultural product trade from 2001 through 2016 at the product level, where the analysis attempted to reconcile export and import data from the national database. This study found that the PNG enjoyed an increase in both agri-food imports and exports. Furthermore, there was a greater demand for a more diversified consumption basket such as high-protein foods, high-sugar food, processed food, and saturated fat foods (Schmidt & Fang, 2020).

2.3.2. Normalized Revealed Comparative Advantage (NRCA) Method

The NRCA was developed from the Revealed Comparative Advantage (RCA) method by Yu, Cai, and Leung in 2008 to make the indices comparable among industries over time. This study estimated the comparison between NRCA and RCA indices of the USA and foreign countries. NRCA offers better consistency and reflects the actual situation of the United States more, compared to RCA indices (Yu, Cai, & Leung, 2008). In the context of Laos, NRCA was used to assess the export and import performance; the study examines Laos' trade performance and Regional Comprehensive Economic Partnership (RCEP) countries. For Laos, the results found that imports and exports accounted for merely 30% of the 6,558 items, most of which were natural resources, dominated by pure gold (Wongpit & Inthakesone, 2017).

2.3.3. Export Potential Indicator (EPI) and Product Division Admin Indicator (PDI)

EPI provides information for countries that wish to support the established export sector by increasing their exports to the existing market and seek new markets. The EPI is considered as an upgrade to the commonly used comparative advantage method. The calculation process includes additional variables such as gross domestic product (GDP), tariffs, geographical distance, and population growth prospects. The Product Diversification Indicator serves a country that wants to diversify and look for new export sectors. PDI indicates items that a country currently does not export but is in a good position to do so with respect to its export basket and other countries'. The EPI, PDI, and Value Chain Indicator methods have been used to assess Laos' export potential of processed wood and specialty products. The study outcomes reveal that the EU is a favorable market for sustainable exports. The value of processed wood export could increase by US\$ 31million and higher if Laos could diversify and extend its export products to cover furniture and other products. Moreover, there are enormous opportunities for high-quality niche agricultural products such as tea, coffee beans, and flowers (Decreux & Spies, 2016; ICT, 2019).

3. Data Description and Methodology

3.1. Trade Flow Analysis

To measure the export potential of Laos to European markets, this research applies two indices:

3.1.1. Normalized Revealed Comparative Advantage (NRCA)

NRCA is widely used to capture the comparative advantage of a country's export and is a useful measure to compare exports across commodities, countries, and time (Richardson and Zhang, 1999; Hassan and Ahmad, 2018; and Wongpit and Inthakesone, 2016). NRCA measures the degree of deviation of a country's actual exports from its comparative advantage-neutral levels, in terms of its relative scale with respect to the world export market, and thus provides the proper indication of underlying comparative advantage (Yu et al., 2009). The NRCA index can be written in the following equation:

$$NRCA_i = \frac{EX_i^d}{\sum_{i=1}^n EX_i^w} - \frac{\sum_{i=1}^n EX_i^d * EX_i^w}{\sum_{i=1}^n EX_i^w * \sum_{i=1}^n EX_i^w}$$

Where, EX_i^d is the export of commodity i from country d, $\sum_{i=1}^n EX_i^w$ is total export of the world, $\sum_{i=1}^n EX_i^d$ is total export of all commodities from country d, and EX_i^w is the export of commodity i from the world w.

A positive NRCA (> 0) indicates that the country has comparative advantage in exporting commodity i; the greater the NRCA score is, the stronger comparative advantage would be. In contrast, a negative NRCA (< 0) means that the country has comparative disadvantage in exporting commodity i.

3.1.2. Export Potential Index (EPI)

The International Trade Center (2021) has developed the Export Potential Index, which can be used to capture the country's export potential of specific export products. This index can be written as follows:

$$EPI_{ijk} = \frac{X_{ik}}{X_k} m_{jk} \frac{X_{ij}}{\sum_k (\frac{X_{ik}}{X_k} m_{jk})}$$

Where, X is exports, m is imports, i is exporter, j is importer, and k is product.

 X_k is Exports of product k (all exporters and markets).

 X_{ik} is Exports of exporter i of product k (to all markets).

 X_{ij} is Exports of exporter i to market j.

 m_{ik} is Imports of market j of product k.

 \sum_{k} (...) Sum of (...) over all products k.

The EPI can be interpreted in the following way. If the actual exports are less than export potential, it means the exporting country is exporting less than expected to the target market. In contrast, if actual exports are greater than the export potential, it means that the exporting country is already exporting more than what is expected.

3.2. The Case Study

As part of the survey, in-depth interviews were conducted to support our empirical study and businesses' concerns and challenges, in particular, agri-food exports to the EU. Since the COVID-19 pandemic has been steadily spreading in Laos, posing a major threat to the survey, an online form (via Google Forms) was developed as a supplementary survey, in the case where face-to-face surveys cannot be conducted. For the survey, the target samples are agri-food manufacturers¹¹ who produced for the EU market. The online survey by QR code scanning and the questionnaire were attached to an official letter of request for cooperation, and sent to 13 firms in major cities, namely, 8 in Vientiane, 1 in Savannakhet, 3 in Champasack and 1 in Aptapue. The business sectors consist of coffee, herbs, supplement, sugar, rice, tea, fruit jams, and non-forestry products. Only 8 firms, however, returned complete forms by the due date. This could be attributed to the COVID-19 pandemic, which caused impacts on companies' business operations during the lockdown period at

¹¹ Based on the enterprises data provided by the Department of Planning and Cooperation, MOIC, and the Laos National Chamber of Commerce and Industry (LNCCI).

the time of conducting the online survey. Nonetheless, there was only one firm that could be interviewed by face-to-face interaction.

The questionnaire is divided into five major sections: 1) general business profile, 2) business concerns and challenges related to export procedures, for both domestic and international transactions, 3) export procedures and costs, 4) value chains of exported products (raw materials, packaging, and other value-added - if available, and 5) policy recommendations of the companies, to further strengthen agri-food exports, particularly for the EU market. The questionnaire has two versions, in Lao and English languages. After receiving the returned forms, they were re-checked for full and complete answers in all sections; if not, the survey team will either re-check or ask for confirmation with the correspondents. There were 7 online forms and the remaining 1 was a paper form (by face-to-face interview).

4. The Results

4.1. Trade Flow Analysis

Over time, Laos has broadened its trade relations with more than 60 countries. Currently, Laos has concluded Bilateral Trade Agreements (BTAs) with 20 countries and participated in multiple regional trade agreements, including the Asia Pacific Trade Agreement (APTA) in 1975, the Free Trade Area (AFTA) in 1998, and became a member of the World Trade Organization (WTO) in 2013 (Ministry of Industry and Commerce (MOIC), 2018). These preferential trade agreements provide a great opportunity to improve market access of Laos's export products with low import tariffs. As a least developed country, Laos is eligible for receiving benefits when exporting to European markets under the Generalized System/Scheme of Preferences (GSP), especially the EU's "Everything But Arms" (EBA) scheme, which grants unilateral duty-free, quota-free access for all exports, except arms and ammunition.

Laos's total export to the global markets has slightly increased from \$US 161 million in 1998 to \$US 585 million in 2005. Afterwards, the total export value has grown rapidly from \$US 1,057 billion in 2006 to \$US 6,666 billion in 2019. The EU has been Laos' fourth biggest trading partners after China, Thailand and Vietnam. The total export of Laos to EU markets has increased marginally from \$US 110 million in 1998 to \$US 427 million in 2013. The value of exports to EU fluctuated during 2014-2018 due to the economic recession in some EU countries. After this period, export rose to reach its peak level of \$US 460 million in 2019 (see Figure 1).



Figure 1: Laos' total export and export to EU markets

Source: Author's calculation based on BACI database, 2021.



Figure 2: The share of Laos's export to major trading partners

Figure 2 shows that most of Laos' trading partners are neighbouring countries, namely Thailand, China, and Vietnam. The share of export to the three countries to total export have increased from 50% in 2000 to 83% in 2019. Focusing on comparing exports of agricultural products to the EU markets since last decade, we found the market has slowly decreased from 37% in 2000 to 7% in 2019, since the total export of Laos to other trading partners have increased rapidly, especially China, Thailand, and Vietnam. Due to lack of export diversification, the majority of Laos's export products to EU markets is dominated by garment & textiles, and gold products, which accounted for 60% and 15% of the total EU export in 2020, respectively, while agricultural export products covered only 8% in the same period (MOIC, 2021).

Source: Author's calculation based on BACI database, 2021.

Cane sugars in raw and solid form (170111), coffee not roasted or decaffeinated (090111), and silicon (280469) have the highest export values of \$US 128.6 million, \$US, 109.4 million and \$US 66.3 million, which accounted for 32.5%, 27.7% and 16.8% of total export during period 2010-2014, respectively. These are followed by exports of tobacco (240120 & 240110) and cigarettes (240220) with value of \$US 14.7 million (4%), cereals and semi-milled rice (100630) with a value of \$US 0.98 million (2.4%), paper articles (481840) with a value of \$US 0.89 million (2.2%), and vegetable preparations (200580) with a value of \$US 0.71 million (1.8%), respectively.

We found that the majority of export products to EU markets have declined during the period between 2015-2019 compared to 2010-2014, with the export value of cane sugars in raw and solid form (170111) and sucrose in chemically pure (179199) at \$US 99.3 million (decreased by 36.1%), coffee not roasted or decaffeinated (090111) at \$US 78.1 million (decreased by 28.6%), and silicon (280469) at \$US 17.2 million (decreased by 77%). Meanwhile, some agricultural product exports to EU markets have increased during the period between 2015-2019, with the total export of edible vegetables (070990 & 070960), vegetable preparations (200580) and vegetable in aubergines (070930) products at \$US 20.8 million, which had increased by 192% compared to the period 2010-2014, followed by the export of natural gums and resins (130190) and plants and parts (121190) products at \$US 9.4 million and \$US 7 million, which increased by 53% and 722%, respectively. In addition, edible fruits have become the new potential export products to EU markets, with the total export value of edible fruits (081090, 080450 & 080720) at 9 million, which accounted for 3% of total EU exports during the period 2015-2019 (Table 1).

In terms of EU trading partners, we found that the product group with the highest exporting value was cane sugar and raw (170111), at \$US 210.4 million during the period between 2010-2019. The main exporting market was the UK, which accounted for 60.3% of total exports to the EU, while Italy, Portugal and Bulgaria shared 11.8%, 11.4% and 8.3% respectively. The export value of coffeenot roasted (090111) is at \$US 187.5 million; this product is considered to be more diversified

No	Hs	Export value	Share total	Hs	Export value	Share total
		2010-14	export (%)		2015-19	export (%)
1	170111	128,679	32.57	170111	82,127	28.83
2	90111	109,429	27.70	90111	78,121	27.42
3	280469	66,388	16.81	170199	17,229	6.05
4	410320	17,077	4.32	280469	15,252	5.35
5	240120	10,670	2.70	70990	9,972	3.50
6	100630	9,815	2.48	130190	9,481	3.33
7	481840	8,914	2.26	121190	7,040	2.47
8	200580	7,116	1.80	481840	6,775	2.38
9	130190	6,191	1.57	100630	6,207	2.18
10	280530	5,503	1.39	70960	6,106	2.14
11	410729	4,605	1.17	81090	5,252	1.84
12	240220	2,204	0.56	220300	5,000	1.75
13	240110	1,885	0.48	240120	2,852	1.00
14	121190	975	0.25	200580	2,835	1.00
15	330129	848	0.21	391590	2,351	0.83
16	420221	842	0.21	80450	2,304	0.81
17	420212	828	0.21	70930	1,895	0.67
18	220300	683	0.17	80720	1,448	0.51
19	440920	646	0.16	420219	1,375	0.48
20	282560	475	0.12	330129	1,232	0.43

Table 1: Major agricultural export products (HS 010111-591120) exported to EU markets

Source: Author's calculation used BACI database. The EU countries cover 38 countries.

Note: 170111 refers to sugar: cane sugar, raw, in solid form; 90111 coffee: not roasted or decaffeinated 280469 silicon: containing by weight less than 99.99% of silicon; 410320 hides and skins: raw, of reptiles in fresh, dried, limed and pickled; 240120 tobaccos: partly or wholly stemmed or stripped; 100630 cereals: rice, semi-milled or wholly milled; 481840 paper articles: sanitary towels and tampons, napkins and napkin liners for babies; 200580 vegetable preparations: sweetcorn (zea mays var. saccharata); 130190 natural gums, resins, gum-resins and oleoresins; 280530 earth-metals, rare: scandium and yttrium; 410729 leather of reptiles, without hair on; 240220 cigarettes: containing tobacco; 240110 Tobacco, (not stemmed or stripped); 121190 plants and parts (including seeds and fruits); 330129 Oils, essential: n.e.s.; 420221 cases and containers: handbags with outer surface of leather; 420212 cases and containers: trunks, suit-cases, vanity-cases etc.; 220300 Beer: made from malt; 440920 wood: non-coniferous including unassembled strips and friezes for parquet flooring; 282560 Germanium oxides and zirconium dioxide. 170199 sucrose: chemically pure, not containing added flavouring; 70990 vegetables: edible fresh or chilled; 70960 vegetables: fruits of the genus capsicum; 81090 fruit, edible: fruits n.e.s. in fresh; 200580 vegetable preparations: sweetcorn; 391590 plastics: waste, parings and scrap; 80450 fruit, edible: guavas, mangoes and mangosteens; 70930 vegetables: aubergines, (egg plants), fresh or chilled; 80720 fruit, edible: papaws (papayas) fresh; and 420219 cases and containers: trunks, suit-cases, vanity-cases, vanity-cases, vanity-cases, vanity-cases, vanity-cases, vanity-cases, vanity-cases.



Figure 3: Major EU's trading partners for agricultural products from 2010-2019

in terms of exporting markets. The main trading partners for this product were Germany (41.8%), Italy (22%), France (12.1%), Portugal (9.8%) and Spain (3.3%). In addition, cereals and semi-milled rice (100630) have been exported to 12 EU countries, where France shared 34%, the Netherlands shared 16.7%, Germany shared 9.1%, and Italy shared 8.2%. While tobacco (240120) has been exported to 9 EU countries including the Netherlands (37.2%), Germany (18.2%) and France (16%),

Source: Author's calculation, using BACI database.

respectively. On the other hand, the majority of silicon exports (280469), at 94.9%, was exported to France. Hides and skins (410320) 63.3% exported to Germany, vegetable preparation 74.1% exported to UK, beer made from malt (220300) 95.6% exported to Slovenia, and leather (410729) 94.3% exported to Italy.

Table 2 illustrates the export competitiveness of Laos's top 20 agriculture export products by using the Normalized Revealed Comparative Advantage (NRCA) method during the 2010-2020. In exception to electrical energy (27160) and copper ores and concentrates (260300), Laos has strong comparative advantage in exporting of natural rubber in primary forms (400129) the NRCA has increased from 1.67 in 2016 to 14.03 in 2020. While the fresh, chilled and frozen of manioc (071410) and chemical wood pulp (470200) products have sound comparative advantage, with NRCA at 11.69 and 8.86, respectively, in 2020. Meanwhile, the comparative advantage of coffee - excluding roasted and decaffeinated (090111) – has improved, with the NRCA increasing from 1.52 in 2010 to 5.71 in 2020. It was followed by the technically specified natural rubber (400122) and natural rubber latex (400110) products for which NRCA had increased from 0.92 and 0.88 in 2014 to 4.81 and 2.48 in 2020. Moreover, the comparative advantage of semi-milled or wholly milled rice (100630) and manioc starch (110814) products slightly increased from 0.38 and 0.61 in 2012 to 3.37 and 2.41 in 2020, respectively. On the other hand, some agricultural products have lost their export competitiveness, especially maize - excluding seed for sowing - (100590) for which the NRCA has rapidly dropped from 15.10 in 2010 to 1.13 in 2018. Lastly, the NRCA of cigarettes containing tobacco (240220) shows a small fluctuation between 0.45 and 4.31 during 2010-2020.

No	Hs	NRCA 2010	Hs	NRCA 2012	Hs	NRCA 2014	Hs	NRCA 2016	Hs	NRCA 2018	Hs	NRCA 2020
1	'260300	32.08	740311	32.72	'260300	26.41	'260300	45.52	271600	72.40	'271600	112.22
2	'100590	15.11	'710813	12.82	'220290	5.57	'080310	11.61	'260300	35.90	'260300	17.48
3	'080260	4.75	'260300	11.62	'090111	3.23	'220290	9.46	'470329	14.58	'400129	14.04
4	'120740	4.70	'090111	3.70	'240220	2.58	'284161	6.74	220299	11.06	'071410	11.70
5	'090111	1.52	'740911	2.55	'100590	2.25	'240220	4.31	'400122	6.67	'470200	8.87
6	'240220	1.17	'100590	2.47	'284161	1.73	'071410	3.92	'310420	5.57	'310420	8.33
7	'280469	1.15	'170114	1.65	'080310	1.67	'090111	3.77	'080310	5.44	'470620	7.08
8	'170111	1.09	'740919	1.05	'440710	1.60	'400122	2.51	'090111	4.11	'090111	5.71
9	'270119	1.03	'110814	0.67	'280469	1.39	'110419	2.33	'071410	3.94	'440799	4.95
10	'440710	0.65	'440929	0.51	'440729	1.16	'010229	2.23	'252329	3.17	'400122	4.81
11	'440921	0.53	270119	0.49	'170114	1.13	'170199	1.77	240220	2.70	'260111	3.58
12	'440721	0.24	'440729	0.49	'400122	0.92	'400129	1.68	'010290	2.66	'100630	3.37
13	'240120	0.17	'120241	0.47	'400110	0.89	'100590	1.52	'170199	2.18	'110429	3.06
14	'440793	0.17	'240220	0.46	'071410	0.79	'100630	1.51	'284170	1.97	'252329	3.00
15	'441871	0.16	'284161	0.45	'240120	0.73	'170114	1.29	'261690	1.34	'080390	2.81
16	'252020	0.14	'130190	0.44	'440721	0.66	'071420	1.20	'010239	1.27	'121293	2.52
17	'110814	0.14	'440710	0.44	'110814	0.61	'220300	1.11	'220291	1.17	'400110	2.48
18	'170310	0.14	'170310	0.41	'440320	0.59	'284170	1.04	'284161	1.16	'110814	2.41
19	'080300	0.13	'080262	0.39	'080290	0.58	'070420	0.84	'400110	1.16	'440290	2.34
20	'441210	0.12	'100630	0.39	'260120	0.57	'070490	0.82	'100590	1.14	'261690	2.28

Table 2: To	p 20 of NRCA of	f Agricultural ex	port products of Laos
14010 = 10			pore produces or Lucs

Source: Author's calculation, using ITC database.

Note: for the list of HS descriptions, see Appendix 2.

Comparing the comparative advantage of agricultural export products during 2010-2020 period, it was found that total number of agricultural products with comparative advantage (NRCA > 0) had increased from 90 products in 2010 to 150 products in 2014. Afterwards, the number of agricultural products with comparative advantage has slightly decreased from 145 products in 2016 to 107 products in 2020. Meanwhile, number of agricultural products with comparative disadvantage continued increasing from 774 products in 2016 to 813 products in 2020 (Figure 4). A wide global segregation from the impacts of COVID-19 might be a significant factor to decrease the comparative advantage of agricultural exports of Laos.



Figure 4: Comparison the comparative advantage of agricultural export products

Source: Author's calculation, using ITC database.

HS	Products	Export potential (Million \$)	Actual exports (Thousands \$)	Untapped potential (Millions \$)	Europe import (Billions \$)	Lao exports (Millions \$)
090111	Coffee, not roasted, not decaffeinated	58.80	18,700	43.40	9.80	88.50
0803	Bananas, fresh or dried	20.00	23.10	20.00	7.60	69.00
400122	Technically specified natural rubber	12.50	36.10	12.40	2.30	98.60
4407Xc	Wood, sawn/chipped lengthwise and sliced/peeled	5.70	52.10	5.70	1.60	92.90
100620	Husked or brown rice	4.60	53.00	4.60	0.65	8.20
100590	Maize (excl seed for sowing)	3.90	133.30	3.90	6.80	44.70
4402	Wood charcoal, incl. shell or nut charcoal	3.10	1.80	3.10	0.55	21.60
400129	Natural rubber in primary forms/flat shapes (non-smoked)	3.10	-	3.10	0.11	90.90
1701XX	Raw can e sugar	3.60	15,500	1.10	1.10	29.60

Source: ITC export potential map, 2021.

Laos still has many agricultural products that have export potential to EU markets, especially coffee – not roasted not decaffeinated – for which the untapped potential is \$US 43 million, while the total value of European import of coffee was \$US 9.8 billion in 2020. In addition, banana, fresh or dried, technically specified natural rubber, wood - sawn/chipped, and husked rice have untapped potential \$US 20 million, \$US 12.4 million, \$US 5.7 million and \$US 4.6 million, respectively, showing that these products have a high demand from EU markets, with the total EU import value of the four products being at \$US 12.15 billion.

4.2. The Case Studies

In general, the primary findings from this poll show that every firm's director or manager has a master's degree or higher in business administration. This illustrates the surveyed firms' ability to export and participate in the global market. This circumstance was supported by various empirical studies (e.g., Vidavong & Otsubo, 2020; Arudchelvan & Wignaraja; 2015; Wignaraja, 2013). In accordance with Vidavong (2019); Wignaraja (2013); Srinivasan & Archana (2011), firm size (number of employees) and firm experiences (number of years in business) also improve business access to the global market. Other findings showed that the type of business has an impact on worldwide market access, such as joint ventures and foreigner enterprises, as Vidavong and Otsubo have shown (2020). In this study, the samples had only two local firms (Laotian owner), yet they employ foreign managers. Therefore, this can conclude that CEO's education, experiences, size, and type of business enable a firm to engage in the global market as an exporter.

No.	Facilitation of trade by the governmental sector	Score (1-5)*
1	Application of an electronic system	3.8
2	Export procedures	3.8
3	Pre-shipment inspection	3.6
4	The effectiveness of government agencies' collaboration	3.6
5	Accessible trade information	3.4
6	Regulations in force	3.4
7	Fees for export procedures (excluding transportation cost)	3.2

Table 4: The scoring of the Lao government's trade facilitation performance

Source: Author's calculations based on the field survey in September 2021.

*Notice: 5 denote the best performance and 1 denotes the worst performance.

A number of difficulties and challenges confront Lao firms seeking to export to the EU. According to the survey, there are two firms that never use the generalized system of preferences (GSP) for exporting the EU. They said that their export volumes are very small, while there is also inadequate information on the GSP application. However, there are four firms that occasionally use GSP for exporting to the EU market. It seems that firms do not often apply for the preferential tariff for export but affects from non-tariff barriers. In addition, the firms have to access to a portal on trade information and learn the export procedures of the EU market largely by themselves. As illustrated in Table 4 below, it is demonstrated that data digital governance is increasingly being used in export procedures, enhancing interoperability across government agencies, and allowing them to perform better and faster in terms of export procedures and products inspection prior to shipping. However, entrepreneurs still have only little access to trade information. On the other hand, some entrepreneurs have limited knowledge on how to use technology correctly and successfully. According to the previous section, sugar, coffee, bananas, wood processing, and non-timber products are potential export products to the EU market; nonetheless, firms have to hurdle some challenges to maximize their export potentials, such as the lack of technical support from relevant stakeholders, the COVID-19 pandemic, and transportation costs. In addition, the issue of export procedures fees was raised as an impediment of firms as well.

Subsequently, those difficulties and challenges can cause Lao exports to have less competitiveness. Furthermore, when asked about the challenges being the biggest concerns, Table 5 shows that new regulations are not yet widely disseminated and accessible; as a result, entrepreneurs are unable to adapt and be ready for the changes. There is a discrepancy between formal and informal fees, which raised the cost of exports unreasonably. The typical time for document proceedings for an export takes between 2 to 7 days, with costs ranging from 800,000 to 5,000,000 Kip (80-500 US\$) per shipment, depending on the types of commodity and quantity. It can be observed that there is high cost charged for agri-food export operation in Laos. Other firms' concerns are followed by the negative impacts from the COVID-19 pandemic, lack of the final market information, and low business competency (less competitiveness). In contrast, there has been a lot of progress being made in the payment system, and the issuing of Certificates of Origin (CO) and Sanitary and Phytosanitary Systems (SPS) certificates which become easier, as indicated in Table 5.

No.	Ranking of the current business's concern and challenge	Number of answers
1	Implementation of new regulations	5
2	Impact of the Covid-19 pandemic	5
3	Transportation costs	3
4	Barriers to accessing final market and market information	3
5	Competitiveness	3
6	A business's experience operations	1
7	Export procedures	1
8	Interoperation performance among government stakeholders	1
9	Product standards	1
10	GSP applications	1
11	Cost of product storages	1
12	Proper and advanced information support	1
13	Payment system	0
14	Issuance of certificate of origin	0
15	SPS applications	0

Source: Author's calculations based on a September 2021 field survey.

The findings reveal that the majority of firms are capable of conducting their own export operations. However, it was found that two exporting firms (Laotian owners) are managing their exports through business partners in Thailand and Vietnam, and this is also the case for the two foreigner-owned enterprises. Furthermore, the data indicates that there is no evidence of cooperation among local associations. For example, the finding shows that there is a lack of export cooperation of local business associations in the form of clusters. In that circumstance, it can make Lao firms, particularly SMEs, have less business competitiveness in the global market. However, in terms of market information, firms are likely to get this piece of information from their peers in an informed way rather than formally. At the same time, the firms have to search for other market information through trade fairs, negotiations, and online news. The role of government entities in providing market information is moderately satisfied, according to the respondents. However, the effectiveness of implementing new legislations is still low.

The findings revealed that the information on non-tariff barriers (NTB) and other restrictions imposed by importing countries are more available and clarified in advance for joint ventures and foreign firms than for local firms. It is the common rule based on the standard requirement for preshipment, for instance, packaging, labelling, CO, and SPS, must be rigorously adhered to. For this instance, a Laotian firm's concern is the necessity to obtain an organic certificate in order to confirm that its products meet the standards and are safe. The NTB brings about significant costs to firms, particularly SMEs, to obtain the importing countries' certificate, as the certificate approved by a national certification body is not recognized by imported countries. To circumvent those difficulties, many firms exported agri-food to the EU by FOB (Free on Board) at Laem Chabang Port (Thailand) or Da Nang Port (Vietnam) as their business partners (in importing countries) are responsible for all costs incurred from that point until finishing customs declarations in the final destination. However, the in-land transportation costs that Lao exporters have a responsibility to pay up are relatively high at around 15,000,000 Kip per shipment (\$US 1,500) in the case of coffee and sugar exports. It takes approximately one month for shipping agri-food products to the EU market. Moreover, the recent COVID-19 outbreak has become another issue caused a delay for the shipments from Laos to the EU.

The following recommendations from firms' survey on strengthening and promoting of agri-food exports to the EU market can be summarized below:

- An international standard coffee laboratory is required because many Lao firms are now using Thai laboratories to certify their products before exporting to Europe (Note: This issue has been raised at numerous forums). This regularly costs Lao coffee exporters a lot of money and thus make Lao coffee exporters less competitive in worldwide markets.
- Advertising promotion for agri-food exports through several channels, for instance, the Lao Embassy in Europe, can be an ideal option.
- Access to finance is still a challenge for small entrepreneurs and farmers who aim to expand their markets into the EU.
- A commercial bank deducts 0.2% from exporters when they receive payment transactions from their trading partners. An exporter feels that this fee is somewhat high. Stakeholders from the government may take actions by recommending to banks to reduce such fees, since exporters do not use this amount to import goods or gain the profit from foreign currency trade.
- Export mechanisms should be formed as a single window consisting of both government and private sectors with the effective capabilities in interoperating direct interactions regularly with the European Chamberin Laos, in order to promote Lao exports to the European market. This unit will work as a form of facilitator to certify export product to the EU market.
- Infrastructure development, in particular, upgrading logistics to meet the international standards, will help to promote export growth.
- Providing business opportunities for firms to participate in international trade fairs and exhibitions will also benefit them. Another potential policy is promoting Lao agri-food export products through government websites regularly.

- The EU market requires organic certificates for agricultural products, but it is very costly for the firms to comply to these requirements. Without the government's assistance, SMEs could have less market competitiveness in the EU. Thus, it should be taken into consideration by the government as an important policy assistance.
- It is an important role of the LNCCI to clearly disseminate the processes of certificate of origin requirement of firms under quick and efficient service, and a self-statement of origin under the condition of being a "registered exporter". This is because some exporters are still struggling to understand the procedures.

5. Policy Implications at the Country and Regional Levels

5.1. At Home Country

- The results of NRCA and EPI indicate that Laos has a high comparative advantage and export potential in coffee, banana, rubber, wood processing, rice, and maize. Therefore, the government should diversify these export products through FDI attraction and existing financial programs application for the potential export products to increase the value added and transform to semi and final products to ensure export growth smoothly.
- For SMEs, obtaining financing to expand their businesses remains a struggle. Therefore, the current policies and programs being implemented should be examined and reviewed on a regular basis to ensure that financial access is made as simple as possible with low risks.
- Infrastructure development in particular, logistics development should be upgraded to meet international standards, for example, railways should be able to integrate in to the One Belt, One Road Initiative. The further task for Lao government along with businesses is how to improve and upgrade internal logistics to fulfill international standards.
- Lao exporters working together as a business cluster should be able to strengthen their collaboration. According to this survey, the bulk of exports by their own products, and outsource their export operations by other companies (shipping companies) are existing. This suggests that SMEs suffer from a lack of economies of scale. It necessitates the need to collaborate between the public and commercial sectors in order to develop and formulate better mechanisms.
- The government of Laos should encourage and support firms' competencies in their transition from small to medium firms, and medium to big firms by way of utilizing creative innovation and productivity development to improve competitiveness and increase economies of scale. The existence of new proposal projects executed under the Department of Small and Medium Enterprise Promotion, and the Department of Trade Promotion, MOIC, should enhance on SMEs' competencies.
- National laboratories are required at home to improve the quality of agri-food items before they reach EU markets, in order to minimize the need for using laboratories from other nations for products like rice, coffee, sugar, vegetables, amongst other things. It is expected to reduce costs and also save time for Lao exporters.
- Several avenues, for example, the Lao Embassy in the European Union, must be used appropriately to promote market events. This is one strategy for bringing Lao products closer to their end-users. In addition, providing the opportunities for participation in trade fair exhibitions, and advertising through government websites regularly and repeatedly, is significant for SMEs.
- The importing countries in the EU require higher standards in terms of organic certificates for agricultural products, but it is costly to comply with these high standards. Because of

this, without Lao government agencies' support on technical business assistance, SMEs could have less competitiveness in the EU market.

- The regulations governing payment transactions, such as repatriation of the value of their exports, from which the bank deducts 0.2%, should be reviewed and improved, or removed. As this ratio is relatively high, it impedes the incentives for firms to increase their exports.
- Currently, exporters can apply their own certificates of origin (self-certificate), but the
 awareness of this self-certificate option is not high. Therefore, promoting the utilization of
 self-certificate in small and medium firms is important to reduce cost and time of acquiring
 the certificate of origin; in addition, the information dissemination on the benefits of selfcertificate should be well circulated to the exporters in the provinces.

5.2. Regional Level

- Export mechanism should be formed as a single window consisting of government and private sector with the effective capability in interoperating direct interaction regularly with European Chamber in Laos, in order to promote Lao export to the European market. This unit works as a form of facilitator to certify export products to the EU market.
- Laos should speed up its logistics performance by joining international transportation platforms and enforcing international regulations and cooperation in various ways to diverse routes and modes of transportation, in order to reduce costs of international transportation.
- The business forums between Lao and European entrepreneurs, trade fairs and business exhibitions should be promoted and facilitated by the government on a regular basis. This can help firms increase business cooperation in order to boost exports via business partners.

6. Concluding Remarks

Laos has broadened its trade relations with more than 60 countries, has concluded Bilateral Trade Agreements (BTAs) with 20 countries, and participated in regional trade agreements. Laos has exported to the European market under the Generalized System of Preferences (GSP), especially the EU's Everything But Arms (EBA) scheme. According to the findings, the European market is Laos' fourth-largest trading partner in terms of agricultural trade flow in general, particularly agri-food products. However, due to a lack of export diversification, the majority of Laos' export items to EU markets are garments and textiles, as well as luxury products (e.g. jewellery), which represented 60% and 15% of total exports to the EU in 2020, respectively, while agricultural export products accounted for only 8%.

Laos still has various agricultural products with export potential to the EU market, including nonroasted or non-decaffeinated coffee, with untapped potential of \$US 43 million; as well as other goods like banana, fresh or dried; technically specified natural rubber; wood (sawn/chipped); and husked rice have untapped potential of \$US 20 million, \$US 12.4 million, \$US 5.7 million, and \$US 4.6 million, respectively. Those products are in high demand in the EU market, with a total import value of \$US 12.15 billion in 2020.

The finding shows that many of Laos' agricultural products have a comparative advantage (NRCA > 0). The number of products with comparative advantage rose from 90 products in 2010 to 150 products in 2014. Afterwards, there had been a slight decrease from 145 products in 2016 to 107 products in 2020. There are several internal and external issues and challenges contributing to the growth of Laos' exports. The ability of entrepreneurs to access a variety of market information is

uneven among Lao exporters. In addition, the inadequate knowledge of exporters (due to many of them being SMEs) on how to use technology effectively and be internationally competent is another internal issue. On the other hand, the impacts of external factors, such as weak technical support from relevant stakeholders, the COVID-19 pandemic, and transportation costs, are also accountable hindrances of Lao agri-food exporters to the EU market. Besides, the process of obtaining an organic certificate for standard and food safety requirements is costly for businesses, particularly SMEs. Also, transportation cost is another significant issue. Some exporters have to be in charge of delivering a shipment up to Laem Chabang Port of Thailand or Da Nang Port in Vietnam (FOB) before the duty is shifted to an importer. Regarding the viewpoints of the exporters from the interview, the issue of transportation can undermine the comparative advantage of Lao agri-food in the EU market if there are no appropriate measures from relevant government agencies.

This study has some limitations, such as investigating the characteristics of consumers' needs in importing countries (demand side). Furthermore, due to the COVID-19 pandemic, the research team could not conduct in-person interviews with the target firms. Consequently, some questionnaire forms were left blank from the online survey, particularly on the agri-food value chains. These issues need to be addressed when conducting future research and in-depth examination of agri-food exports. This may help identify the issues and challenges that agri-food exporters in Laos are encountering and thus contribute to more specific policy implications in the future.

References

- Arudchelvan, M., & Wignaraja, G. (2015). SME Internationalization through Global Value Chains and Free Trade Agreements: Malaysian Evidence (ADBI Working Paper Series 515). Tokyo: Asian Development Bank Institute.
- Bajracharya, P. (2021). Trade Flow Analysis and Study Methodology. Retrieved from https://www.sawtee.org/presentations/TradeFlow_Pushkar.pdf.
- CEPII. (2021). BACI. Retrieved from http://www.cepii.fr/cepii/en/bdd_modele/presentation .asp?id=37.
- De, P., Phetmany, T., Phimmavong, B., Phommathan, A., Pathoumvanh, A., Sayyavongsa, V., . . . Inthachack, T. (2016). A Field Survey: Non-Tariff Measures (NTMs) Faced by Exporters of Lao PDR: UNESCAP.
- Decreux, Y., & Spies, J. (2016). Export Potential Assessments A methodology to identify export opportunities for developing countries. Retrieved from https://umbraco. exportpotential.intracen.org/media/1089/epa-methodology_141216.pdf.
- EC. (2020). Laos Countries and Regions. Retrieved from https://ec.europa.eu/trade/policy /countries-and-regions/countries/laos/.
- EU. (2021a). Agri-food Trade Statistical Factsheet European Union Laos. Retrieved from https://ec.europa.eu/info/sites/default/files/food-farmingfisheries/farming/documents/agrifood-laos_en.pdf.
- EU. (2021b). Countries and regions. Retrieved from <u>https://ec.europa.eu/trade/policy</u>/countries-and-regions/countries/laos/.
- EU. (2021c). European Union, Trade in goods with Laos. Retrieved from <u>https://webgate</u>. ec.europa.eu/isdb_results/factsheets/country/details_laos_en.pdf.
- Fang, P., & Diao, X. (2021). TradeFlow Analysis Session 1-Lecture 2 of 4. Retrieved from https://mediaspace.msu.edu/playlist/dedicated/1_8eb2d2e3/1_cc7y6aei
- FAO. (2007). A Practical Manual for Producers and Exporters from Asia: Food and Agriculture Organization.
- Hassan, M, U., and Ahmad, H, K. (2018). An Estimation Of Normalized Revealed Comparative. Advantage And Its Determinants In Pakistan. Pakistan Vision Journal. Vol. 10. No. 1, p 231-257.
- ICT. (2019). Export Potential in Lao PDR Processed Wood and Specialty Agriculture. Retrieved from https://umbraco.exportpotential.intracen.org/media/1148/laoreport_final-draft.pdf.
- Leebouapao, L., & Voladeth, S. (2011). Agricultural Development, Trade, and Regional Cooperation in an Integrating and Industrializing East Asia: The Case of Lao PDR. In J. Intal, P. S., S. Oum, and M. J. O. Simorangkir (eds.) (Ed.), Agricultural Development, Trade and Regional Cooperation in Developing East Asia (pp. 269-306). Jakarta: ERIA.
- LSB. (2019a). Lao Expenditure and Consumption Survey Vientiane capital Lao Statistics Bureau (LSB).
- LSB. (2019b). Lao Poverty Report. Vientiane capital Lao Statistics Bureau (LSB).
- LSB. (2020). Statistical Yearbook Vientiane capital Lao Statistics Bureau (LSB).

- Phetmany, T., & Phimmavong, B. (2016). A Field Survey: Non-Tariff Measures (NTMs) Faced by Exporters of Lao PDR. Retrieved from www.unescap.org/sites/default/files /2-5.Lao_NTM_survey9_2016.pdf.
- Richardson, J. D., and Zhang, C. (2001). Revealing comparative advantage: chaotic or coherent patterns across time and sector and US trading partner. University of Chicago Press.
- Schmidt, E., & Fang, P. (2020). Papua New Guinea agri-food trade trends: reflections on COVID-19 policies and dietary change. Retrieved from https://www.ifpri.org/publication/agrifood-trade-trends-papua-new-guinea-reflections-covid-19-policies-and-dietary-change
- Srinivasan, T.N., Archana, V. (2011). Determinants of Export Decision of Firms. *Economic and Political Weekly*, 46(7), 49-58.
- UNSTATS. (2020). What is UN Comtrade? Retrieved from https://unstats.un.org/unsd/ tradekb/knowledgebase/50075/what-is-un-comtrade.
- Vidavong, C. (2019). Roles of global value chains (GVCs) in promoting small and medium-sized enterprises (SMEs) in Laos. Forum of International Development Studies, 50(1), 1-20.
- Vidavong, C., & Otsubo, S. (2020) Promoting Local SMEs through GVCs: A Framework and Case Study of Laotian SMEs. In S. Otsubo and C. Otchia (Eds); Designing Integrated Industrial Policies: For Inclusive Development in Asia and Africa (p.217-243). London: Routledge.
- Wignaraja, G. (2013). Can SMEs Participate in Global Production Network? Evidence from ASEAN Firms.
 In K.E. Elms, & P. Low (Eds), Global Value Chains in a Changing World, (pp.279-313).
 Geneva: World Trade Organization.
- Wongpit, P, and Inthakesone, B. (2016). Export and Import Performance of Lao's products. Southeast Asian Journal of Economics. Vol 5, No 1, p 41-74.
- Wongpit, P., & Inthakesone, B. (2017). Export and Import Performance of Lao's Products. Southeast Asian Journal of Economics, 5(1).
- World Bank. (2010). Imports, Exports and Mirror Data with UN COMTRADE. Retrieved from https://wits.worldbank.org/wits/wits/witshelp/content/data_retrieval/T/Intro/B2. Imports_Exports_and_Mirror.htm.
- Yu, R., Cai, J. and Leung, P. S. (2009). The normalized revealed comparative advantage index. Annals of Regional Science, 43(1), 267-282.
- Yu, R., Cai, J., & Leung, P. (2008). The normalized revealed comparative advantage index. The Annals of Regional Science volume, 43, 267–282 Retrieved from https://link.springer.com /article/10.1007/s00168-008-0213-3.

Appendix 1

		Questi	onnaire form	
	Agri-food	d products expo	orted to the European	market
1. Informatio	on of respondent	Ē.		
1.1.1	Name of respond	lent:		
1.2 P	osition: 🛛 Pre	esident	□ Manager	□ Accountant
	□ Ge	neral staff	□ Marketist	□Others (specified):
			•••••	□ E-mail:
	on of President of	or owner		
	ducation			
	-		□ Bachelor	□ Master
		· -	cified):	
	ield of education		· ·	—
				vs \Box Accounting
	e	Ll Oth	ers (specified):	
3. Business j		T 11 '		
• -			□ Joint venture	□ Foreign business
	r of the business	•		
		ees:	persons (in 2020)	
	ercentages of pro	duata avportad.	0/_	
	0 1	-	exported:	0/_
		-	-	%, ean market?%
	s of agri-food pro	-		
		-		, 5
3.6 L1st	t of the three sig	nificant nations	importing your produc	ets:
3.6.1	Country name	e:	, year of starting	g export:
3.6.2	Country name	e:	, year of starting	export:
3.6.3	Country name	e:	vear of starting	export:
	erminants of Ex			1
		port (Multiple C	,	1 . 10
	Trade fair		2. Trade negotiation	
	Trading partner		4. □ Local governme	
	accessiable trad	ie portai	6. 🗆 Otners (specified	d):
4. Local cond	cerns			
4.1	The value of t	he agri-food pro	oducts exported in 2020):\$
4.2	The performant periods	ce of agri-food p	products exported comp	pared to Covid-19 pandemic
	□ Increasing		□ No-changing	□ Decreasing

- 4.3 The generalized system of preferences (GSP) application
 - 1. □ Applied (year of application:.....) 2. □ Sometimes

3. D Never applied (please provide the reasons:)

- 4.4 Receiving trade portal from (Multiple Choices)
 - 1. □ Dissemination conference
 2. □ Websites of Ministry of Industry and

 Commerce
 3. □ Local association membership
 4. □ Own seeking

 5. □ Others (specified):.....
- 4.5 Export ratio to total sales in 2020:%
- 4.6 The performance of trade facilitation of the public sectors

No.	Trade facilitation performance	Very good	Good	Moderate	Worse	Worst
1	Accessible information					
2	Existing regulations					
3	Pre-shipment inspection					
4	Usage of electronic system					
5	Export procedures					
6	The interoperation of govern-					
0	ment agencies' performance					
7	Fees for export procedure					
/	(excluding transportation cost)					

5. Procedures for exporting to the European market

- 5.1 Is there any kind of non-tariff barrier or other impediment that importing countries have raised? Please be specific:
- 5.2 The concerns and challenges in exporting (within 3 responds)
- \Box 1. The experience of business operations \Box 2. Implementation of new regulations
- □ 3. Transportation costs □ 4. Export procedures
- \Box 5. Barriers to access the end market and market information
- □ 6. Interoperation among government agencies □ 7. Competitiveness
- □ 8. The impact of Covid-19 pandemic
 □ 10. Product standard
 □ 11. Issuance of Certificate of Origin
- □ 12. GSP applications
- □ 14. SPS applications
- 5.3 Export Procedures:
 - 5.3.1 Pre-shipping

5.3.1.1	Industry and Commerce sector (documents)
5.3.1.2	Agriculture and forestry sector (documents)
5.3.1.3	Other stakeholders (documents)

□ 13. Costs of product storage

□ 15. Others (specific):.....

	5.3.2	Transporting goods from the company's location to local border checkpoints in preparation for export (if any, e.g., customs declaration, inspections)
	5.3.3	Getting commodities at domestic border checkpoints to its final destinations (incoterm,CIF)
	5.4 Av	verage time to prepare papers for an export (hours, days)
	5.5 Trac	le costs for export
	5.5.1	Expenses for exports excluding transportation costs Kip or USD/time/container
	5.5.2	International shipping costs Kip or USD / time //
	5.6 Plat	form of export
		 Exporting via groups or associations
	pa	mes spent to export products from Laos to the destination country after perwork and customs declaration:day(s) or month(s) per time or ntainer
		ed chains of exporting products (raw materials, packaging, other value-added if it can be draw diagram, chart, figure or other platforms)
7.	. 0	ce and promotion recommendations relevant to agri-food exports, particularly for rket entry
Na	me of coordina	

1 1411	cooranna	 	••••••••••
Tel:	 	 	

Appendix 2

Table 2a: The list of NRCA Agricultural export products of Laos

2a.	The list	of Mich Agricultural export products of Laos
No	Code	Product label (2010)
1	260300	Copper ores and concentrates
2	'100590	Maize (excluding seed for sowing)
3	'080260	Macadamia nuts, fresh or dried, whether or not shelled or peeled
4	120740	Sesamum seeds, whether or not broken
5	090111	Coffee (excluding roasted and decaffeinated)
6	-	Ggarettes, containing tobacco
7	280469	Silicon containing < 99,99% by weight of silicon
8	'170111	Raw cane sugar (excluding added flavouring or colouring)
9	270119	Coal, whether or not pulverised, non-agglomerated (excluding anthracite and bituminous coal)
10	'440710	Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded
11	440921	Bamboo, incl. strips and friezes for parquet flooring, not assembled, continuously shaped "tongued
12	'440721	Mahogany "Swietenia spp.", sawn or chipped lengthwise, sliced or peeled, whether or not planed
13	240120	Tobacco, partly or wholly stemmed or stripped, otherwise unmanufactured
14	'440793	Maple "Acer spp.", sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded
15	'441871	Flooring panels for mosaic floors, assembled, of wood
16	252020	Plasters consisting of calcined gypsum or calcium sulphate, whether or not coloured
17	'110814	Manioc starch
18	170310	Cane molasses resulting from the extraction or refining of sugar
19	'080300	Bananas, incl. plantains, fresh or dried
20	'441210	Plywood, veneered panel and similar laminated wood, of bamboo, not containing particle board
No	Code	Product label (2012)
1	740311	Copper, refined, in the form of cathodes and sections of cathodes
2	710813	Gold, incl. gold plated with platinum, in semi-manufactured forms, for non-monetary purposes
3	260300	Copper ores and concentrates
4	'090111	Coffee (excluding roasted and decaffeinated)
5	740911	Plates, sheets and strip, of refined copper, in coils, of a thickness of > 0,15 mm
6	100590	Maize (excluding seed for sowing)
7	170114	Raw cane sugar, in solid form, not containing added flavouring or colouring matter
8	'740919	Plates, sheets and strip, of refined copper, not in coils, of a thickness of > 0,15 mm
9	110814	Manioc starch
10	440929	Wood, incl. strips and friezes for parquet flooring, not assembled, continuously shaped "tongued
11	270119	Coal, whether or not pulverised, non-agglomerated (excluding anthracite and bituminous coal)
12	440729	Tropical wood specified in Subheading Note 1 to this chapter, sawn or chipped lengthwise, sliced
13 14	-	Groundnuts, in shell (excluding seed for sowing, roasted or otherwise cooked)
14 15	-	Ggarettes, containing tobacco
	-	Potassium permanganate
16 17		Lac; natural gums, resins, gum-resins, balsams and other natural oleoresins (excluding gum Conference wood source or objected leastburge, cligad or realed, whether or not planed conded
17	1	Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded
18 19	170310	Cane molasses resulting from the extraction or refining of sugar Fresh or dried macadamia nuts, shelled
20	-	-
20 No	Code	Semi-milled or wholly milled rice, whether or not polished or glazed Product label (2014)
1		Copper ores and concentrates
2	200300	Non-alcoholic beverages (excluding water, fruit or vegetable juices and milk)
2	'090111	Coffee (excluding roasted and decaffeinated)
4	240220	Ggarettes, containing tobacco
5	100590	Maize (excluding seed for sowing)
6	284161	Potassium permanganate
7	080310	Fresh or dried plantains
8	440710	Coniferous wood sawn or chipped lengthwise, sliced or peeled, whether or not planed, sanded
9	280469	Silicon containing < 99,99% by weight of silicon
	440729	Tropical wood specified in Subheading Note 1 to this chapter, sawn or chipped lengthwise, sliced
11	'170114	Raw cane sugar, in solid form, not containing added flavouring or colouring matter
12	400122	Technically specified natural rubber "TSNR"
13	400122	Natural rubber latex, whether or not prevulcanised
14	071410	Fresh, chilled, frozen or dried roots and tubers of manioc "cassava", whether or not sliced
15	240120	Tobacco, partly or wholly stemmed or stripped, otherwise unmanufactured
16	440721	Mahogany "Swietenia spp.", sawn or chipped lengthwise, sliced or peeled, whether or not planed
17	110814	Maniogany Swietenia Spp. , sawn of chipped lengthwise, sinced of peered, whether of hot praned Manioc starch
	440320	Coniferous wood in the rough, whether or not stripped of bark or sapwood, or roughly squared
18		
18 19	'080290	Nuts, fresh or dried, whether or not shelled or peeled (excluding coconuts, Brazil nuts, cashew

	Code	Product label (2016)
1	'260300	Copper ores and concentrates
2		Fresh or dried plantains
3		Non-alcoholic beverages (excluding water, fruit or vegetable juices and milk)
4	284161	
5	'240220	
6	'071410	Fresh, chilled, frozen or dried roots and tubers of manioc "cassava", whether or not sliced
7	'090111	
8	400122	
9	'110419	
10	'010229	Live cattle (excluding pure-bred for breeding)
11	'170199	Cane or beet sugar and chemically pure sucrose, in solid form (excluding cane and beet sugar
12	'400129	Natural rubber in primary forms or in plates, sheets or strip (excluding smoked sheets)
13	'100590	Maize (excluding seed for sowing)
14	100630	Semi-milled or wholly milled rice, whether or not polished or glazed
15	'170114	
16	'071420	Sweet potatoes, fresh, chilled, frozen or dried, whether or not sliced or in the form of pellets
17		Beer made from malt
18		Molybdates
19	'070420	•
20		Fresh or chilled cabbages, kohlrabi, kale and similar edible brassicas (excluding cauliflowers
No	Code	Product label (2018)
1		Electrical energy
2		Copper ores and concentrates
3		Semi-bleached or bleached non-coniferous chemical wood pulp, soda or sulphate
4	'220299	
5	400122	
6	'310420	Potassium chloride for use as fertiliser (excluding that in tablets or similar forms
7	'080310	Fresh or dried plantains
8	'090111	•
9	'071410	· · ·
10	'252329	· · ·
11	'240220	
12	'010290	
13	170199	Cane or beet sugar and chemically pure sucrose, in solid form (excluding cane and beet sugar
14	'284170	
15	'261690	•
16	'010239	
17	'220291	Non-alcoholic beer <= 0.5% vol alc
18	'284161	Potassium permanganate
19		Natural rubber latex, whether or not prevulcanised
20		Maize (excluding seed for sowing)
	Code	Product label (2020)
1	271600	
2		Copper ores and concentrates
3		Natural rubber in primary forms or in plates, sheets or strip (excluding smoked sheets
4		Fresh, chilled, frozen or dried roots and tubers of manioc "cassava", whether or not sliced
5	470200	
6	'310420	
7	470620	Pulps of fibres derived from recovered "waste and scrap" paper or paperboard
8	090111	· · · · · ·
9	440799	
10	400122	
11		Non-agglomerated iron ores and concentrates (excluding roasted iron pyrites)
12		Semi-milled or wholly milled rice, whether or not polished or glazed
13	110429	Grains of cereals, hulled, pearled, sliced, kibbled or otherwise worked
14	252329	
15	080390	Fresh or dried bananas (excluding plantains)
16	'121293	Sugar cane, fresh, chilled, frozen or dried, whether or not ground
17	400110	Natural rubber latex, whether or not prevulcanised
18		Manioc starch
	110014	
19	440290	Wood charcoal, incl. shell or nut charcoal, whether or not agglomerated