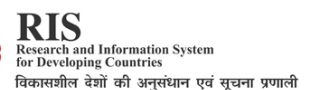


SRI LANKA'S AGRI-FOOD TRADE: STRUCTURE, OPPORTUNITIES, CHALLENGES & IMPACTS OF COVID-19

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ABSTRACT

This paper analyses Sri Lanka's opportunities and challenges in agri-food trade amid COVID-19. Among the many impending crises that are gradually unfolding, the challenge of rising food insecurity resulting from the COVID-19 and the measures to contain it can be considered as one of the most critical. Therefore, Sri Lanka, as a middle-income country, should immediately identify the emerging trade patterns, opportunities, and challenges to face the upcoming trade competitiveness due to COVID-19. The paper presents an overview of Sri Lanka's agricultural trade flows in the world. It describes Sri Lanka's main import and export partners of the country, market characteristics, shifting of main export destinations, the export potential of Sri Lanka's agricultural products to other countries. It analyses the immediate impact of the COVID-19 pandemic on Sri Lanka's import and export sectors, and the barriers to the trade of agricultural products in Sri Lanka. Results indicate that in addition to the main export agriculture commodities such as tea, there might be other emerging agri-food products with a high potential to grow. Identifying such products and potential export markets would be important for the expansion of international trade in new arenas.

Keywords: Trade flow analysis, COVID-19, barriers to trade, trade patterns, food security

EXECUTIVE SUMMARY

International trade related to food and agriculture plays an important role in ensuring global food security. Trade improves the availability of, and access to, food, especially for food import-dependent countries (FAO, 2015). On the other hand, agricultural export revenues constitute an important source of income for many developing countries. Trade and global value chains in agriculture and food are also linked to economic development and can promote sustainable outcomes when combined with appropriate domestic measures (FAO, 2020).

When Sri Lanka is considered, there has been a considerable change in Sri Lanka's external trade relations during the past few decades. In general, it is a story of embracing an external trade regime to expand foreign market access to its products and services on bilateral, regional and multilateral fronts. In 2019 Sri Lanka was ranked 66th in the world in terms of Gross Domestic Products (GDP), 86th in total exports and 83rd in total imports, according to the Economic Complexity Index (ECI). Sri Lanka's agriculture sector plays a vital role in the country's economy as the agriculture sector contributed 7% to the GDP in 2019. The sector alone employs 25.3% of the total labor force comprising 8.18 million workers.

The agriculture export share of total exports account for about 20% in 2019 in Sri Lanka. The traditional agricultural exports of Sri Lanka are tea, spices, coconut, and rubber, for decades. Several horticultural and floricultural crops have also been exported more recently, but the traditional products constitute the bulk of agricultural exports.

However, time to time, various internal and external shocks have affected negatively on agri-food trade in Sri Lanka. The most recent shock, COVID-19, has resulted in a dual shock on agriculture markets which has affected both supply and demand of whole agriculture sector both international trade and domestic perspectives. Measures that were taken to control the spread of the virus have affected many supply chain related activities, including production, processing, assembling, logistics, and retailing. In many countries, border and travel restrictions have led to shortages in agricultural labour, limited access to agriculture inputs such as seeds, fertilizers and agro-chemicals, lower food processing capacity, and many other challenges in food product distribution. At the same time, reductions in income, restrictions on people's movement, and the closure of restaurants and food services resulted in rapid changes in food consumption patterns. Despite these challenges, the governments and agricultural sector stakeholders are trying to keep agricultural markets open to make the trade flows smooth. Even though the country was well-performing in international trade, Sri Lanka is struggling with the current COVID-19 pandemic which has affected country's economy rigorously. The pandemic is associated with numerous economic, social and environmental impacts with far reaching consequences, in both the immediate and long term that the country is struggling to come to terms with. Among the many impending crises that are gradually unfolding, the challenge of rising food insecurity resulting from the COVID-19 and the measures to contain it can be considered as one of the most critical. Therefore, Sri Lanka, as a middle-income country, should immediately identify the emerging trade patterns, opportunities, and challenges to face the upcoming trade competitiveness due to COVID-19.

Sri Lanka exports mainly tea and spices as the agricultural commodities targeting specific markets in the world. However, changes in consumer preferences over time and massive competition from other export partners significantly impact Sri Lanka's exports. Therefore, it is vital to see how the country's trade flows have changed over time to forecast future trade flows and the likely impact of the COVID-19 or other possible shocks. Other than these main export agriculture commodities,

there might be emerging agri-food products with a high potential to grow. Identifying such products and potential export markets would be important for the expansion of international trade in new arenas. Within this background, this study is compiling the findings regarding the overview of Sri Lanka's agricultural trade flows in the world (main import and export partners of the country, market characteristics, shifting of main export destinations, the export potential of Sri Lanka's agricultural products to other countries, the immediate impact of the COVID-19 pandemic on Sri Lanka's import and export sectors, and the barriers to the trade of agricultural products in Sri Lanka.

This trade flow analysis study was conducted by IPS supported by PRCI and International Food Policy Research Institute (IFPRI) to analyse Sri Lanka's opportunities and challenges in agri-food trade amid COVID-19.

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ACRONYMS AND ABBREVIATIONS

Acronym	Definition
AFRE	Department of Agricultural, Food, and Resource Economics
BOP	Balance of Payment
ECI	Economic Complexity Index
EU	European Union
GDP	Gross Domestic Product
GIs	Geological Indications
IFPRI	International Food Policy Research Institute
IMF	International Monetary Fund
ISSER	Institute for Statistical, Social, and Economic Research, University of Ghana
ITC	International Trade Center
MSU	Michigan State University
MT	Metric Ton
PRCI	Policy Research, Capacity, and Influence
ReNAPRI	Regional Network of African Policy Research Institutes
USD	United States dollar
WHO	World Health Organization

I. COVID-19 EFFECTS ON GLOBAL AGRICULTURAL TRADE

The world has realised that the pandemic is a health crisis and have a substantial negative externality on economic development. Significant reductions in income, a rise in unemployment, and disruptions in the transportation, service, and manufacturing industries are the consequences of the disease. These impacts are affecting the food and agriculture sector of the countries (OECD,2020).

According to International Monetary Fund (IMF), the global growth contraction in 2020 would be at -3.3 per cent (IMF, 2021). There, most of the developed countries are estimated to have contracted their economies by 4.7 per cent year-on-year, and emerging markets and developing economies by 2.2 per cent. An additional 83 to 132 million people were pushed to a chronically undernourished situation globally in 2020 as a result of COVID-19 (FAO et al., 2020).

Food commodity markets all over the world have faced significant uncertainties due to the COVID-19 pandemic. Various efforts were taken by governments and agricultural sector stakeholders worldwide to keep food and agricultural markets open and keep the trade flowing as usual. These efforts have resulted in remarkably resilient agricultural commodity markets. (FAO, 2020). The Food and Agriculture Organization is presenting the specific policy objectives to be achieved with regard to the prevailing crisis and typical policy responses during a food and health crisis which are more likely to be taken by any of a country (Table 1). In a crisis, any country would be having policy objectives in two fronts, one is on supply side and the other one is on demand side. Supply side policy objectives consist of; ensuring sufficient domestic supply, ensuring food safety, supporting producers etc., while the demand side policy objectives consist of containing the rising prices of commodities, and supporting poor consumers. Some of the most popular and typical policy responses may be an import ban, an export restriction, an input subsidy or a cash transfer. As it is shown in the below table, most of the countries followed few or more such policy responses to keep the supply and demand of the country more resilient.

Table 1. Policy objectives and typical policy responses during food and health crises

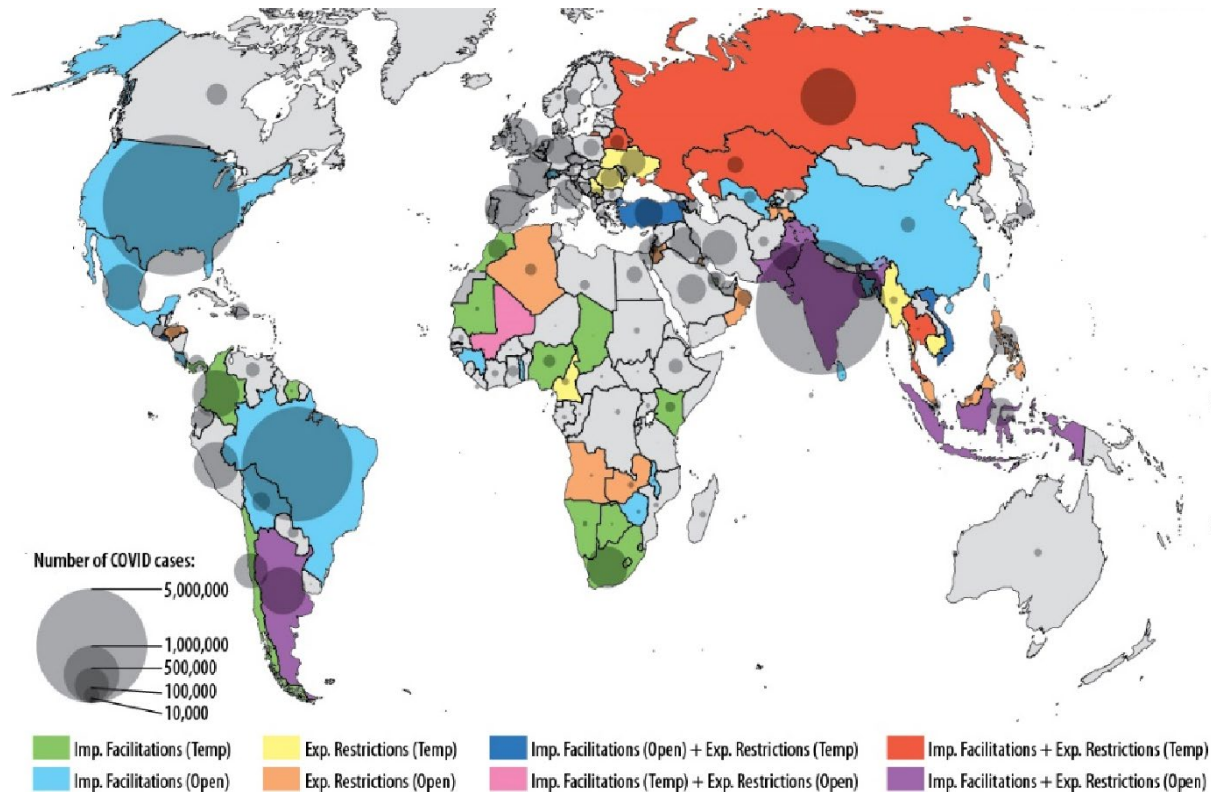
Policy objective		Typical policy responses	Suggested best practices
Supply Side	To ensure sufficient domestic supply	<ul style="list-style-type: none"> • Expansion of domestic procurement • Export restrictions 	<ul style="list-style-type: none"> • Avoid pre-emptive export restrictions • Avoid expansion of stock procurement where stock levels are already high • Encourage market transparency and international governance mechanisms
	To ensure food safety	<ul style="list-style-type: none"> • Import bans 	<ul style="list-style-type: none"> • Avoid blanket import bans • Encourage travel and trade corridors, following WHO recommendations

	Support producers, particularly poor/ smallholders	<ul style="list-style-type: none"> • Input subsidies to expand production • Direct income transfers 	<ul style="list-style-type: none"> • Avoid excessive subsidization, which may exacerbate market volatility • Encourage balanced and time-bound domestic support measures to maintain adequate production levels and farmers' income
Demand Side	Contain rising prices	<ul style="list-style-type: none"> • Lowering of import tariffs • Domestic price controls 	<ul style="list-style-type: none"> • Avoid excessive imports' stockpiling • Encourage lowering import tariffs • Encourage careful price controls' design in partnership with private sector, if used
	Support poor consumers	<ul style="list-style-type: none"> • Cash transfers • Food aid/ transfers 	<ul style="list-style-type: none"> • Encourage cash transfers and/or domestic food aid, adapted to the current context²

Source: Food and Agriculture Organization (2020). <https://www.fao.org/3/ca8446en/CA8446EN.pdf>

Meanwhile, various countries of the world could take various policy actions during COVID-19 pandemic (Figure 1) (Baldwin, 2020).

Figure 1. Food Trade policy responses and COVID-19 cases across countries.



Source: Baldwin, 2020. Trade policy responses to the COVID-19 pandemic crisis.

The food sectors are characterized by a higher number of inactive countries (coloured in white) and a higher tendency to implement temporary trade policy changes. Some major net exporters of food tended to adopt a mix of import facilitation and export restrictions. For example, Argentina and Indonesia did so on an open-ended basis, whereas the Russian Federation and Kazakhstan did that on a temporary basis. Other major food producers only took action to liberalize-facilitate imports of food products (Brazil and the United States). Many net importers in Africa did the same. As far as South Asia's food sector is concerned, it appears as the most active region in the implementation of both restrictive and liberalized trade policy changes.

II. SRI LANKA'S POLICY RESPONSES TO VARIOUS SHOCKS IN THE HISTORY

Sri Lanka is more susceptible to external and internal shocks as it is highly dependent on external trade. The country has been subjected to various shocks ranging from commodity price booms, terrorism, natural disasters, and economic crises. Sri Lanka could successfully manage the shocks by taking multiple measures to stabilise the country's economy in the past few decades.

In history, the government of Sri Lanka and the Central Bank introduced various measures to stabilise the external position, which worsened during the Balance of Payment (BOP) crisis in the 1960s¹, by introducing stringent import and exchange restrictions (Siriwardana, n.d.).

In 1973, as a result of the first oil price shock in Sri Lanka (Siriwardana, n.d.), higher expenditure on importing petroleum and fertiliser and price hikes in commodities were reported in the country. Since a rapid increase in oil prices resulted, the government further tightened import controls to keep the external payments situation under control. International Monetary Fund (IMF) gave support to Sri Lanka under the Scheme for Compensatory Financing for Export Fluctuations.

Further, the economic performance in 2001 was significantly affected by various shocks and uncertainties. The shocks included: the slowdown in the global economy reducing the demand for Sri Lankan exports causing deterioration of external trade activities, the prolonged drought that declined agriculture output, increased domestic food prices and reduced hydropower generation resulting in power cuts. Few other major crises also happened in Sri Lanka in this period. As a combined outcome of these significant factors, the economy recorded a widespread negative growth of 1.5 per cent, the first time in the post-independence period.

Moreover, during the 2007-2008 period, the rising petroleum and commodity prices in the international market threatened the achievement of price stability in Sri Lanka. The government dealt with the world food crisis on many fronts, such as the use of tax policy to provide concessions, the continuation of the fertiliser subsidy, and introduction of policy stimulus to promote agriculture, while reinforcing the government's national programme "Api Wawamu – Rata Nagamu" to improve domestic agriculture.

The most recent shock that the country is currently facing with is the COVID-19 pandemic. Sri Lanka is identified as one of the most vulnerable middle-income countries to the economic fallout from the coronavirus (COVID-19) pandemic (Overseas Development Institute, 2020). While Sri Lanka is not highly exposed to global supply chain disruptions, its dependence on a limited basket of exports and export destinations is of concern. COVID-19 has resulted in a dual shock on agriculture markets which has affected both supply and demand. On the supply side, restrictions on movements, has disrupted the production, while on the demand side, the downturn in consumption across most of the key export markets led to cancelled or no orders.

With the COVID-19 situation, most of the food value chains were disrupted, and the existing trade patterns were changed. Most of the export and import partner economies became vulnerable unexpectedly.

To mitigate the adverse impacts due to the pandemic on Sri Lanka's economy, the government took various short-term measures. Major concessions which were provided by Sri Lanka's government

¹ BOP crisis in the mid-1960s, triggered mainly by low export prices and a high volume of imports.

have included debt moratorium for loans/leases, overdraft facilities, rescheduling of non-performing loans and granting of new loans. Sectors eligible for concessions include small and medium enterprises (SMEs), tourism, direct and indirect export-related businesses, entrepreneurs and foreign currency earners (International Trade and corporation, 2020).

On April 2020, the government of Sri Lanka announced temporary suspension of import of non-essential commodities under 156 HS headings, which include a variety of food and agriculture comms on imported inputs, are scrambling to find alternatives for cost-effective production. odities. (Table 2) However, later on, the government allowed imports of essential raw materials for the production of value-added products for export orders. Many businesses catering to the domestic market, which depend

Table 2. List of non-essential commodities temporary suspended during COVID-19

HS Heading	Description	Annual average import value in USD million
0304	Fish fillets and other fish meat	2.72
1006	Rice	91.0
1008	Buckwheat, millet and canary seeds; other cereals	0.11
1102	Cereal flours other than of wheat or meslin.	0.15
1106	Flour, meal and powder of the dried leguminous vegetables	0.42
1107	Malt, whether or not roasted.	7.89
1202	Ground-nuts, not roasted or otherwise cooked, whether or not shelled or broken	3.06
1208	Flours and meals of oil seeds or oleaginous fruits, other than those of mustard	9.03
1507	Soya-bean oil and its fractions, whether or not refined, but not chemically modified.	0.37
1511	Palm oil and its fractions, whether or not refined, but not chemically modified (+).	104.8
1513	Coconut (copra), palm kernel or babassu oil and fractions thereof, whether or not refined, but not chemically modified (+).	12.8
1704	Sugar confectionery (including white chocolate), not containing cocoa.	2.34
1806	Chocolate and other food preparations containing cocoa.	13.7
1901	Malt extract	42.16
1902	Pasta, whether or not cooked or stuffed	1.56
1903	Tapioca and substitutes therefor prepared from starch, in the form of flakes, grains, pearls, siftings, or in similar forms.	1.04
1904	Prepared foods obtained by the swelling or roasting of cereals or cereal products (for example, corn flakes)	2.75

1905	Bread, pastry, cakes, biscuits and other bakers' wares, whether or not containing cocoa	3.39
2201	Waters, including natural or artificial mineral waters and aerated waters, not containing added sugar or other sweetening matter nor flavored; ice and snow.	0.26
2202	Waters, including mineral waters and aerated waters, containing added sugar or other sweetening matter or flavored, and other non-alcoholic beverages, not including fruit or vegetable juices of heading 20.09.	4.53
2203	Beer made from malt.	5.39
2204	Wine of fresh grapes, including fortified wines; grape must other than that of heading 20.09.	5.18
2205	Vermouth and other wine of fresh grapes flavored with plants or aromatic substances.	0.76
2206	Other fermented beverages (for example, cider, perry, mead, sake)	0.11
2208	Undenatured ethyl alcohol of an alcoholic strength by volume of less than 80% vol; spirits, liqueurs and other spirituous beverages.	22.7
2209	Vinegar and substitutes for vinegar obtained from acetic acid.	0.34

Source: Temporary suspensions of imports

III. AGRICULTURAL TRADE PATTERNS IN SRI LANKA

This section of the report analyses the growth of Sri Lanka’s agricultural trade while examining its position in the world’s agriculture trade using existing trade data and the BACI database². The objective of this section of the report is to provide an overview of the trading patterns of Sri Lanka before COVID-19.

One of the pathways COVID-19 has affected Sri Lanka is through direct and indirect effects due to the disruptions on international trade. Sri Lanka is dependent on trade; exports and imports accounted for 53 per cent of the GDP in 2018 (International Trade and Cooperation, 2020). As such, Sri Lanka’s exports were hurt in the short term due to the supply chain disruptions and the collapse in global demand for its goods and services. The EU and the US, which are the main export destinations of Sri Lanka, and India and China, the largest import markets of Sri Lanka, are severely affected due to the coronavirus. The poor economic performance of the key trading partners has affected Sri Lanka’s export earnings and caused supply-side disruptions, which impacts the country’s export capacity (Central Bank of Sri Lanka, 2020).

According to the latest published 2020 Central Bank Annual report of Sri Lanka, due to weaker earnings from tea, seafood, and other agricultural exports in 2020 exhibited a decline in earnings by 5.1 per cent compared to 2019. Both volumes and unit values of tea exports weakened substantially during the first wave of the COVID-19 spread. However, it was recovered to some extent later in the year. The share of agriculture exports in total exports was 23.3 per cent, which is an increase from the value of 20.6 per cent that was in 2019. Nevertheless, the export revenue from the agriculture sector declined by USD 125million in 2020 when compared with the value in 2019. The reason for this growth of share may be due to the declined non-agricultural exports of the country.

Sri Lanka’s agriculture trade for the last three decades in terms of annual trade series, net agriculture trade, annual percentage change, and share of agricultural trade in the country’s overall exports/imports and in the world’s total farm exports/imports is presented in Table 3. Average agriculture exports value in 2006-2018 was USD 2,652 million while agriculture imports reported a USD 2,193 million in the same period. The net agriculture trade was therefore reported as USD 458 million in 2006-2018. The highest net agriculture trade value in Sri Lanka was reported in 2013 as USD 794 million while the lowest in 2018 as USD 140million. The reason for reporting a lower net trade value in 2018 is because of the lower agriculture export value in the particular year.

Table 3. Profile of Sri Lanka’s Agricultural Trade

Year	Sri Lanka's Agri exports (USD Million)	Annual change (%)	Share in Sri Lanka's total exports (%)	Share in World's agri. exports (%)	Sri Lanka's agri. Imports (USD Million)	Annual change (%)	Share in Sri Lanka's total imports (%)	Share in world's agri. imports (%)	Agri. Net trade (USD Million)
2000-01	1002.10	5.63	18.50	0.24	767.00	-0.63	10.64	0.18	235.10
2001-02	952.40	-4.96	19.77	0.22	718.70	-6.30	12.13	0.16	233.70
2002-03	971.10	1.96	20.67	0.21	807.10	12.30	13.22	0.17	164.00
2003-04	1012.00	4.21	19.75	0.19	831.00	2.96	12.46	0.15	181.00
2004-05	1143.00	12.94	19.85	0.18	926.00	11.43	11.61	0.14	217.00

² BACI provides disaggregated data on bilateral trade flows for more than 5000 products and 200 countries. http://www.cepii.fr/cepii/en/bdd_modele/presentation.asp?id=37

2005-06	1381.70	20.88	22.02	0.21	1010.10	9.08	11.24	0.15	371.60
2006-07	1795.00	29.91	25.70	0.10	1465.00	45.04	13.79	0.64	330.00
2007-08	2103.00	17.16	26.00	0.10	1619.00	10.51	13.26	0.13	484.00
2008-09	2380.00	13.17	27.40	0.88	1977.00	22.11	13.36	0.25	403.00
2009-10	2173.00	-8.70	29.43	0.87	1658.00	-16.14	16.03	-0.22	515.00
2010-11	2617.00	20.43	30.78	0.85	2243.00	35.28	15.84	0.41	374.00
2011-12	3018.00	15.32	28.33	0.89	2740.00	22.16	13.27	0.21	278.00
2012-13	2801.00	-7.19	28.50	0.82	2152.00	-21.46	11.70	-0.22	649.00
2013-14	2934.00	4.75	28.55	0.79	2140.00	-0.56	11.12	-0.01	794.00
2014-15	3114.00	6.13	27.41	0.87	2554.00	19.35	11.69	0.17	560.00
2015-16	2928.00	-5.97	26.93	0.99	2539.00	-0.59	11.96	-0.01	389.00
2016-17	2885.00	-1.47	26.61	0.99	2368.00	-6.73	12.33	-0.06	517.00
2017-18	3297.00	14.28	27.29	1.01	2765.00	16.77	13.10	0.14	532.00
2018-19	2431.00	-26.27	21.91	0.85	2291.00	-17.14	12.26	-0.15	140.00
Pre-2006 average	815.98	4.17	27.77	0.21	637.53	7.60	14.95	0.15	178.45
Post-2006 average	2652.00	5.51	27.30	0.77	2193.15	8.35	13.05	0.10	458.85

Source: Phul et al. 2010 and authors calculations using BACI Database

Annual change in agricultural exports fluctuates over the years while the highest change in agri exports can be observed in 2006 as a 29.9 per cent. In 2018, a -26.27 per cent decline in agri exports could be observed (Figure 2). Agri-food imports exhibits a -21.5 per cent decline in 2012 while a 17.1 per cent decline in 2018 (Figure 3).

Figure 2. Annual change in agriculture exports in Sri Lanka

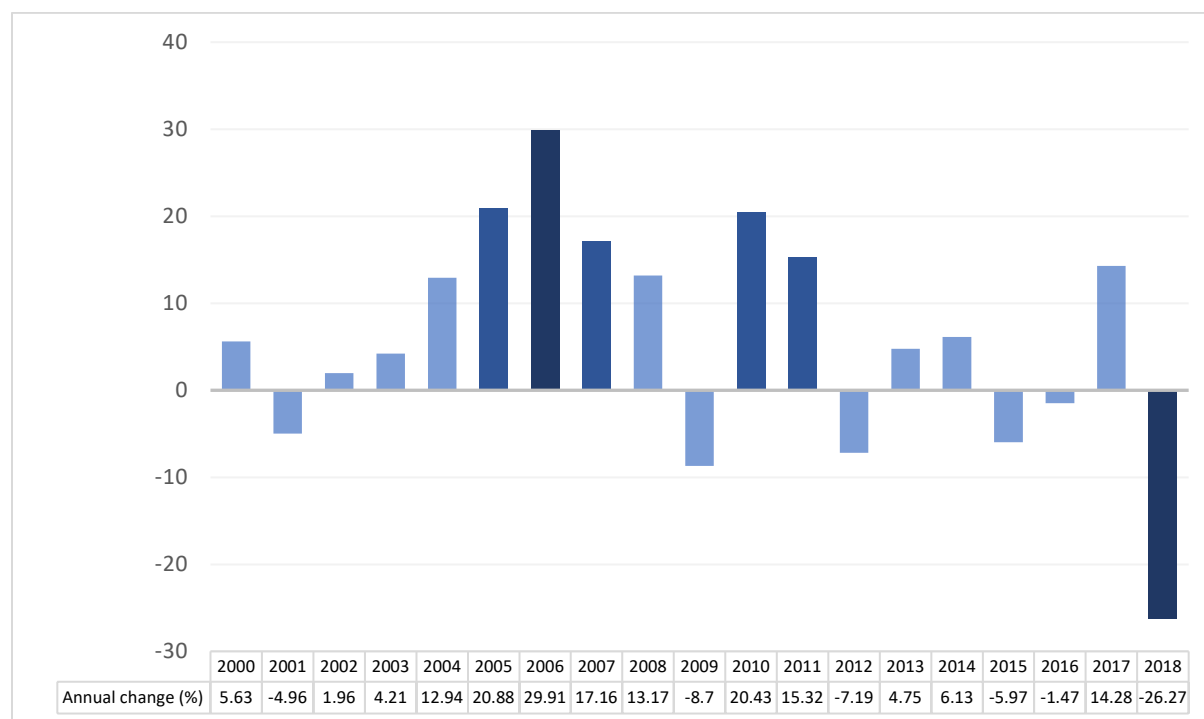
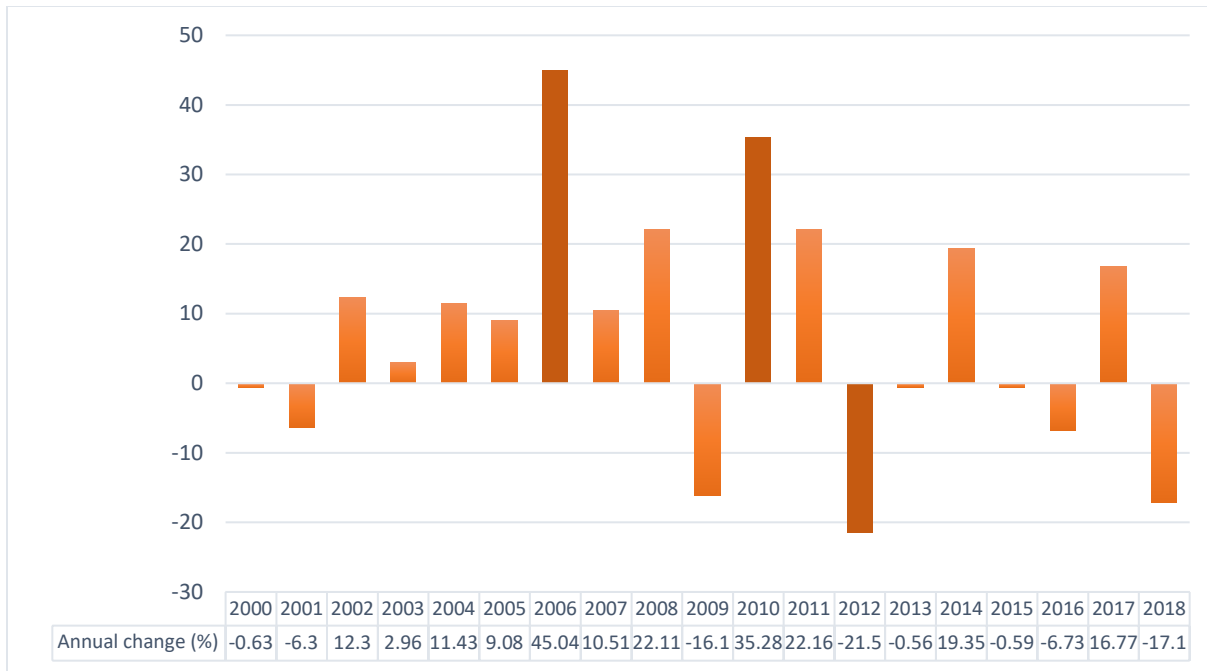
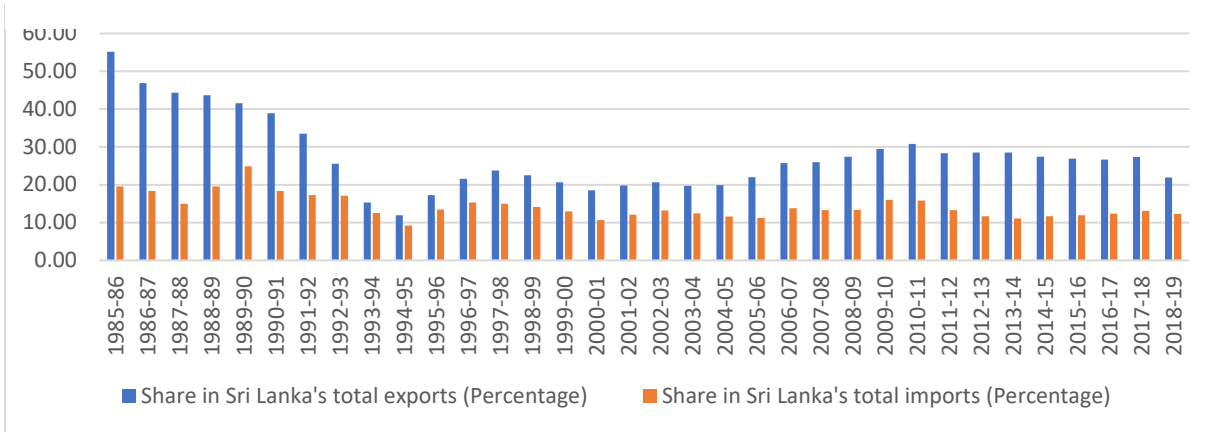


Figure 3. Annual change in agriculture imports in Sri Lanka



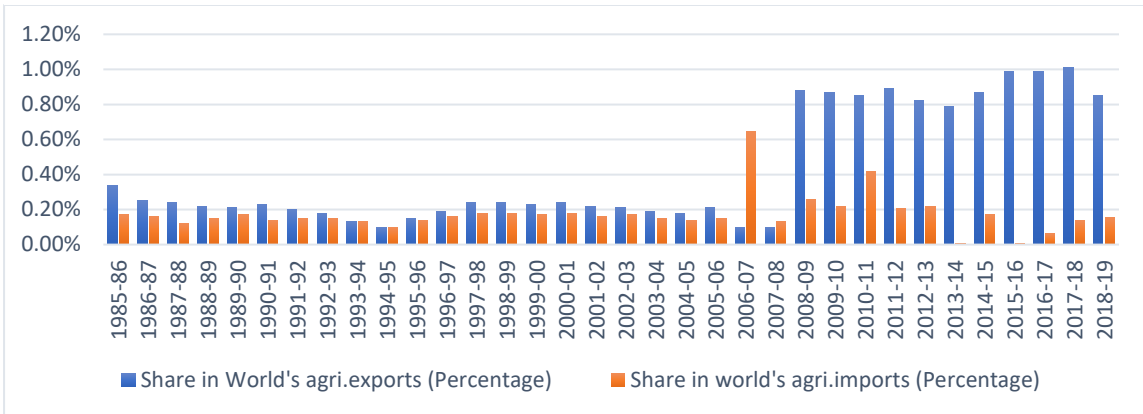
In Table 3, the share of agriculture exports from total exports of Sri Lanka has fluctuated over time. In the 1998-2006 period, the average share of agriculture products in total exports was 21.04 per cent, while 2006-2018 shows a 27.3 per cent value. After the year 1998, the share was showing an increasing trend over the years. However, the agriculture import share in total imports of Sri Lanka is showing a steady flow of shares over the years. In the 2006-2018 period, the average share was 8.35 per cent. Figure 4 and 5 show the changes in Sri Lanka's agriculture exports and imports share in world total exports and imports in percentages. From 2006 to 2018, the average share of Sri Lanka's exports in world total agriculture exports was 0.77 per cent while imports were 0.10 per cent. After 2008, Sri Lanka's export share in world export market was suddenly increased and was constant until 2018.

Figure 4. Agriculture exports and imports as a Share in Sri Lanka's total exports and imports (Percentage)



Source: Authors calculation using BACI Database

Figure 5. Agriculture exports and imports share in world's total exports and imports



Source: Authors calculation using BACI Database

IV. AGRI-FOOD IMPORTS OF SRI LANKA AND THE IMPACT OF COVID-19

The objective of this section of the report is to briefly analyse the agricultural import sector of the country by identifying key agriculture import commodities and their respective values before COVID-19 pandemic and during COVID-19. The study used BACI database to extract data on import commodities for HS-4-digit level. Disaggregated import commodities in HS-4 level were further analysed to get the top 3 import agri-food items of Sri Lanka.

Since the economic liberalization in 1977, Sri Lanka has recorded a significant increase in imports. In most cases, various products were imported under trade restrictions such as quotas and taxes. However, rising imports have led to a significant level of trade dependency of the country. The importation of food and beverages accounted for 9.7 per cent of total imports in 2020. There, during 2020, the entire agriculture, food, and beverage imports account for about USD1.6 billion value (International Trade Administration, 2021). The share of food and beverages in total imports has increased over time as it was recorded that the importation of food and beverages accounted for 7.2 per cent of total imports in 2018.

Tables 5 below depicts the values of agriculture imports from 2008-2018 in USD million. The top 10 agricultural import commodities of HS-4-digit level consist of milk and cream, wheat, cane and beet sugar, vegetables, rice, palm oil, etc. in the period of 2008-2018. Considering the imported quantities, the composition of the import basket is more or less similar in each year (Figure 6).

Table 4. Top 10 Agriculture imports of Sri Lanka during 2008-2018 (USD million) (HS-4 level)

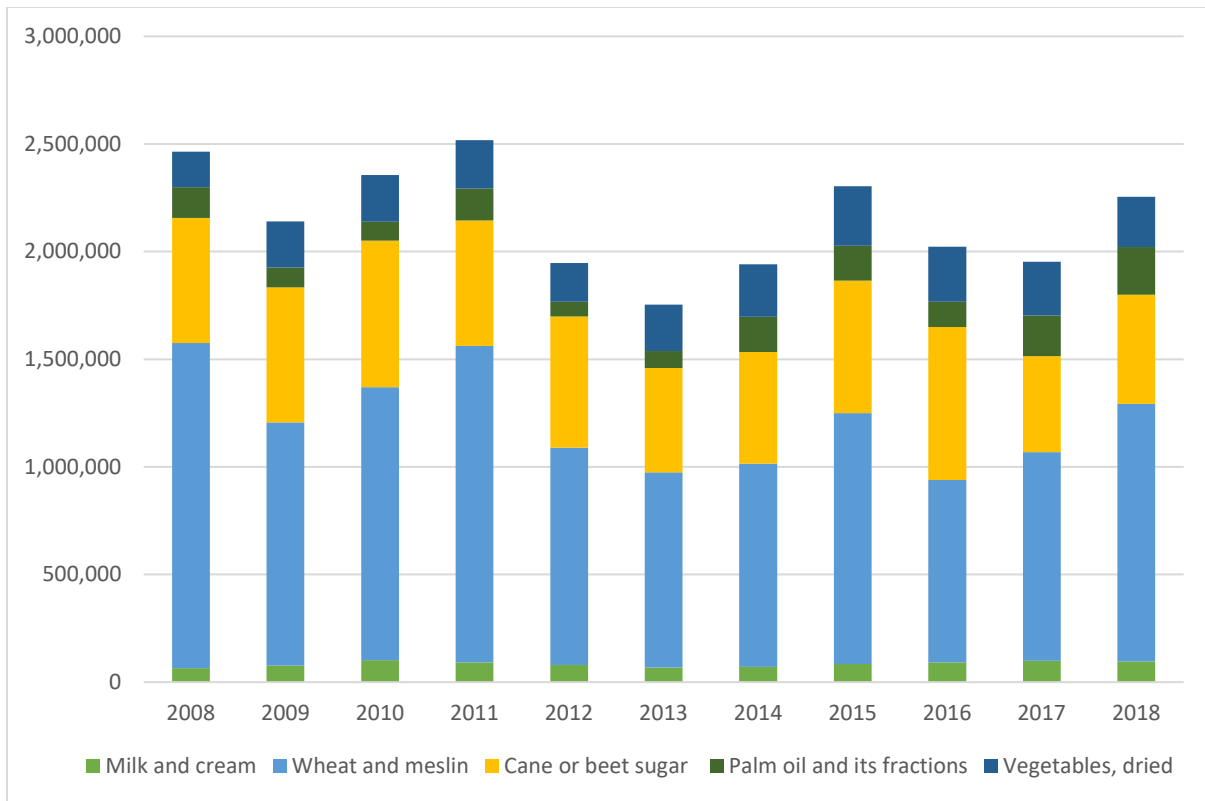
Rank	Description	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
1	Wheat and meslin	381	267	303	491	344	289	282	274	173	217	271
3	Milk and cream	270	185	348	391	279	262	317	222	219	290	287
3	Cane or beet sugar	204	258	394	414	349	254	235	232	321	202	174
4	Palm oil and its fractions	136	54	74	161	68	75	124	105	80	141	137
5	Vegetables, dried	153	171	181	176	120	148	175	218	219	174	130
6	Alliaceous vegetables;	48	57	93	83	49	101	62	119	96	119	93
7	Oil-cake other solid residues	54	48	53	69	79	84	88	85	72	83	86
8	Rice	49	26	62	18	23	18	280	122	14	321	81
9	Pepper of the genus piper	41	42	45	80	41	45	62	77	103	66	70
10	Fish; dried, salted	62	64	70	77	74	95	70	82	96	93	67

Description of the import commodities

1. Milk and cream; concentrated or containing added sugar or other sweetening matter
2. Wheat and meslin
3. Cane or beet sugar and chemically pure sucrose, in solid form
4. Palm oil and its fractions; whether or not refined, but not chemically modified
5. Vegetables, dried leguminous; shelled, whether or not skinned or split
6. Onions, shallots, garlic, leeks and other alliaceous vegetables; fresh or chilled
7. Oil-cake and other solid residues; whether or not ground or in the form of pellets, resulting from the extraction of soya-bean oil
8. Rice
9. Pepper of the genus piper; dried or crushed or ground fruits of the genus capsicum or of the genus pimenta
10. Fish; dried, salted or in brine, smoked fish, whether or not cooked before or during the smoking process, fish meal fit for human consumption

Source: Authors calculation using BACI Database

Figure 6. Top 10 Agriculture imports of Sri Lanka during 2008-2018(Mts) (HS-4 level)



Source: Authors calculations based on BACI database

1. Wheat imports in Sri Lanka

Wheat is one of the principal cereal grains consumed and produced globally. The Asia-Pacific region is forecasted (Mordointelligence, 2021) as the largest consumer of wheat worldwide and Sri Lanka is a country which consumes wheat in higher quantities in each year (Figure 7). The highest agriculture import expenditure was on wheat in the year 2018. Sri Lanka imported approximately 1.19 million

MTs of wheat in 2018, while nominal value of the wheat import was approximately USD 271 million for the year 2018. Average annual expenditure on wheat import was approximately USD 299 million during 2008-2018.

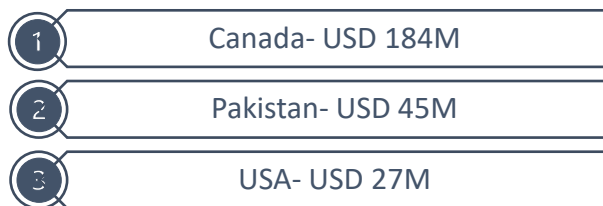
Figure 7. Wheat market size by region in 2020



Source: wheat market - growth, trends, covid-19 impact, and forecasts (2021- 2026) (Mordointelligence, 2021)

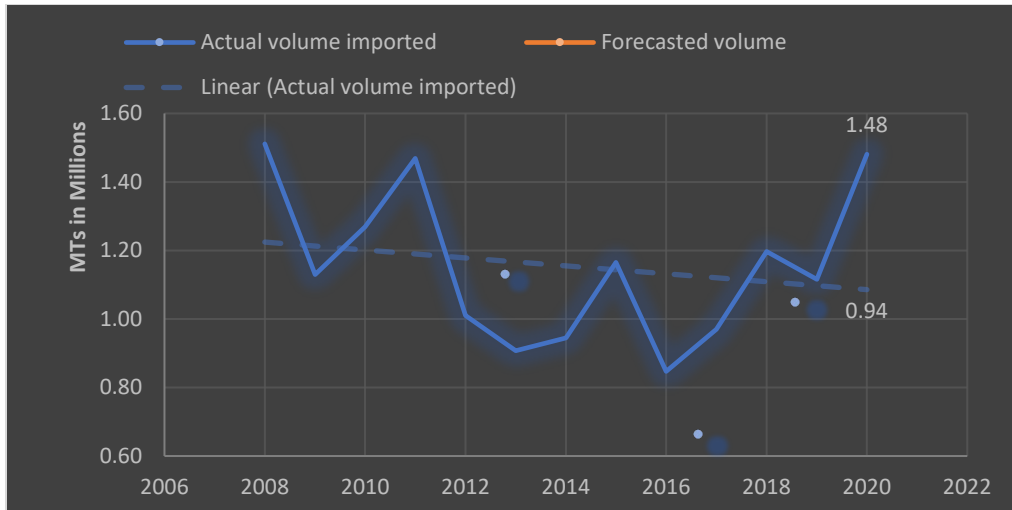
Import quantities of wheat is observed in a declining trend since 2011 and again it was increased after the year 2016. The importation of wheat grain was mainly from Canada (Figure 8). Since 2008, the average annual import quantity of wheat from Canada was calculated as USD 184 million. Sri Lankas second-largest wheat import partner is Pakistan (UAS 45 million average annual import value). The United States (US) also exports wheat to Sri Lanka (USD 27 million average annual import value).

Figure 8. Top 3 wheat import partners of Sri Lanka- Annual average value of 2008-2018



Sri Lanka imported 1.4 million MTs of wheat which was USD 250 million worth during COVID-19 in 2020. However, study could forecast the wheat import quantity for the year 2020 considering the past import patterns. The forecasted volume was 0.93 million MTs (Figure 9). This implies that Sri Lanka has imported more wheat than the normal importation pattern.

Figure 9. Wheat import volumes over the years



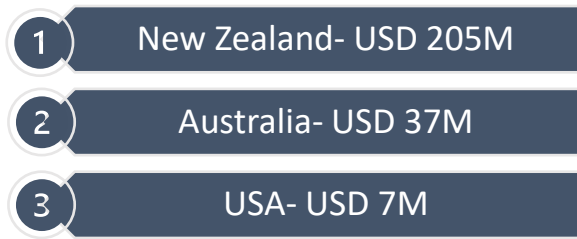
Source: Authors calculation based on BACI database

2. Milk and Cream

The second highest expenditure of food imports is on Milk and cream. Average annual expenditure on milk and cream import was approximately USD 279 million in 2008-2018. Sri Lanka imported approximately 96,338 MTs of milk and cream which is USD 286 million worth in 2018. More than 80 per cent of milk is imported from New Zealand. However, based on BACI data, since 2016, milk imports from Australia have drastically decreased by 89 per cent. This HS-4 category includes milk and cream, which are concentrated or contain added sugar or other sweetening matter. When this product category is further disaggregated into HS-6-digit level, more than 90 per cent of the imports are dairy products; milk and cream, concentrated, not containing added sugar or other sweetening matter, in powder, granules or other solid forms, of a fat content exceeding 1.5 per cent (by weight).

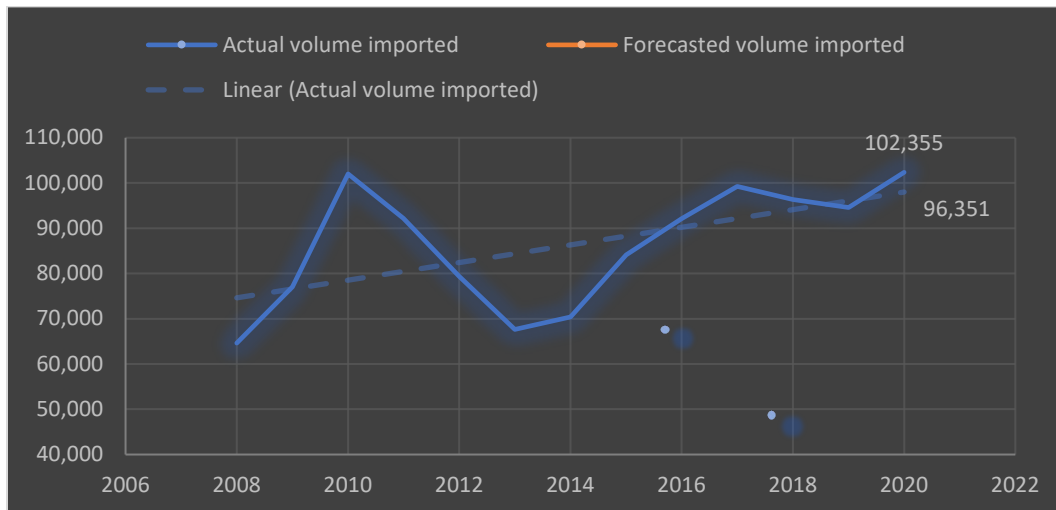
The following figure 10 shows the top 3 milk and cream (HS-0402) export countries to Sri Lanka. The leading milk import partner of Sri Lanka has been in New Zealand for decades. According to the United Nations COMTRADE database on international trade, Sri Lanka has imported milk and cream, concentrated or sweetened from New Zealand, of USD 291.54 Million during 2020 (Trading Economics, 2021). Australia and the USA are the 2nd and 3rd largest milk and cream import partners of Sri Lanka. However, based on BACI data, since 2016, milk imports from Australia have drastically decreased by 89 per cent. Therefore in 2018, Australia was ranked as the 3rd largest milk importer of Sri Lanka.

Figure 10. Milk and cream import partners of Sri Lanka- Annual average value (2008-2018)



Sri Lanka has imported USD 316 million worth milk and cream in during the pandemic in 2020. Nearly 90 per cent of the milk and cream was from New Zealand (USD 291.54 million) in that year. Sri Lankas annual milk and cream import volumes show an increasing trend over the past few year (Figure 11). Sri Lanka has imported 102,355 MTs of milk and cream in 2020, while the calculated forecasted value of 2020 import volume was nearly 96, 351 MTs.

Figure 11. Milk and cream import volumes over the years

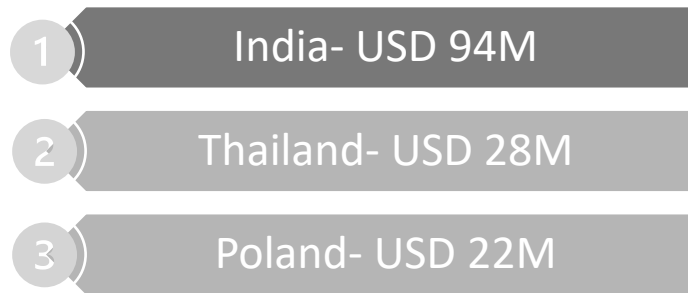


Source: Authors calculation based on BACI database

3. Cane and beet sugar

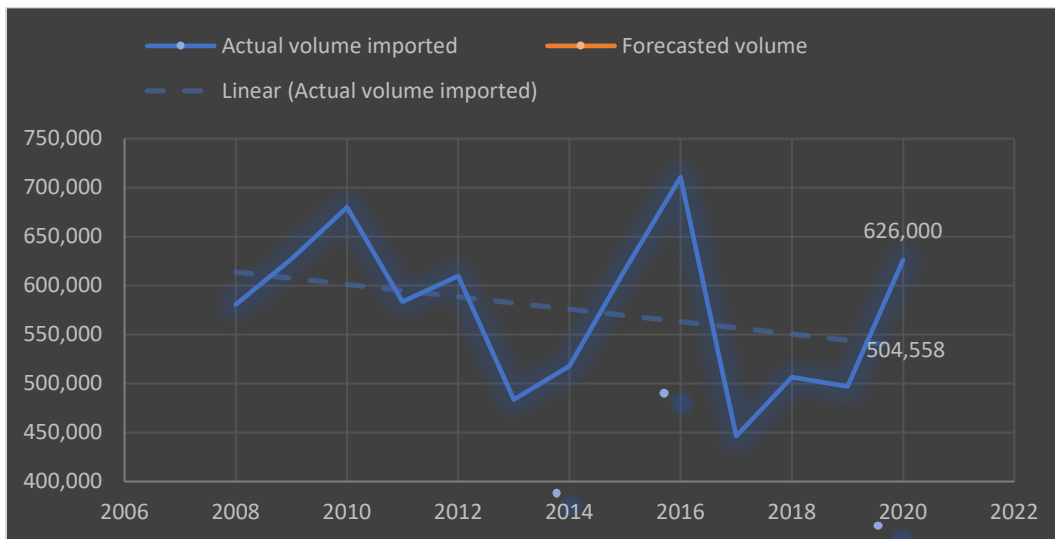
The third largest import commodity was cane and beet sugar. The average annual value of imports during 2008-2018 was approximately USD 276 million in 2008-2018. Sri Lanka imported approximately 506, 424 MTs of cane and beet sugar in 2018. The largest cane and beet sugar import partner of Sri Lanka is India. During the year 2008-2018 (Figure 12), the annual average cane and beet sugar import value was USD 94 million. During the same period Sri Lanka imported USD 28million worth cane and beet sugar from Thailand. From Poland, Sri Lanka had imported cane and beet sugar for an annual average value of USD 22 million.

Figure 12. Top 3 cane and beet sugar import partners of Sri Lanka- Annual average value of 2008-2018



Sri Lanka has imported USD 276 million worth sugar during the year 2020. During 2020, 626,000 MTs of sugar has been imported. During first 6 months in 2021 country has imported 600,000 MTs of sugar. The 2020 import volume was forecasted using linear forecasting method and came up with a value for the import quantity as 504, 558 MTs (Figure 13). However, the actual imported volume in the year 2020 was higher than the forecasted import volume.

Figure 13. Import cane and beet sugar volumes over the past years (MTs)



Source: Authors calculation based on BACI database

In addition to the agriculture commodities shown in above tables, several other field crops such as dry chili, big onion, red onion, potato (seed), potato (other), maize (seed), maize (other), kurakkan, gingelly, soya bean, green gram, cowpea, groundnut, red lentil (whole), red lentil (split), yellow lentil (whole), yellow lentil (split), black gram, chickpea (whole) are being regularly imported to Sri Lanka from various destinations.

V. AGRIFOOD EXPORTS IN SRI LANKA AND THE IMPACT OF COVID-19

The objective of this section of the report is to compile the top export agriculture commodities of Sri Lanka and the impact of COVID-19 on export agri-food commodities. HS-4 level and HS-6 level disaggregated export data from the BACI database were used to analyse these commodities. The section identified the top three export agriculture commodities of the country in HS-4 level.

1. Main Agriculture Export Commodities

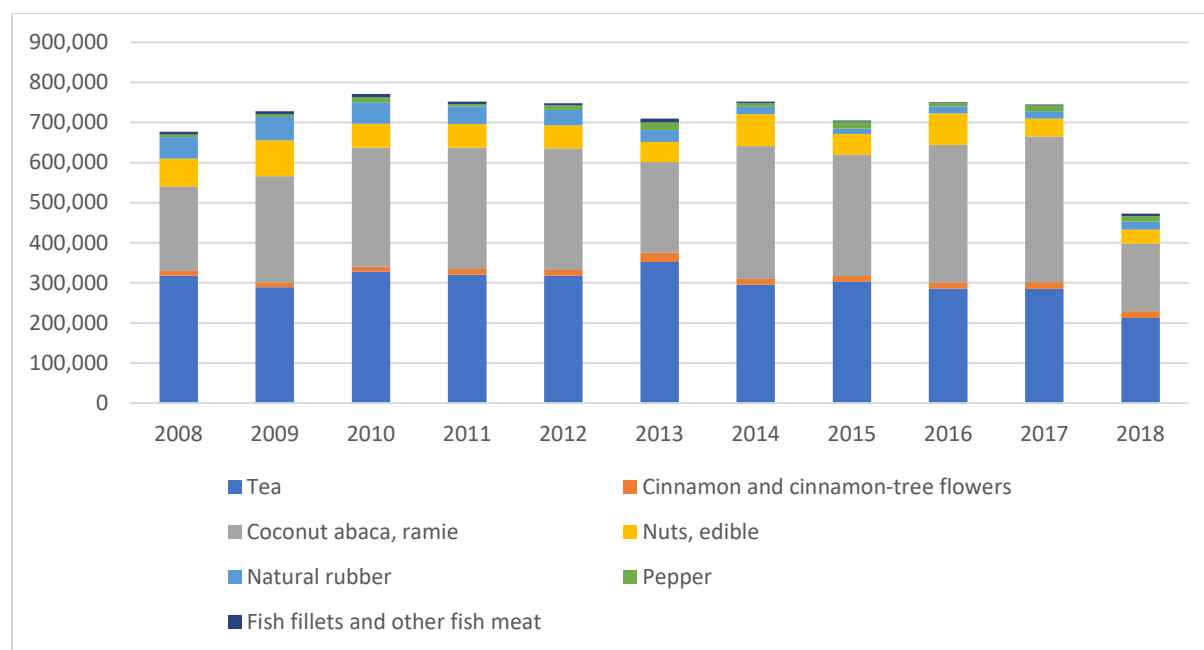
According to the BACI data, Sri Lanka's total export agriculture commodity value in 2018 was USD 2,431 million. Sri Lanka is exporting a variety of items to various destinations which consist of tea, cinnamon, coconut, fish, natural rubber, pepper, and vegetables.

Table 5. Top 10 export Agri food commodities in Sri Lanka 2008-2018 (USD Million)

HS_Description_4dgt	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Tea	1240	1167	1350	1461	1395	1490	1444	1296	1240	1478	1428
Cinnamon and cinnamon-tree flowers	82	73	82	119	127	130	131	130	161	197	183
Coconut, abaca, ramie and other vegetable textile fibres	64	75	94	110	107	104	126	110	124	133	87
Nuts, edible; coconuts, and cashew nuts, fresh or dried	80	70	65	135	82	71	152	107	125	100	67
Natural rubber	132	103	175	214	130	78	51	34	39	43	45
Pepper of the genus piper	28	22	44	32	70	128	73	146	75	87	90
Fish fillets and other fish meat	83	98	98	78	78	71	61	33	28	47	92
Wheat or meslin flour	61	44	103	139	90	37	39	29	23	21	16
Food preparations not elsewhere specified or included	21	23	39	59	44	31	46	30	142	83	75
Fish; frozen (excluding fish fillets and other fish meat of heading no. 0304)	53	50	42	42	47	72	97	60	51	71	2

Source: Authors calculation based on BACI dataset

Figure 14. Fluctuation of top export commodities of Sri Lanka during 2008-2018(Mts) (HS-4 level)



Source: Authors calculation based on BACI database

The leading export agricultural commodity from Sri Lanka to the world is tea which is well known as “Ceylon Tea”. Sri Lanka is the fourth largest tea exporter in the world (FAO, 2015). In the year 2018, Sri Lanka exported USD1428 million worth of tea to the world. In the same year, the value of exported cinnamon was USD196 million, and cinnamon is the second-largest agriculture export earning commodity in Sri Lanka. Thirdly, fish filets and other fish exports were reported as a USD101 million in value exports in 2018 (Table 6). However, considering the average export values of the past 10 years, Ramie and other vegetable textile fibres under the coconut abaca category is in the third largest agri-food export commodity in HS-4-digit level. In 2018, the export value was nearly USD 91 million from coconut abaca. The figure 14 shows the yearly export volumes of main agri-food commodities.

Other than the top export categories, coconuts, pepper of the genus piper, natural rubber, fish; fresh or chilled, vegetable products, are also contributing to generate considerable export revenue in each year.

Even though ramie which is under coconut abaca is categorized among the top 10 agri food exports from Sri Lanka. Ramie is used to make products such as industrial sewing thread, packing materials, fishing nets, and filter cloths. Therefore, for the further analysis of the individual commodities, ramie was not considered as a food-export hence, the study analyses tea, cinnamon, natural rubber and fish in following sections.

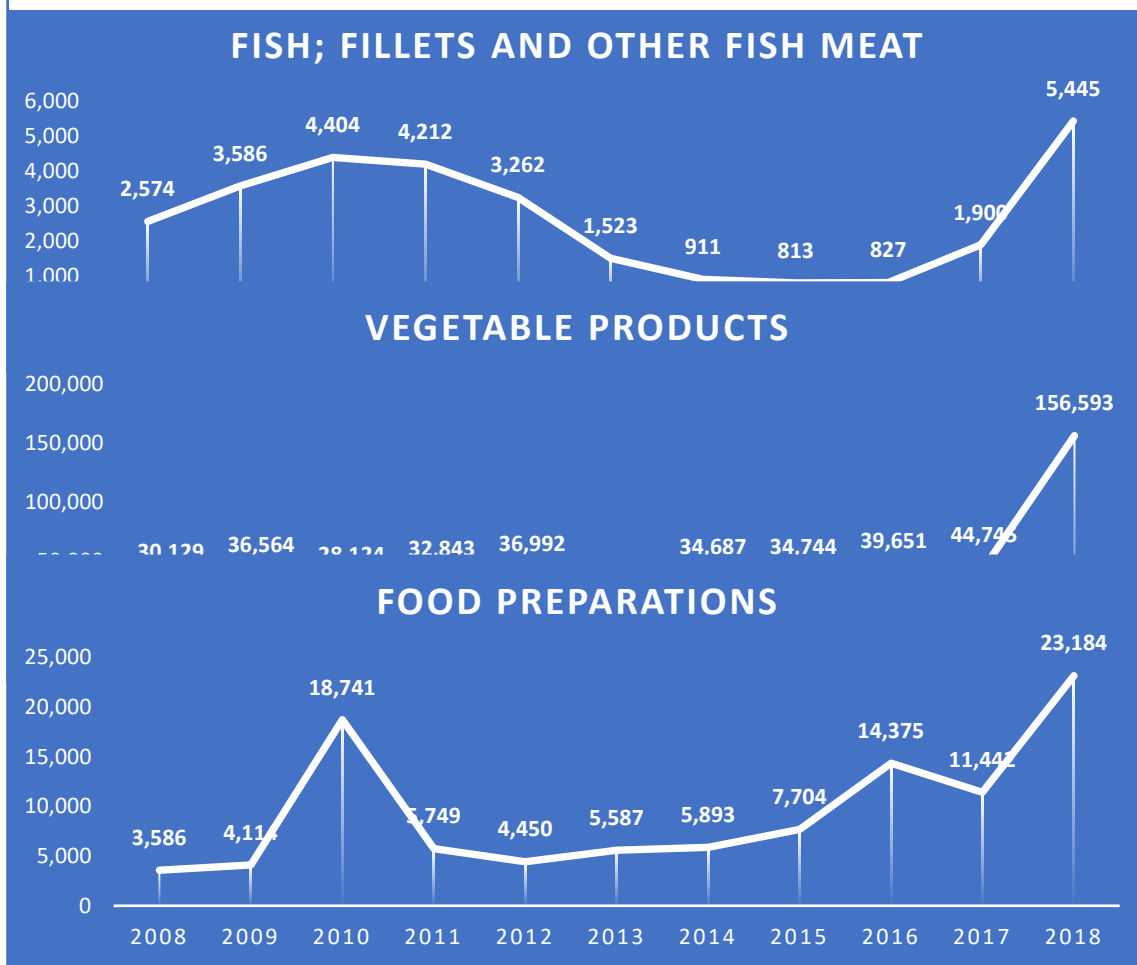
Further disaggregated level data is presented in Table 7 below on top 10 agriculture exports in HS-6-digit level from BACI database. This level of information provides insights on emerging export commodities in a more disaggregated level.

Table 6. Top 10 agriculture exports of Sri Lanka (2008-2018 values in USD Million) in HS-6-digit level

Commodities HS-6-digit level	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018
Tea, black exceeding 3kg	710.20	652.39	696.17	743.79	727.52	786.08	786.18	704.17	646.06	804.16	876.78
Tea, black not exceeding 3kg	495.34	482.58	610.03	669.79	619.53	648.97	603.38	545.26	549.98	623.02	623.54
Cinnamon and cinnamon-tree flowers, neither crushed nor ground	78.94	70.38	78.96	114.53	123.27	123.91	128.85	126.80	155.63	192.19	175.69
Ramie and other vegetable textile fibres	63.52	73.98	92.80	109.86	106.58	104.03	125.70	110.36	124.43	133.49	87.17
Pepper (of the genus piper), neither crushed nor ground	23.76	18.21	39.06	29.17	67.99	124.57	68.06	140.49	69.02	81.16	85.49
Fish; fillets and other fish meat	55.46	66.08	72.97	60.82	54.83	31.23	29.22	15.13	17.59	35.89	82.66
Vegetable products	20.49	21.20	18.65	21.35	24.16	27.15	28.06	28.34	31.24	44.97	80.40
Dog or cat food	27.77	38.04	43.89	35.37	46.19	38.57	41.64	52.98	43.28	60.57	79.02
Food preparations	20.18	22.58	38.16	58.80	42.94	29.80	44.99	29.53	140.82	82.23	75.06
Fish; yellowfin tunas (thunnus albacares), fresh or chilled	16.28	11.57	10.13	16.52	32.40	38.35	40.23	35.12	41.47	49.67	58.84

Among these ten HS-6 level export commodities, some were showing stagnated export volumes over the years, while few commodities were in an increasing trend of export volumes. These commodities are, fish, fish fillets and other fish meat, vegetable products and food preparations. The increase in quantities is a good sign of increasing the local production of the commodities (Figure 15).

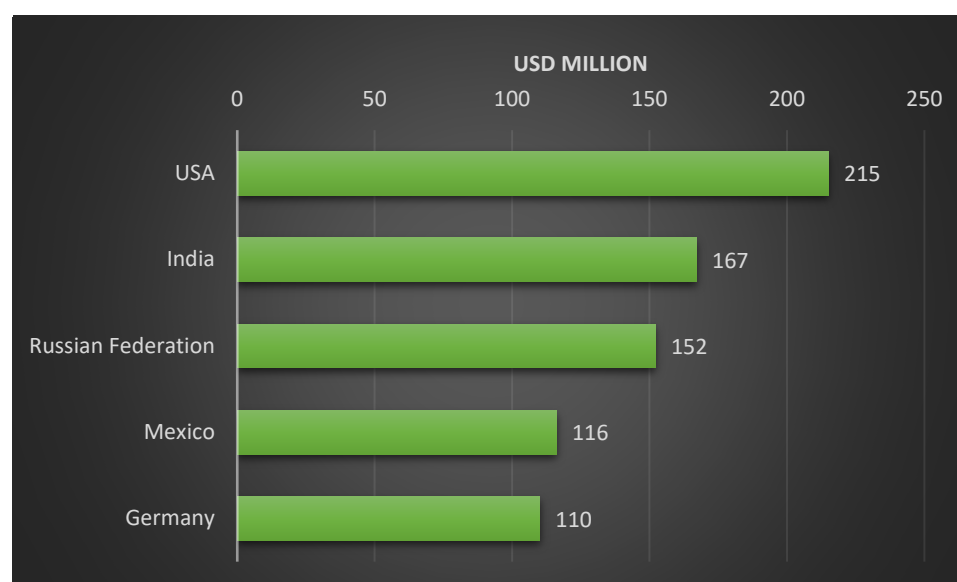
Figure 15. Change of export volumes over the years (2008-2018) Mts



2. Main Export Destination of Sri Lanka's Agriculture Exports

Figure 16 illustrates the top 5 agricultural export destinations from Sri Lanka which are USA, India, Russian Federation, Mexico and Germany (Trade Earth, 2018). USA is ranked as the number one export destination with an export value of USD 215 million in agricultural exports in 2018.

Figure 16. Top five agriculture export destinations of Sri Lanka (2018)



Source: Trade Earth, 2018

Table 8 shows the top 5 agricultural exports commodities which are exported to the USA in the year 2018. USD75.8 million exports revenue has been generated through exporting tea to the USA as the number one commodity. Other than tea, fish and crustaceans, animal and vegetable fats, meat and miscellaneous edible preparations are exported to the USA.

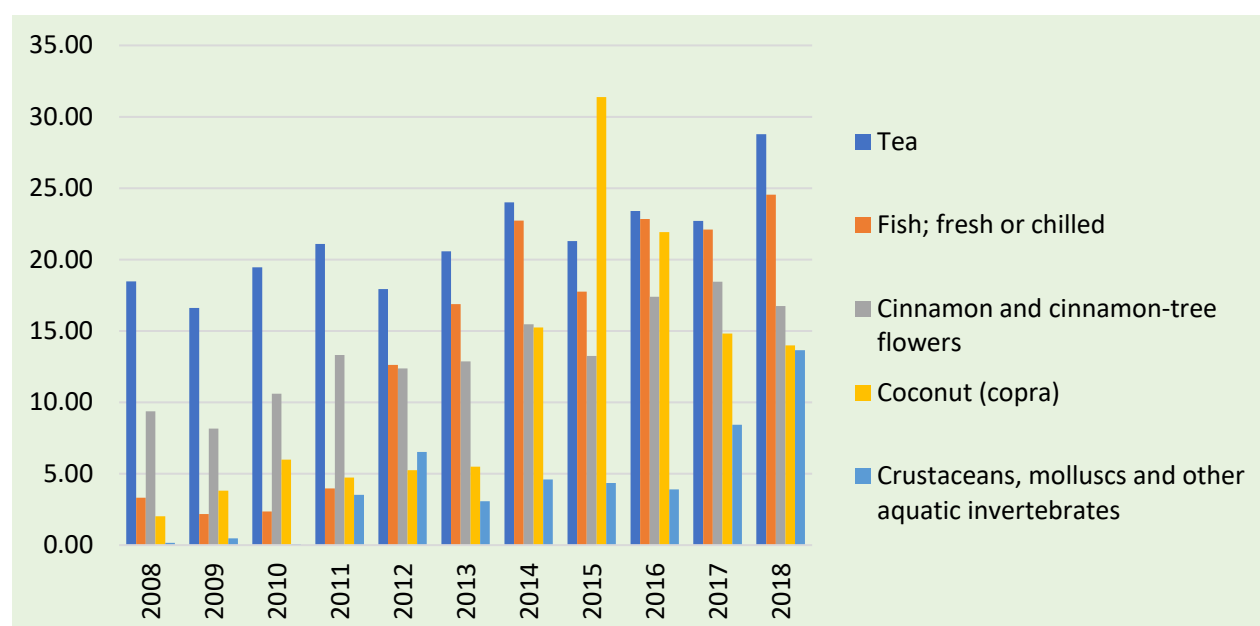
Table 7. Main export agriculture commodities exported to USA in 2018

Export commodity to USA	Value (USD Million)
Tea and spices	75.86
Fish and crustaceans, mollusks and other aquatic invertebrates	56.13
Animal or vegetable fats and oils and their cleavage products; prepared animal fats; animal or vegetable waxes	21.05
Meat, fish or crustaceans, mollusks or other aquatic invertebrates; preparations thereof	19.80
Miscellaneous edible preparations	16.79

Source: Based on BACI database

As the USA has been an important export partner of Sri Lanka over the years, exploring the pattern of exports to USA is vital. Figure 17 shows the real values of exports of each main commodity from 2008-2018. Export values show a slight increasing trend over the years.

Figure 17. Yearly export composition to USA in real values (USD million)



Source: Authors calculation based on BACO database. (CPI; 2010=100)

After identifying primary commodities exported to the USA, further export potentials were analysed using the Export Potential Map of International Trade Commission (ITC). In the USA, there is a USD 100million untapped potential for black tea exports. Since Sri Lanka is a leading black tea producer, this might be a valuable chance to grab the export potential and earn more revenue. When considering the spices export potential, the country has a USD 17.4million untapped potential for exporting cinnamon and USD19.6million potential for pepper. Since Sri Lanka produces quality spices, this untapped potential provides room for growth.

The second-largest export destination for Sri Lanka's agricultural exports is India, with a USD167 Million export revenue in 2018 (Table 9). Sri Lanka is exporting animal feed to India. It is reported that in 2018 a USD 78.2million worth of animal feeds were exported to India. Other than animal feed, Sri Lanka exports pepper (USD 69.12million) and nuts (USD 41.58million). Anilam or vegetable fat and oil and water were also among the top 5 export commodities to India in 2018.

Table 8. Main export agriculture commodities exported to India in 2018

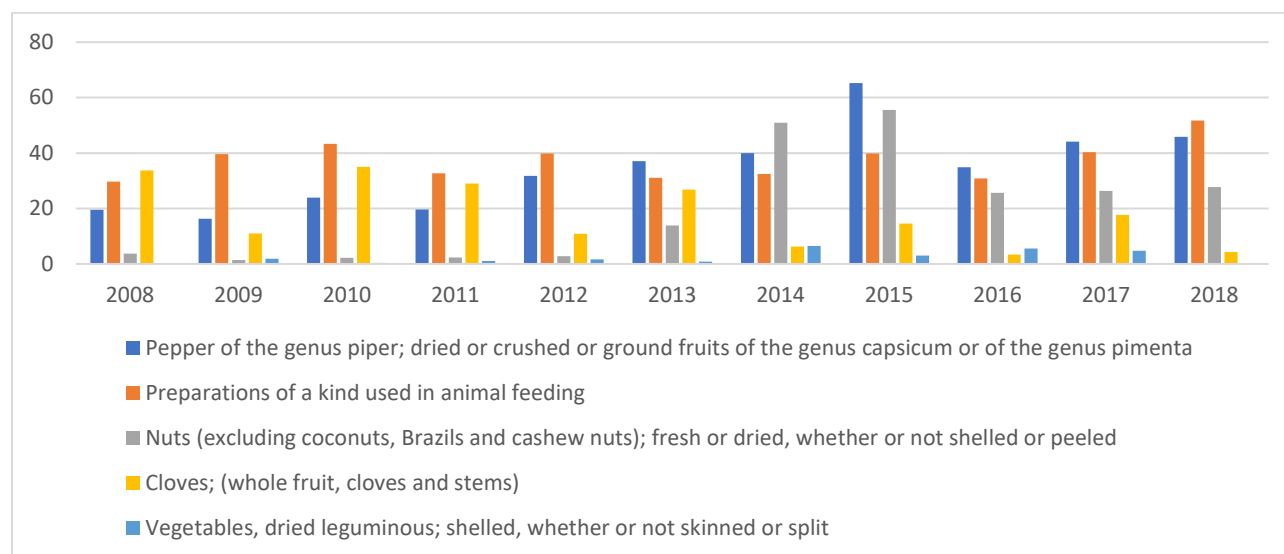
Export commodity	Value in USD million
Preparations of a kind used in animal feeding	78.29
Pepper of the genus piper; dried or crushed or ground fruits of the genus capsicum or of the genus pimenta	69.17
Nuts (excluding coconuts, Brazils and cashew nuts); fresh or dried, whether or not shelled or peeled	41.58
Waters, including mineral and aerated waters, containing added sugar or sweetening matter, flavored; other non-alcoholic beverages, not including fruit or vegetable juices of heading no. 2009	11.92

Animal or vegetable fats and oils and their fractions; partly or wholly hydrogenated, inter-esterified, re-esterified or elaidinised, whether or not refined, but not further prepared	9.92
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Source: Based on BACI database

Figure 18 shows the export pattern of commodities from 2008-2018 to India. Pepper is the largest export to India over the years. However, in recent years coconut exports have been increased slightly.

Figure 18. Yearly export composition to India in real values (USD million)



Source: Based on BACI database

After identifying primary commodities exported to India, further export potentials were analysed using the Export Potential Map of ITC. India's untapped potential for external exporters to export pepper is about USD 53million. Sri Lanka is currently exporting USD 6 million worth of cinnamon to India, while India has an untapped export potential of USD 88million for cinnamon. For black tea also, there is an untapped USD 61 million export potential. Sri Lanka is currently exporting USD 4million of tea to India.

Russian Federation is in third place with a USD157 Million export value. Tea is the leading exporting commodity to Russian Federation from Sri Lanka. In 2018 Sri Lanka exported USD 145.9million worth of tea to Russia (Table 10). Other exports were coconut, vegetable products and fish.

Table 9. Main agricultural export commodities exported to Russian Federation in 2018

Export commodity	Export value USD million
Tea	145.97
Coconut, abaca (manila hemp or musa textilis nee), ramie and other vegetable textile fibres n.e.s., raw or processed but not spun; tow and waste of these fibres	2.38

Vegetable products not elsewhere specified or included	1.68
Fish fillets and other fish meat (whether or not minced); fresh, chilled or frozen	1.35
Fish; fresh or chilled (excluding fish fillets and other fish meat of heading no. 0304)	1.34

Source: Based on BBACI database

ITC Export Potential Map was used to find out the untapped potential of exports of the countries. It shows that the Russian Federation has USD65.1million untapped potential for tea exports. Therefore, Sri Lanka can expand the quality tea exports to this market. However, the competition from other tea exporters is enormous in a market like Russian Federation. Therefore, this expansion has to be done more strategically.

3. Fast-growing export destinations

Resource Trade earth has reported that the fastest-growing region for agriculture exports of Sri Lanka between 2013-2018 was Hungary. Sri Lanka exports vegetables, unmanufactured tobacco, and Coconut to Hungary (Table 11).

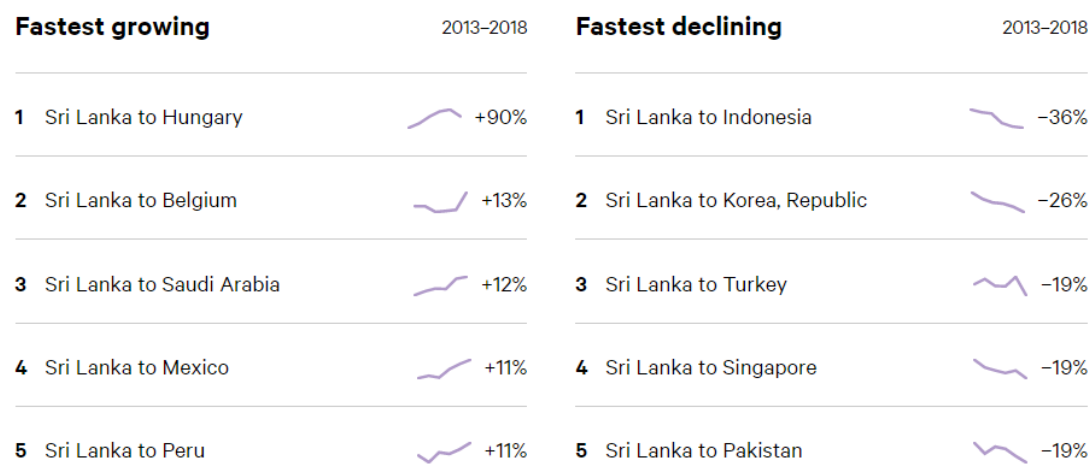
Table 10. Agriculture commodities exported to Hungary in 2018

Commodities exported to Hungary	Export value in USD million
Tobacco, unmanufactured; tobacco refuse	34.64
Vegetable products not elsewhere specified or included	0.53
Tea	0.32
Coconut, abaca (manila hemp or musa textilis nee), ramie and other vegetable textile fibres n.e.s., raw or processed but not spun; tow and waste of these fibres (including yarn waste and garnetted stock)	0.14
Fish; live	0.10

Source: Based on BACI database

Moreover, Belgium, Saudi Arabia, Mexico, and Peru are among the top 5 fastest growing export destinations of Sri Lanka. Sri Lanka is mainly exporting tea and cinnamon to these countries (Figure 19). However, Indonesia, the Republic of Korea, Turkey, Singapore, and Pakistan were the fastest declining export destinations of the trade. Sri Lanka is exporting tea, tobacco, ginger vegetables, and Coconut to Indonesia. However, this declining market has an untapped potential of USD5.8million for black tea. Since Sri Lanka is exporting a small quantity of tea to Indonesia right now, this untapped potential might be room to expand the exports in Indonesia. The Republic of Korea was importing Tea, vegetables, Natural Rubber, and coconut from Sri Lanka. The Republic of Korea is also having a USD 1.4million untapped potential for pepper. Turkey also imports tea, vegetables and rubber from Sri Lanka, and tea is the leading import commodity. Turkey has a UAD 7.7million export potential gap for dedicated coconut. The declining market can be regained by exporting desiccated coconut to Turkey as Sri Lanka exports coconut to various destinations.

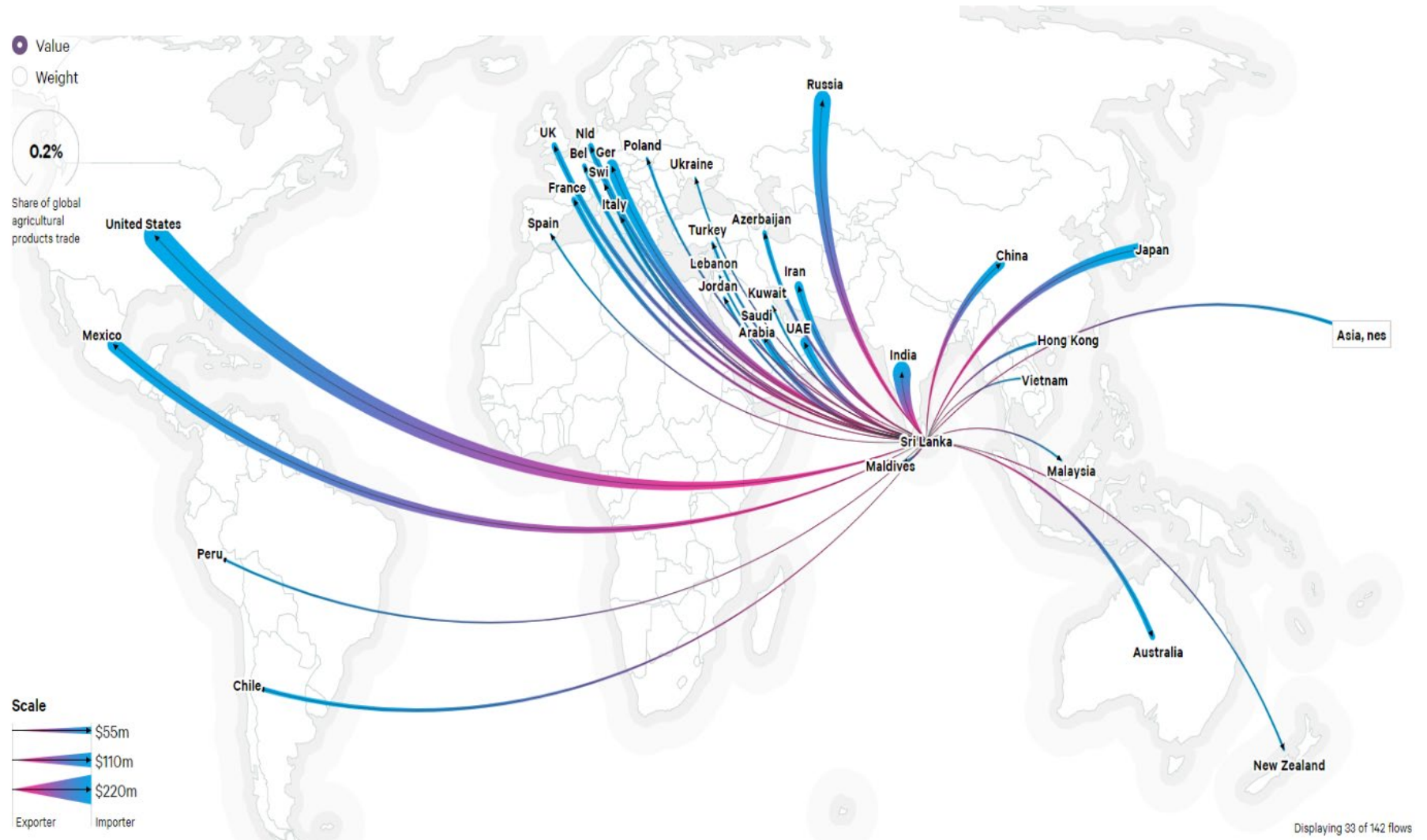
Figure 19. Fastest-growing and declining destinations of Sri Lanka



Source: Resource Trade earth. <https://resourcetrade.earth/?year=2018&category=1&units=value&autozoom=1>

Figure 20 shows the main export destinations of Sri Lanka. Sri Lanka exported USD 257million worth of agricultural exports to the USA in 2018. The total value of agriculture exports to India and Russia were USD 266million and USD 154million, respectively. Besides these main export destinations, Sri Lanka has been able to export agriculture commodities to many destinations globally.

Figure 20. Agricultural Export Destination Map



Source: Resource Trade earth. <https://resourcetrade.earth/?year=2018&category=1&units=value&autozoom=1>

4. Tea: The Leading Agriculture Export Commodity

a. Tea Export Overview of Sri Lanka

Since 1867, the tea industry in Sri Lanka has played an essential role in terms of its contribution to national output, employment, and foreign exchange earnings (IPS, 2018). Sri Lanka produces tea throughout the year, and the tea-growing areas are mainly concentrated in the central highlands and southern inland areas of the island. In 2019, Sri Lanka is the largest producer of ‘orthodox tea’ and ranked as the fourth largest global tea producer and the third-largest exporter of tea in the world. In 2019 the total tea production was about 349,308 MT per annum, and tea production accounted for 0.7 per cent of gross domestic product (GDP). More than half of the tea produced is exported to international markets. The total export volume reached 212,335 MT in 2018. Turkey, Iraq, Russia, and Iran are the largest markets for Ceylon tea, and in 2019, total export earnings exceeded USD 1.3 billion (Teasrilanka,2020).

b. Main Export Destinations of Sri Lankan Tea

It is important to compare the historical tea export quantities with the current situation to see how much we have deviated from the past. This gives a picture of the change of export destinations of Sri Lankan tea globally. For this purpose, average tea export quantities were calculated using the BACI database. The top 10 export destinations of tea during 1998-2002 were compared with the top 10 destinations during 2014-2018. Results had shown a significant shifting of some export destinations. Table 12 shows that the top 10 export partners during 1998-2002 were Russia, United Arab Emirates, Turkey, Iran, Iraq, Saudi Arabia, Japan, Jordan, Ukraine, and Chile. In 2014-2018, Azerbaijan and Germany had entered among the top 10 export partner countries. However, Russian Federation has maintained first place in ranking while Iran and Iraq have leapfrogged to 2nd and 3rd places overtaking Turkey and UAE.

Table 11. Top 10 Ceylon tea export partners during 1998-2002 and 2014-2018

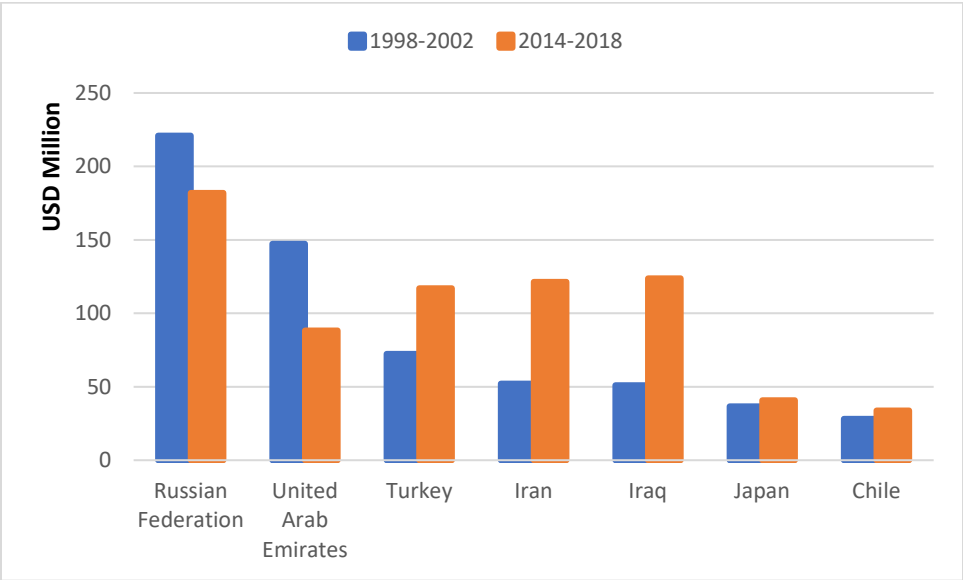
Rank	1998-2002	2014-2018
1	Russian Federation	Russian Federation
2	United Arab Emirates	Iraq
3	Turkey	Iran
4	Iran	Turkey
5	Iraq	United Arab Emirates
6	Saudi Arabia	Azerbaijan
7	Japan	China

8	Jordan	Japan
9	Ukraine	Germany
10	Chile	Chile

Source: Author’s calculations based on BACI dataset

Figure 21 shows the way the shifting of major export destinations happened. The blue bars exhibit tea exports of Sri Lanka into particular export destinations during 1998-2002, while the orange colour bar shows the particular export value of Sri Lanka's tea in the same export destination during 2014-2018. This helps to see the export of tea to an export destination during two periods. Sri Lanka had exported tea mainly to Russian Federation, United Arab Emirates, and Turkey. It is observed that the tea exports to Russia have been reduced in the period of 2014-2018 in comparison to 1998-2002. A similar export pattern is observed in the United Arab Emirates market. Nevertheless, Sri Lanka has been able to increase the tea exports to Iran, Iraq, Turkey, Japan and Chile in the period of 2014-2018 compared to 1998-2002. However, several new major tea buyers have been observed recently, such as Azerbaijan, Germany and China.

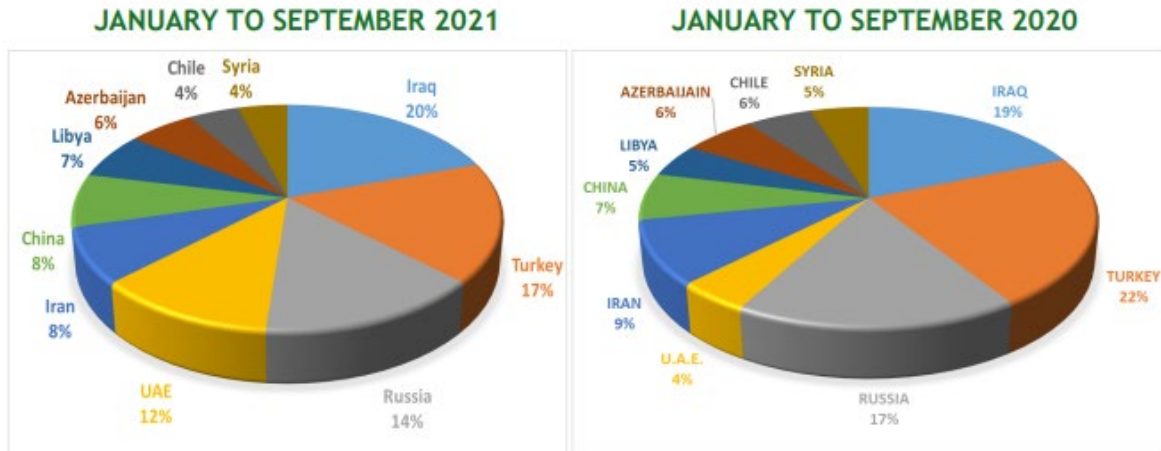
Figure 21. Shifting of main export destinations of tea



Source: Author’s calculations based on BACI Database

Apart from these few main tea buyers, there are many niche buyers all around the world. All together Sri Lanka has 218 export destinations (BACI, 2018). Figure 22 shows the most recent export partners of Sri Lankan tea during COVID-19. Iran, Turkey, and Russia are the largest export destinations during this period.

Figure 22. Most recent major tea importers of Sri Lanka



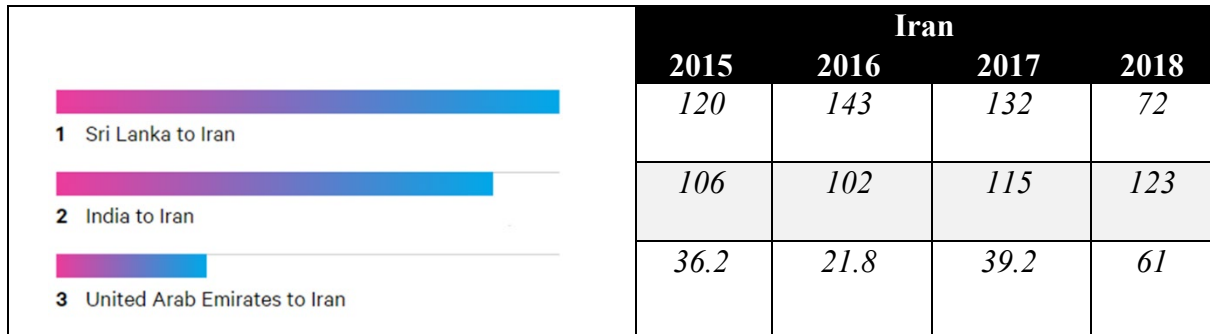
Source: Central Bank of Sri Lanka, 2020.

c. Competitors of Sri Lanka's Tea Industry

Sri Lanka's main tea export destinations are Russia, Iraq and Iran. All the other countries which are exporting tea to these three export destinations are competitors for Sri Lanka. Therefore, it is vital to identify the main competitors of the tea market. Figure 23 shows the leading exporters of tea to Russia, Iraq and Iran. In the Russian tea market, the main competitor is India while in Iraq the main competitive country is UAE. In Iraq also the main competitor has been India during the past few years.

Figure 23. Tea export values to Russian Federation, Iraq and Iran by main exporters (USD million)

	Russian Federation			
	2015	2016	2017	2018
1 Sri Lanka to Russian Federation	175	151	174	149
2 India to Russian Federation	118	124	121	118
3 Kenya to Russian Federation	84	62	58	57
	Iraq			
	2015	2016	2017	2018
1 Sri Lanka to Iraq	98	104	138	142
2 United Arab Emirates to Iraq	8.5	9.6	15.3	48.5



Source: Resource Trade earth. <https://resourcetrade.earth/?year=2018&category=1&units=value&autozoom=1>

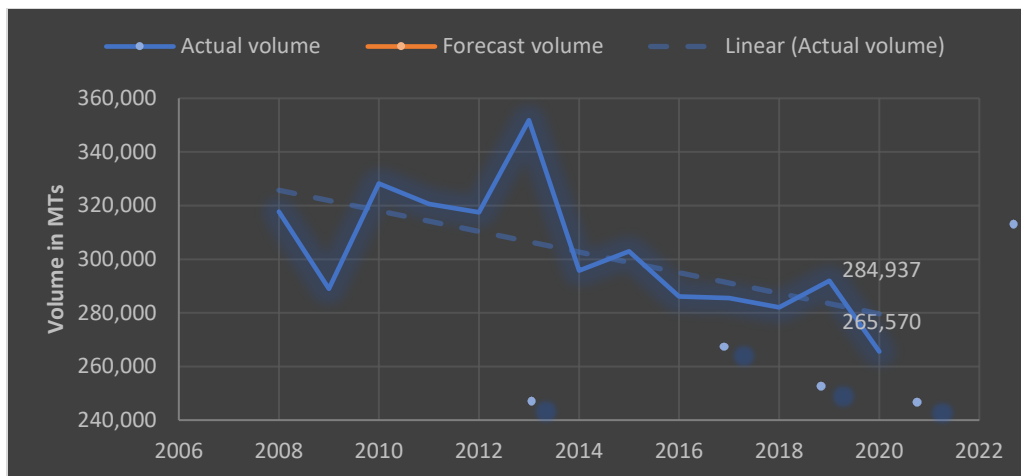
d. COVID-19 and Tea exports of Sri Lanka

COVID-19 negatively affected on tea industry across the globe. Measures implemented to try and curb the spread of virus disrupted business systems and routines. The tea industry was of no exception from the struggles that the global business market is currently experiencing in many fronts for instance, restricted product access, lack of the production, logistic and storage issues etc. With the pandemic the cost of packaging materials has been increased due to the temporary suspension of imports and shortage of hard currency and this has put an additional pressure on the tea industry. The shortage of empty containers and lack of shipping space has caused delays and exporters have been compelled to reschedule shipments on a number of occasions. Internationally the freight charges have gone up by more than 400 per cent, increasing the cost of tea to end consumer (Ceylon Today, 2020).

When it comes to the domestic scenario of the tea industry, from the beginning of the pandemic the Sri Lankan tea growers continued with production of tea and, all the workers were excepted from the island wide lockdown. All stakeholders got together to establish the first E-Auction (tea and coffee.net, 2020) platform for sale of tea to ensure the growers' income and continuation of tea exports.

The tea exporters had to incur additional expenditure on staff welfare and safety by providing transport, meals, extra payment, sanitisation of office premises, PCR tests on staff etc. to keep exports going under the most difficult period of the country in the recent past. During 2020, the tea production (278 million kg), exports (266 million kg) and revenue (USD 1.2 billion) declined compared to 2019. However, the study forecasted tea export volume for 2020 as 284, 937 MTs. But, the actual tea export volume in 2020 was 265, 570 MTs, a 9 per cent decrease from 2019 volume of tea exports (Figure 24).

Figure 24. Tea export volumes over the years



Source: Authors calculation based on BACI database

Nevertheless, the tea industry has recovered to a great extent in 2021 despite the continuation of the COVID-19 pandemic. The tea production in the first half of 2021 reached 161 million kg, which is a 24 per cent increase compared to last year, while the tea exports volume recorded 137 million kg as against 124 million kg of 2020. Meanwhile, the revenue of USD 0.63 billion of January-June 2021 has recorded an increase of USD 0.10 billion vis-à-vis USD 0.53 billion of January-June 2020.

In 2021, Turkey has emerged at the No. 1 position as the major importer of Ceylon Tea, followed by Iraq and Russia. The UAE is moving up to the 4th position with an increase of 210 per cent of its tea imports from Sri Lanka. Meanwhile, Iran has moved down to 6th position in 2021, records a fairly significant decrease of 30 per cent compared to its import value recorded in 2020.

In 2021, the destinations such as Saudi Arabia and Chile have recorded a decrease in imports of tea during the first half. Moreover, the tea imports to China have increased significantly YoY (47%) in 2021.

While the supply side disruptions were resulting a considerable effect on the tea industry during 2020, the demand side factors were also have been doing an indirect impact on tea exports. Shifts in consumer preferences towards value-added products with healthier, green, functional, and herbal tea blends are likely to further strengthen with the COVID-19 pandemic. Sri Lanka is still relying mostly on the bulk tea exports rather than value-added products which are catering the emerging consumer preferences in the global scenario.

e. Tea sector challenges

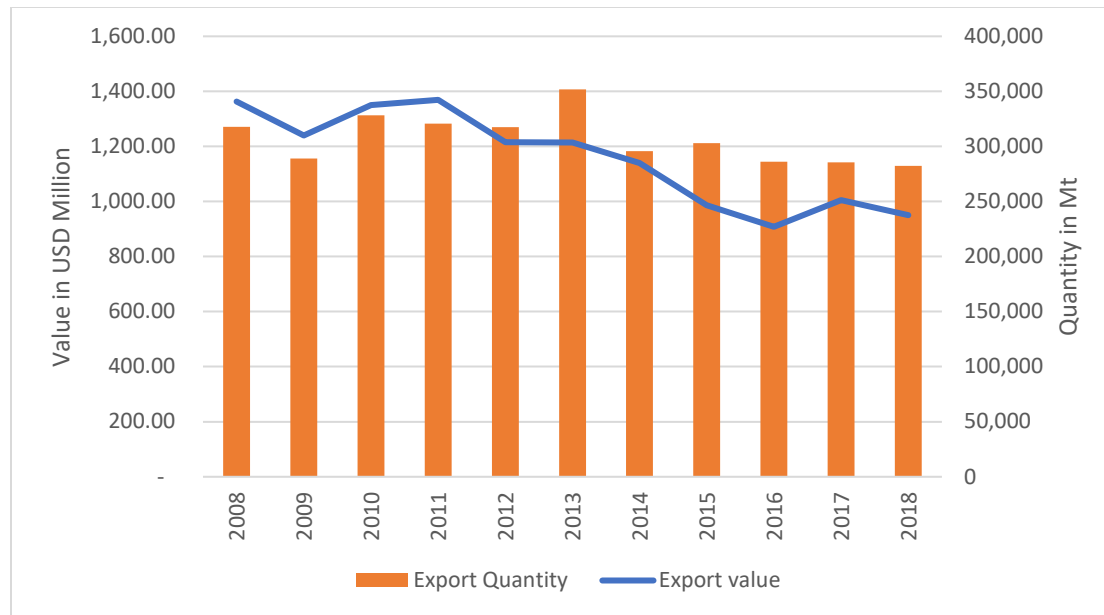
Historically, tea has been the main agricultural export commodity both by volume and by revenue generation. However, it shows a declining trend in terms of quantities exported and revenues generated in recent time. Furthermore, the export destinations have been changed over the years. The current top 3 tea export destinations are Turkey, Russia, and Iraq. However, from 2008-2018 the top 3 export destinations were Russia, Iraq, and Iran. According to the prevailing literature on the tea industry in Sri Lanka, the industry itself has more issues about market conditions, production, labour, and competitiveness.

Sri Lanka has been recognized as the leading tea producer in the world. This export-oriented industry is under various increasing threats due to domestic issues and international competition. The productivity of the sector and the efficiency have been drastically affected due to these issues. (Wickramasinghe and Cameron, 2004).

According to Mohamed and Zoysa, 2006, Sri Lanka mainly produces orthodox tea that needs more labour for the batch process. Worker productivity plays a significant role in competitiveness, and the shortage of labour has become a significant issue in this regard. The tea industry is labour intensive, hence requires more labour throughout the year. However, the registered labour is moving from the estates, and the estate management encourages temporary workers to be engaged in the estate work. Poor housing and low wages are not motivating factors to attract the young workers, and they are not willing to work in the plantation sector anymore (Chandrabose, 2015). While tea processing has gradually been fully automated as a solution for the labour shortage, the deterioration of the quality of Ceylon tea has been a significant concern.

Figure 25 shows Sri Lanka’s annual tea export quantities and revenues generated by the industry. Tea export quantities show a stagnated pattern while the tea export earnings show a slightly declining trend.

Figure 25. Annual tea export volume and export earnings (2008-2018 Real values)



Source: Authors calculations based on BACI database and Data from Sri Lanka Export Development Board¹

Due to many reasons, Sri Lanka’s tea production has been declining over the years. This production shock has affected export quantities of tea. Furthermore, Sri Lankan tea is expensive in the global market as Sri Lanka has the highest cost of production. Vietnam, Indonesia, and Kenya are

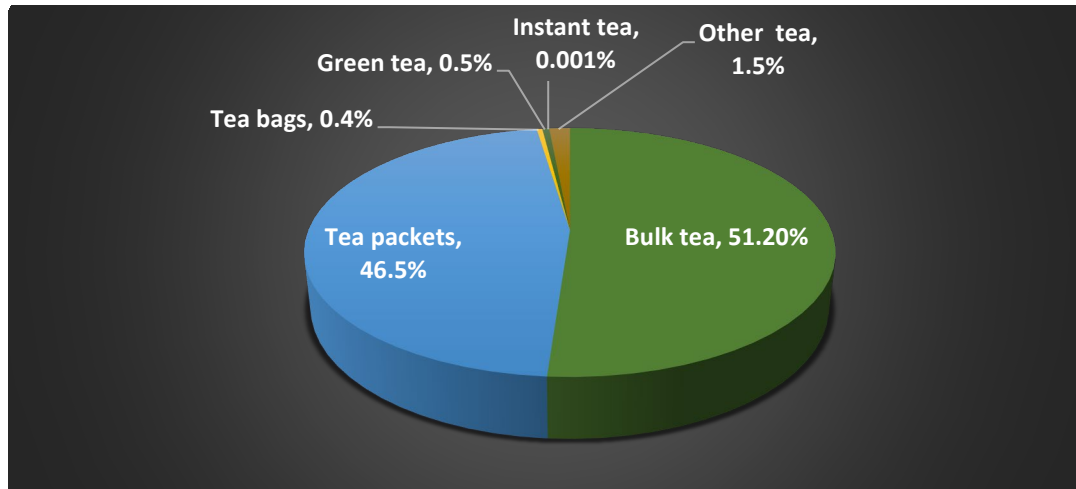
¹ The nominal values were converted into real values using the Colombo Consumer Price Index (CPI, Base: 2010=100; Department of Census and Statistics).

producing tea at a lower price, and therefore, they offer tea at low prices in the international market. (Hilal, 2020).

Gesimba et al., 2005 explains that, despite the increasing cost of production, tea price at auction is not growing substantially. The reason for this trend is the oversupply of tea in the global market. Over the last ten years, the price of tea has not increased substantially in the market because of this consistent surplus of tea supply into the global market, which caused depression on the auction prices. Currently, the international tea market is very competitive, and therefore Sri Lanka faces rigorous competition in the international market (Yuliando and Akira, 2006). Kenya and other tea producers in the world are producing tea at a low cost of production than Sri Lankan tea, which is the first and the most significant challenge we have. Also, there is competition between local firms and international/multinational firms. Imperial, Akbar, Dilmah, and Mlesna compete with multinational companies such as Unilever and Tata Global Beverages. These multinational companies have enormous capacities for both manufacturing and marketing (Sri Lanka Government, 1995). However, these multinationals and private brand owners create a sufficiently competitive environment for developing the value-added tea industry in Sri Lanka (Ganewatta, 2005).

The next most important thing is Sri Lanka's export tea basket. Figure 26 shows the composition of Sri Lankan tea exports in 2018 based on the classification of the Export Development Board of Sri Lanka. Accordingly, a significant portion of tea (51 per cent), is exported in the form of bulk tea to the packers and blenders in the world for value addition. Another 46.5 per cent of tea is exported as tea packets. The rest is comprised of green tea, instant tea, and others. However, Sri Lanka is aiming to reduce the bulk tea exports while promoting the production of tea packets and value-added tea. Value-addition can be defined as the process by which an additional value is added to a primary material so that the good is closer to a finished product prior to entering the market. With regard to value-added tea, manufacturers add value by blending and packaging the raw tea before selling it to consumers. The sale of bulk tea as Ceylon tea from Sri Lanka is happening mostly in its purest form, with no additional value added to it. Such bulk tea is purchased at the Colombo Tea Auctions and transported elsewhere to be modified and value-added into a final good before re-selling to consumers (Kelegama, 2010).

Figure 26. Tea export composition of Sri Lanka 2018



Export Development Board

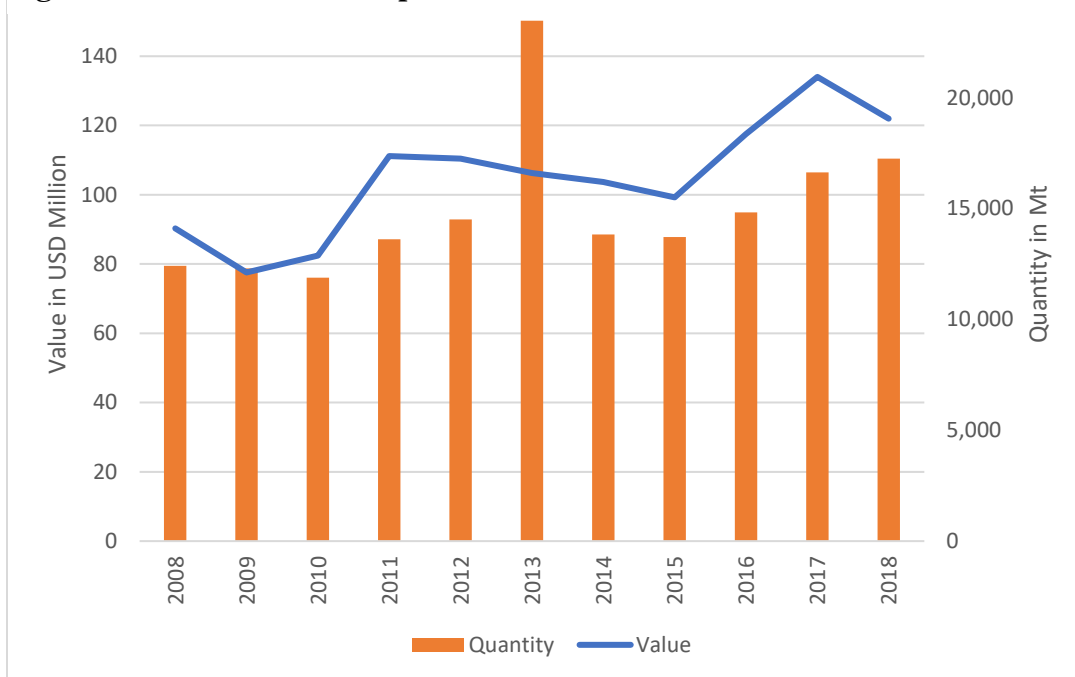
Source:

5. Ceylon Cinnamon: The Second-Largest Agricultural Export Commodity

a. Overview of Cinnamon Exports from Sri Lanka

The spices sector is one of the biggest export revenue generators in Sri Lanka, which drives its export strategy led by increasing demand globally. Cinnamon is by far the most important and valuable product among all the spices in Sri Lanka, as Sri Lanka occupies its sole dominant position in Ceylon cinnamon production. In 2018, Sri Lankan cinnamon occupied 60 per cent of the total spices export revenue. Ceylon cinnamon is unique to Sri Lanka, known for its premium quality, sweeter flavour, rich aroma, and its health benefits worldwide. There are few competitors in the market for Ceylon Cinnamon, and most of the competition occurs between Sri Lankan entities. Figure 27 shows the export quantities and export revenues of the ten years starting from 2008. Both the Cinnamon quantity and the value have increased gradually.

Figure 27. Quantities and Export revenue values of Cinnamon



Source: Author's calculations based on BACI Database

There are two main types of Cinnamon exports; Cinnamon-tree flowers, 'neither crushed nor ground' and 'crushed or ground'. The highest export revenue comes from the 'neither crushed nor ground' category of Cinnamon.

b. Cinnamon export partners

Table 13 shows the top 10 countries which are importing cinnamon from Sri Lanka. Sri Lanka's main cinnamon trading partners are Mexico, the United States, and Peru. Besides these three main export partners, Sri Lanka exports cinnamon to Ecuador, Colombia, India, Germany, Bolivia, and Spain. According to the latest ITC World Trade Data (2019), Mexico holds the lion's share of Sri Lanka's cinnamon exports with 40.9 per cent, while the United States and Peru hold 15.2 per cent and 10 per cent, respectively. Mexico consumes only 'pure' cinnamon or the Ceylon cinnamon from Sri Lanka. Ceylon cinnamon is more preferred in Mexico from its long run-down tradition from Spain, where it adopted cinnamon among multiple other Asian spices into its culture.

Table 12. Ceylon Cinnamon export partners during 1998-2002 and 2014-2018

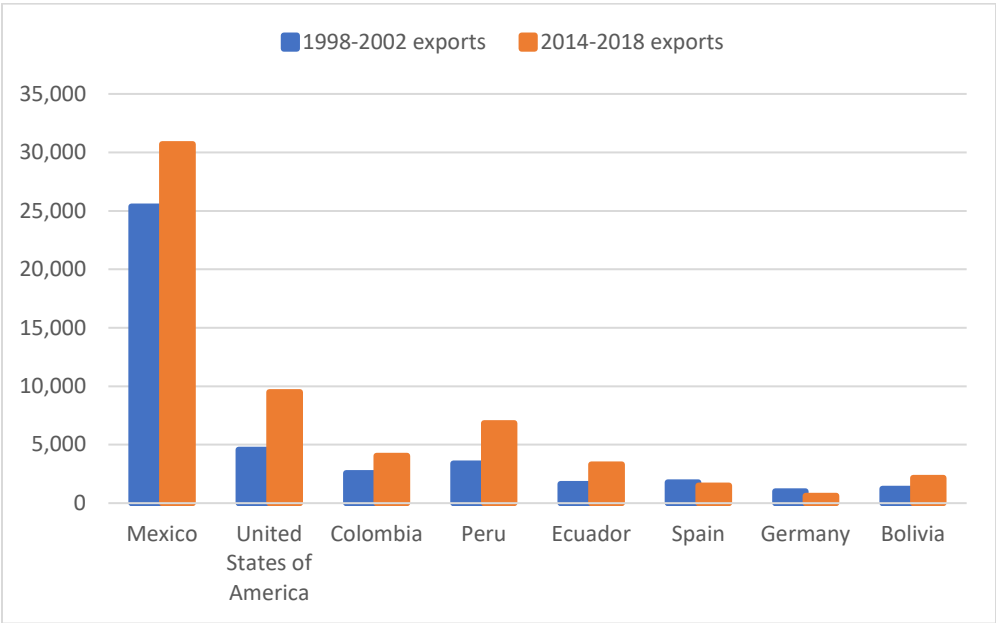
Rank	1998-2002	2014-2018
1	Mexico	Mexico
2	United States of America	United States of America
3	Colombia	Peru
4	Peru	Ecuador

5	Ecuador	Colombia
6	Guatemala	India
7	Spain	Germany
8	Germany	Bolivia
9	Chile	Spain
10	Bolivia	France

Source: Author’s calculations based on BACI Database

Figure 17 shows the shifts of main export destinations for cinnamon during the period of 1998-2018. Throughout these two decades, the leading export destination of cinnamon has been Mexico. Also, it shows that the other export partners have not changed over the years, which means that Sri Lanka has not targeted new export destinations for an extended period.

Figure 28. Shifting of main Cinnamon export destinations of Sri Lanka



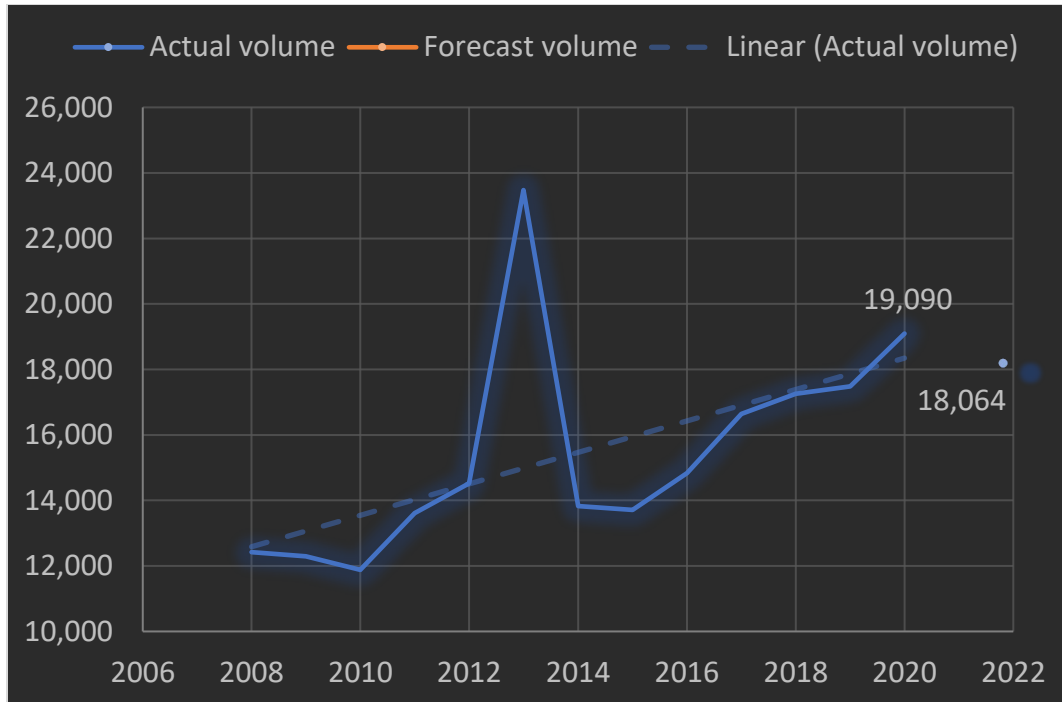
Source: Author’s calculations based on BACI Database

c. COVID-19 and Cinnamon exports

Sri Lanka’s main trading partners have consistently been with Mexico, the United States, and Peru. The export quantities and the earnings over the years are showing positive signs of growth of the Cinnamon export sector. However, in 2020, Sri Lanka accounted for 54 per cent of the global export share of Ceylon Cinnamon and had an exported value of USD 107 million. It is an increment of 21 per cent from 2019 export value (USD 187 million). It is estimated that 85 per cent of the Ceylon cinnamon in the world is produced in Sri Lanka, mainly in the Southern coastal region. The

leading importer of Sri Lanka’s Ceylon Cinnamon in 2020 was the US, with 24.3 per cent of the export share, followed by Peru with 24.2 per cent and then Mexico with 15.5 per cent. After 2018, countries like Colombia and Guatemala have increased their Ceylon Cinnamon imports considerably over the last years. Despite the increasing growth rate of the product in recent years, Sri Lanka saw a considerable decrease in its exports over the previous two years that have created uncertainty in the industry and a sudden shift over the main destinations. For 2020, the forecasted cinnamon export volume was 18,064 MTs while the actual export reported as 19,090MTs (Figure 29).

Figure 29. Cinnamon export volumes over the years



Source: Authors calculation based on BACI database

d. Bottlenecks of Sri Lanka’s Cinnamon Exports

Ceylon cinnamon faces competition in major importing countries where Vietnamese, Chinese, and Indonesian Cassia cinnamon is dominant with its affordable price. The high price of Ceylon cinnamon is due to the limits in production volume and the inefficient cost structure of the cinnamon-producing industry in Sri Lanka. Farmers have to face high labour costs due to an insufficient number of skilled peelers, combined with the high cost of fertilizer and planting materials. Overall, the cause of the high prices derives from the lack of proper production infrastructure and technology. In addition, while a comparatively higher price is undoubtedly a leading issue, local producers’ failure to comply with international food safety regulations and hygiene standards is also prominent. For instance, Sri Lanka had encountered problems with cinnamon consignments exported to the European Union due to high levels of residual sulfur dioxide.

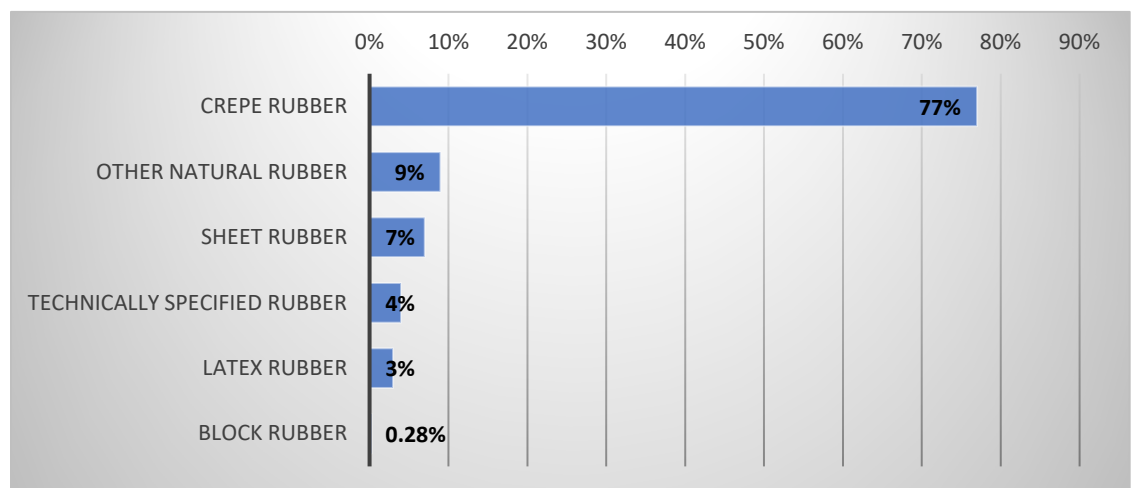
6. Natural rubber exports in Sri Lanka

a. Overview of natural rubber exports

The rubber industry is one of the key sectors of the Sri Lankan economy. The Sri Lankan rubber industry has experienced steady growth, although it fluctuates and is now an essential contributor to the national economy. Total natural rubber export value was almost USD 45 million in 2018. Due to the rapid growth of Natural Rubber demand globally, investment in the rubber sector is highly profitable. Rubber products have significant market potential in the world. In the Sri Lankan context, the availability of raw materials is a prospect concerning the anticipated growth in the rubber industry. The opportunities should be optimized to encourage the growth of rubber downstream industries. The development of the rubber industry leads to an increase in the consumption of Natural rubber, reducing the expenditure on imports of rubber goods, increasing employment opportunities, and increasing foreign exchange earnings. Hence, investigating the recent past in the Sri Lankan rubber sector is of utmost importance in drawing wise decisions to achieve the targets.

Sri Lanka is well-known for the production of high-quality natural rubber latex products. The export composition of Sri Lankan natural rubber includes mainly the crepe rubber followed by sheet rubber, block rubber and other rubber types (Figure 30).

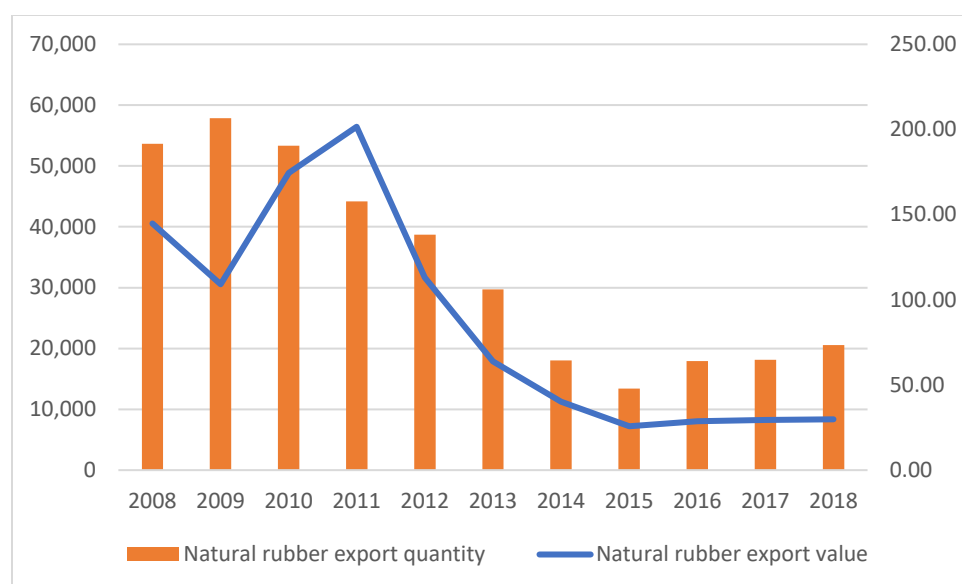
Figure 30. Export composition of Sri Lankan Natural Rubber 2018



Source: Export Development Board

Nevertheless, the export quantities of natural rubber were in a declining trend over the past few years (Figure 31). The export revenue generated through natural rubber is also showing a negative trend similar to the quantities.

Figure 31. Natural rubber export quantities and export value (2008-2018 real values)



Source: Authors calculation based on BACI database

b. Main export destinations of natural rubber

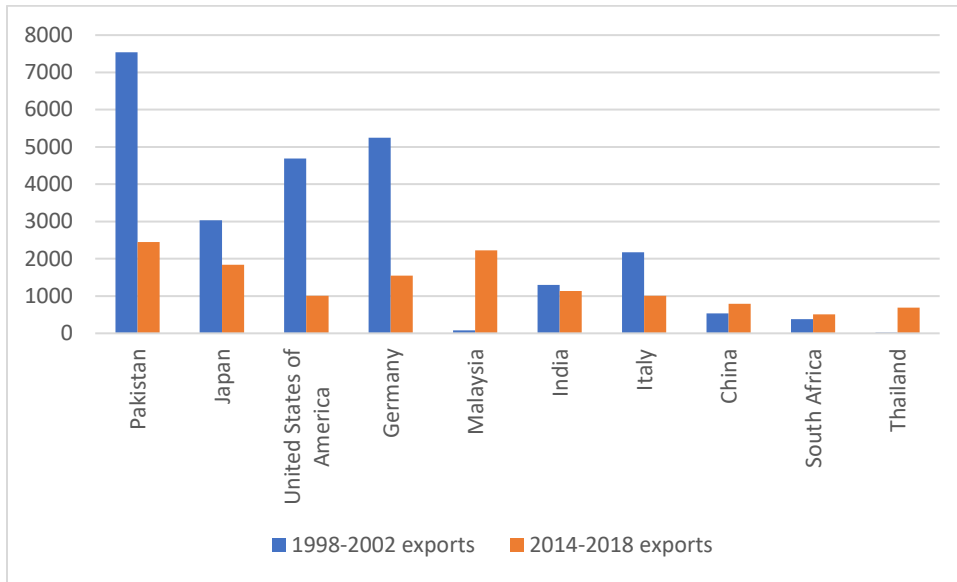
Table 14 shows the top 10 countries which are importing natural rubber from Sri Lanka. Pakistan, Germany, USA, Japan and UK were the top 10 export destinations of Sri Lankan natural rubber during 1998-2002 period. However, during 2014-2018 period, Pakistan, Japan, USA, Germany and Malaysia were the top 10 export destinations for natural rubber.

Table 13. Top 10 natural rubber export partners during 2008-2018

	1998-2002	2014-2018
1	Pakistan	Pakistan
2	Germany	Japan
3	United States of America	United States of America
4	Japan	Germany
5	United Kingdom	Malaysia
6	Italy	India
7	Spain	Italy
8	India	China
9	Kenya	South Africa
10	France	Thailand

Shifting of export destinations in these two periods is exhibited in the following figure. The quantities of exported rubber have decreased for most of the destinations. Even though the quantities were declined the largest natural rubber import country, Pakistan remains same position (Figure 32).

Figure 32. Shifting of main export destinations of natural rubber

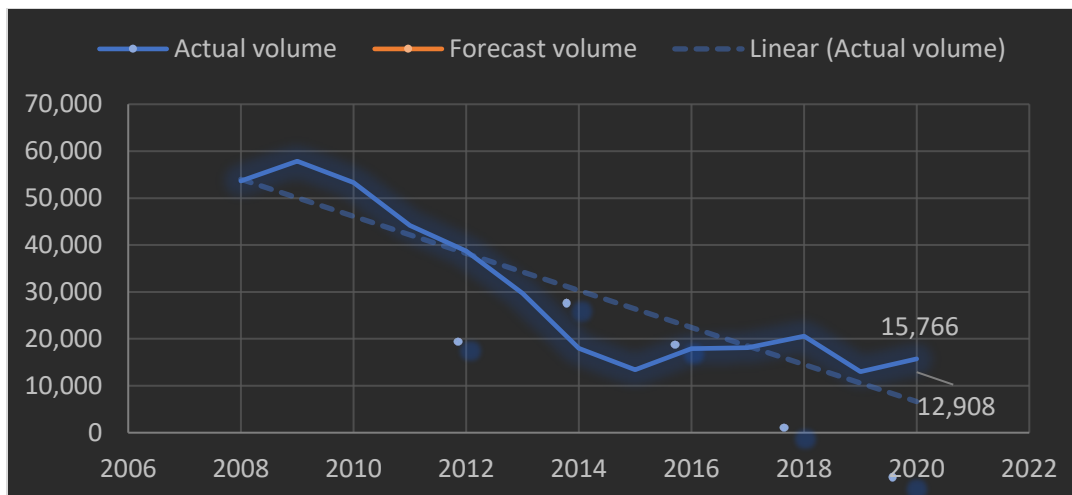


Source: BACI database

c. COVID-19 impact on natural rubber sector

Export revenue from natural rubber in 2020 was nearly USD 30 million. It is an increment of 24 per cent from 2019 export value (USD 24.2 million). However, the forecasted volume of rubber exports from Sri Lanka to the world during 2020 was 12, 908 MTs while actual rubber exported volume in 2020 was reported as 15, 766 MTs (Figure 33). Therefore, natural rubber exports have performed well in 2020 even with the Covid 19 lockdown. The reason is that the demand for rubber and rubber products went up with the COVID-19 pandemic.

Figure 33. Cinnamon export volumes over the years



d. Challenges of the rubber industry

One of the significant issues in rubber sector is, in the case of the rubber manufacturing industry, the position of the Sri Lankan players is somewhat mixed. Although the turnover of the sector continued to increase, the increase in the value-added portion was moderate (Ministry of Plantation industries, n.d.). Therefore, an existing market gap in rubber value addition could be observed same as in tea sector. Also, compared with global standards, Sri Lanka ranks low in terms of most productivity measures (Export Development Board, n.d.). Lack of regular study and benchmarking exercises to monitor the performance of the rubber industry can hamper effective policy making and strategic planning, which can leave a business lagging behind.

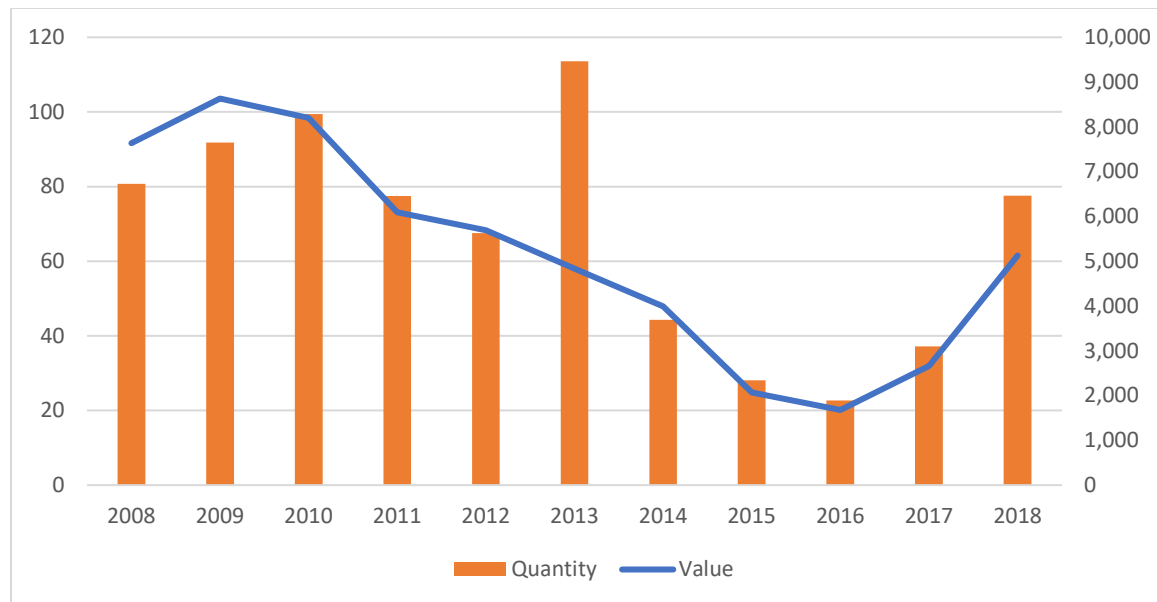
Marketing strategies are critical to staying competitive in the global marketplace. Although several companies have shown remarkable success, the percentage of globally branded Sri Lankan rubber products is not significant. Even in the raw rubber industry, Sri Lankan manufacturers have not increased their share of markets. With the exception of a few companies, most companies do not make future mergers for distribution. Global marketing costs are unbearable as the volume offered by Sri Lankan manufacturers is small compared to large global manufacturers. Brand values are not understood by many manufacturers (Export Development Board, n.d.).

7. Fish: An emerging Agri-food export in Sri Lanka

Sri Lanka has a well-established fishery industry. There are around 14 deep sea fishing harbours in Sri Lanka. The total fish production in 2016 was 530,920MTs, and out of this, 17,593MTs were exported. All high sea boats now adhere to the legal and international standards on all 1,600 high seas registered Sri Lankan fishing vessels, international call signs, proper gear markings, legal fishing gears, logbooks & other requirements mentioned in the high sea operation regulations. The main product categories are Tuna, Sward tail, Marlin, prawns, crabs, lobsters, beech de mer, and other species. There are 34 EU-certified fish processing plants in Sri Lanka (Export Development t Board, 2017).

When the fish exports sector is considered, the highest export revenue comes from the ‘Fish Fillets and other fish meat (HS- 0304) category. Figure 34 shows the export quantities and the export revenue values of fish fillets and other fish meat. The export revenue and the quantities exported have experienced a declining trend until 2015 and an increasing trend since then.

Figure 34. Real values of export revenues of fish fillets and other fish meat



Source: Author’s calculations based on BACI Database²

Main Export Destinations of Fish Fillets

It is important to compare the historical export quantities with the current situation to see how much we have deviated from the past. This gives a picture of the change of export destinations of the Sri Lankan fisheries sector globally. The top 10 export destinations of fish fillets during 1998-2002 were compared with the top 10 destinations during 2014-2018. Results have shown a significant shifting of some export destinations.

Table 14 shows that the top 10 export partners during 1998-2002 were the United Kingdom, Australia, Switzerland, France, Germany, Israel, Sweden, Netherlands, Belgium, and Japan. In 2014-2018, The United States, Italy, and France had entered among the top 10 export partner countries. Australia, Switzerland, and Sweden have fallen to lower positions currently. This shows some diversification of export destinations over the years.

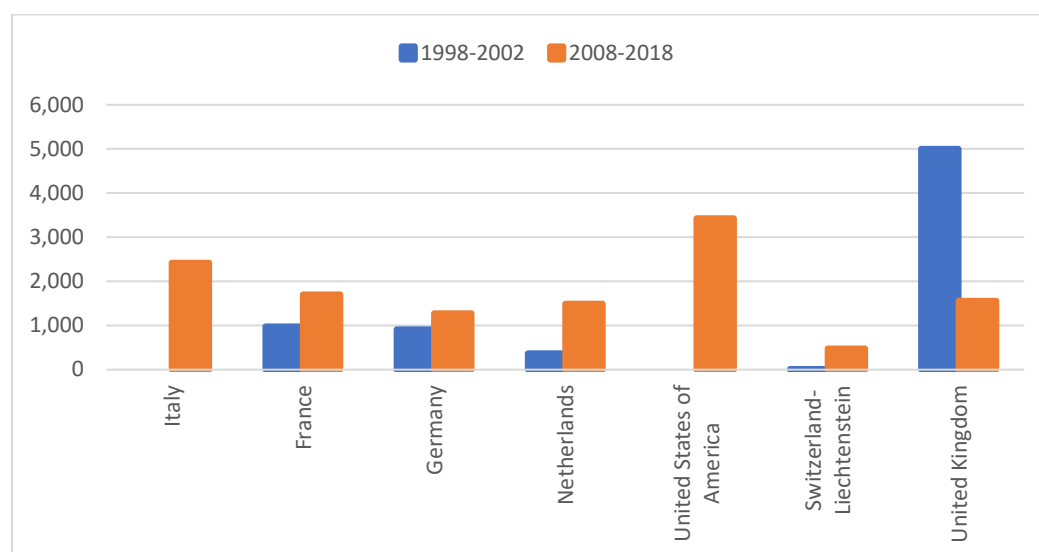
² The nominal values were converted into real values using the Colombo Consumer Price Index (CPI, Base: 2010=100; Department of Census and Statistics).

Table 14. Top 10 Fish Fillet export partners during 1998-2002 and 2014-2018

Rank	1998-2002	2014-2018
1	United Kingdom	United States
2	Australia	Italy
3	Switzerland-Liechtenstein	France
4	France	United Kingdom
5	Germany	Germany
6	Israel	Netherlands
7	Sweden	Switzerland-Liechtenstein
8	Netherlands	Belgium-Luxembourg
9	Belgium	Canada
10	Japan	Japan

Figure 35 shows how the shifting of major destinations of fish fillet exports from Sri Lanka had happened. The blue bars of the graph exhibits fish export destinations during 1998-2002. Sri Lanka had exported fish fillets mainly to the United Kingdom, Australia and Switzerland mainly. However, export destinations deviated significantly in 2014-2018. Sri Lanka has been able to capture new markets during 2014 and 2018 with compared to the period of 1998-2002. However, it is observed from the figure that Sri Lanka has expanded its export partners for fish fillets instead of relying on one major partner.

Figure 35. Shifting of major export destinations of Fish Fillets



Source: Author's calculations based on BACI Database

a. COVID-19 and Fisheries exports

Key activities in the fisheries supply chain are fishing, processing, transport of inputs, distribution, wholesale and retail marketing. Each of these activities is equally important to the performance of the supply chain. Each stage of the fish supply chain is susceptible to being disrupted by impacts arising from COVID-19. The fact that fresh or chilled fish is highly perishable results in additional logistical bottlenecks. Furthermore, the reduction in domestic demand and widespread containment measures affects the nation's imports with significant consequences on international trade.

It can be concluded that, even though COVID-19 had impacted especially on Sri Lanka's export agriculture sector at the very beginning of the pandemic, Sri Lanka has been able to manage it without resulting in huge trade shocks. Considering the fluctuations of trade patterns of the past decades, the declines that occurred suddenly due to the pandemic can be considered as phlegmatic shocks on the economy. Therefore, managing the existing bottlenecks of each of the export sectors of the country is very important.

b. Challenges in fisheries export sector of Sri Lanka

According to USAID, 2009, In Sri Lanka, fish, prawns and lobsters are of sufficiently high quality and are being consolidated and processed for export, even though, the volumes are small- less than 7% of total catch nationwide.

Despite the current downturn in global demand and trade, the longer-term outlook on global demand for fish remains strong. The price of many ocean species increases with demand. In export markets, fish and fisheries products from the project target area must compete with fish and fisheries products from other countries, especially those in the Asian region (India, the Philippines, Taiwan and Thailand) and other exporting countries worldwide.

Sri Lanka does not currently operate a fleet of ships fishing in international waters. Sri Lanka's fish catch is relatively small compared to global giants like Thailand, Taiwan, Japan and South Korea. The domestic catch sells easily in the domestic market, albeit at lower prices than it would command in export markets. Especially, fish caught on the East Coast in Sri Lanka are not well handled, and best practices in cold chain management to preserve value are not widely used. Currently, Sri Lanka lacks the volume and economies of scale to be globally competitive in the large volume "commodity fish" or canned fish sectors. Strategically, Sri Lanka can and does compete internationally in exports of several varieties of fish, mainly fresh but also processed and frozen. These include high-value tuna, large and small marine fish, prawns, crabs (fresh and frozen) and bech de mer. Sri Lanka's exports in these categories are relatively small, but they do meet international standards. Prawns and 2008 exports were down 50% from 2007. The most promising commercial strategy for Sri Lanka is to continue to develop and compete in these "Niche markets" for high-value items. Potential niche markets Sri Lanka should consider creating are pond or cage-cultured live sea bass, live grouper and crabs (USAID, 2009).

VI. STRATEGIES TO EXPAND THE AGRI-FOOD EXPORTS

The objective of the section is to show the potentials of the export agriculture sector which can be further developed through various measures which needs the policy consideration. The study found three such specific potentials within each of the main export agri-food export sectors of the country.

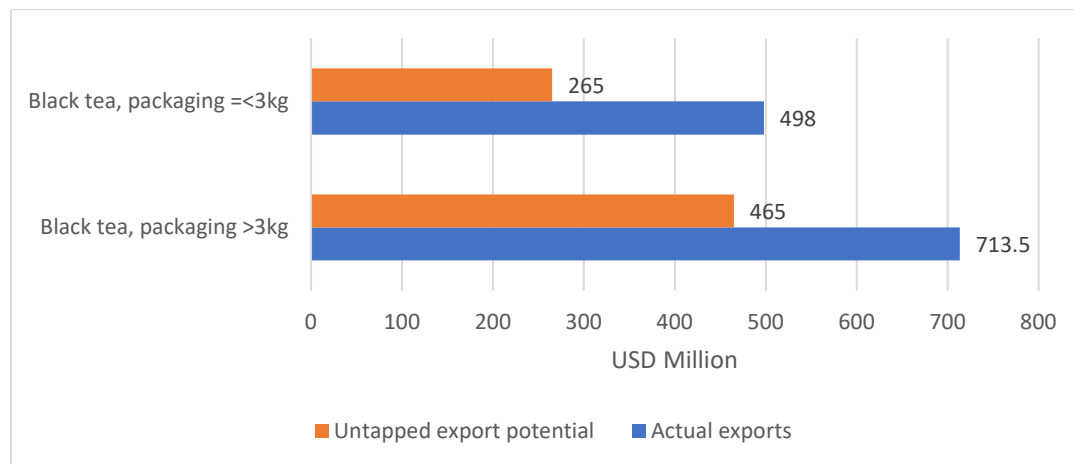
1. Untapped export potentials within the sectors.

The study could identify the main export commodities under tea, cinnamon, natural rubber and fish fillets exports and their export destinations. However, relying on the same export partner for a long-time period might add risk to Sri Lanka's exports. Therefore, the study analysed further export potentials for these commodities based on the data from the International Trade Centre (ITC). The Export Potential Map provides information on products, markets, and suppliers with untapped potentials. These potential export values were compared with actual export values to find exporters, products and markets with room for growth.

a. Further export potentials for tea

Accordingly, the products with the greatest export potential to Sri Lanka in the world are from Black tea packings >3kg and Black tea packings ≤3kg. Altogether, the Black tea shows an absolute difference between potential and actual exports in value terms, an additional export worth USD 777.9 million. Therefore, the highest untapped export potential is for black tea packaging more than 3kg (Figure 36).

Figure 36. Export potential for tea in the world market



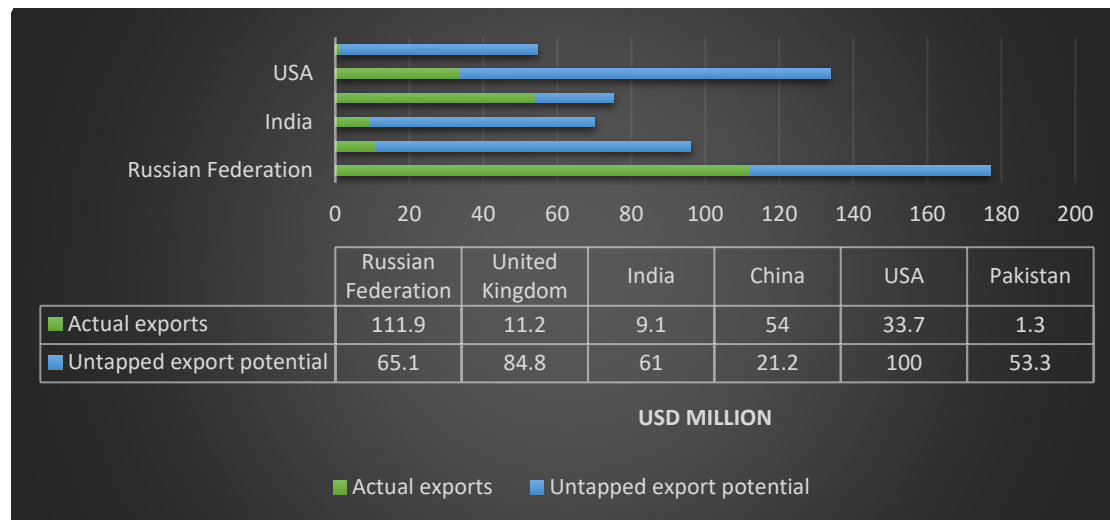
However, since Sri Lanka's export basket mainly consists of (more than 50 per cent) bulk tea, it should aim to promote the production of tea packets and value-added tea. Experts explain that changing consumer preferences, particularly the younger generation, favour speciality tea such as green tea and white tea. The consumption patterns are changing gradually in the global market. Consumer preference for loose tea is on the decline, while demand for tea bags and ready-to-drink tea increases. In the global tea market, value-added tea has captured an extensive position because of the sophistication of tea consumption patterns. As a result, the future demand for tea is likely to be

different from the past, and there could be more demand for convenience-oriented products. (Ariyawardana *et al.*, 2001). Value-added tea has higher demand comparatively in the major markets. However, many authors have argued the importance of export value-added tea instead of bulk tea. They believe that the country's status as an exporter of bulk tea needs to be altered as an value-added tea producer and exporter. Here, the government should involve directly in tea production and marketing in two-fronts as a facilitator for the fresh value-added tea producer while helping to strengthen the brand loyalty of Ceylon tea (Kelegama, 2010).

Since 2009, in the main black tea importing markets, Russia and the United Kingdom have shown a decrease of 9 per cent and 10 per cent, respectively. On the one hand, this decline is offset by the ongoing growth of tea imports to the USA, where tea consumption is in a rising trend with an increase of 8 per cent since 2009. Now the USA ranks as the number three tea-importing market in the world, with 0.12 million MTs in 2018. Moreover, tea import volume from Pakistan has more than doubled since 2009, reaching 0.19 million tonnes in 2018 (mainly for black tea). Morocco, the world's biggest green tea importer, registered an increase of 35 per cent with 0.07 million MTs imported for consumption in 2018 (Tea and Coffee trade journal, 2020). Considering these trends for future marketing activities would help to target the most potential markets and the strategies.

Sri Lankan tea has a huge opportunity in world tea market and therefore, it is vital to examine the potential buyers who are having the capacity to buy tea products. Figure 37 demonstrates the actual tea exports to the main export destinations and the untapped potential of exports they have. The United States and Russia show the largest absolute differences between potential and actual exports in value terms, with an additional export worth 103.5 USD million. Other than these leading partners, the UK, India, China and Pakistan are also having considerable untapped potentials within their economies for tea.

Figure 37. Export Potential destinations for tea

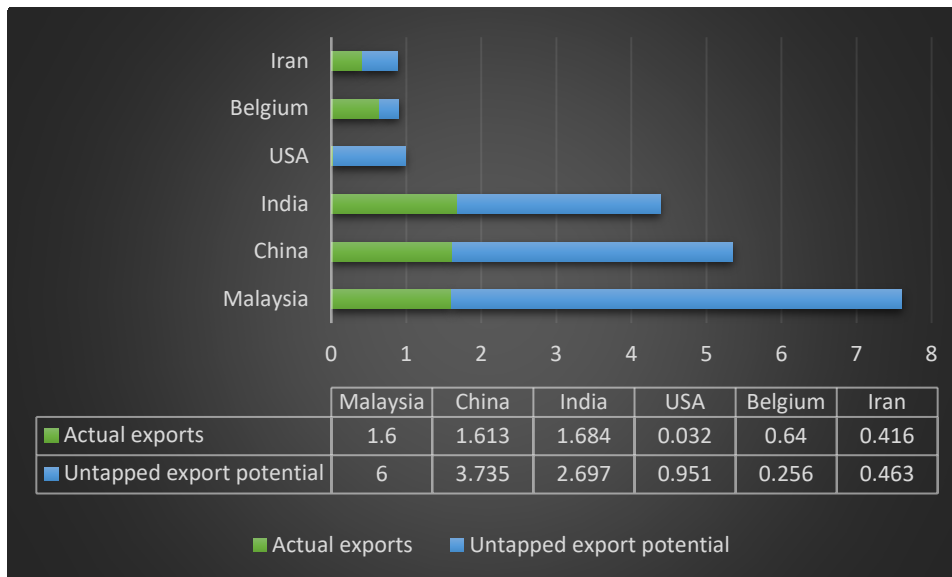


Source: Based on International Trade Centre, Trade Potential Map

b. Further export potential for Cinnamon

Sri Lanka has not captured new emerging markets to export cinnamon. Figure 38 shows that Sri Lanka has an untapped export potential for cinnamon in the Indian market. Currently Sri Lanka is exporting USD 5.4 million worth cinnamon to India. However, India's current untapped potential for cinnamon is more than USD 88million. The USA has an untapped export potential about USD 14million. Currently Sri Lanka is exporting only USD 22million worth cinnamon. Even though we are exporting a considerable amount of cinnamon to the USA, we still have a lot of untapped potentials to be reached in exporting cinnamon. Sri Lanka does not export cinnamon to Bangladesh. However, Bangladesh is having an untapped export potential which is USD 28million worth. As it was revealed in the section of cinnamon industry in this report, a huge untapped export potential exists in some markets, especially in India. India has about USD 75million untapped potential for cinnamon imports to the country. Sri Lanka should target other niche markets in the world where there are untapped market potentials for quality cinnamon. Since Sri Lanka has been able to create a brand called Ceylon Cinnamon, it would be easier to capture such markets.

Figure 38. Untapped export potential for Cinnamon

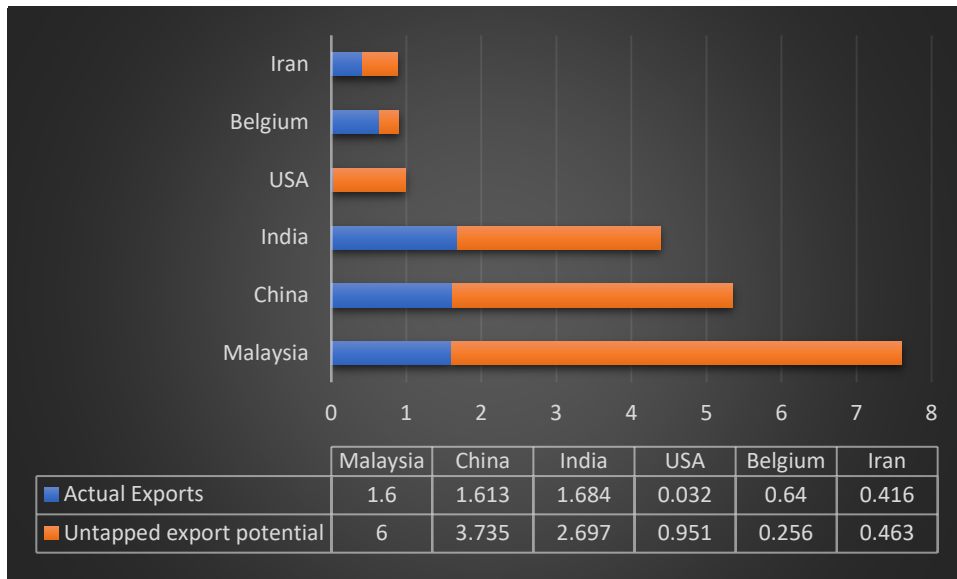


Source: Based on International Trade Centre, Trade Potential Map

c. Further export potentials for natural rubber

The study could identify the untapped export potentials in the countries which are importing natural rubber from Sri Lanka or from other destinations. Malaysia is the country which has a USD 6million untapped export potential for natural rubber. Currently Sri Lanka is exporting nearly USD 1.6million worth natural rubber to Malaysia. However, this is a country with a huge opportunity for us as we are already exporting rubber to the destination. The other country with a huge potential for export rubber is China with an untapped potential of USD 3.7million. India is also having a USD 2.6million worth untapped potential. It is vital to seek the untapped export opportunities amidst the pandemic to increase the export revenue of the country (Figure 39).

Figure 39. Countries with export market potentials for Sri Lanka’s natural rubber

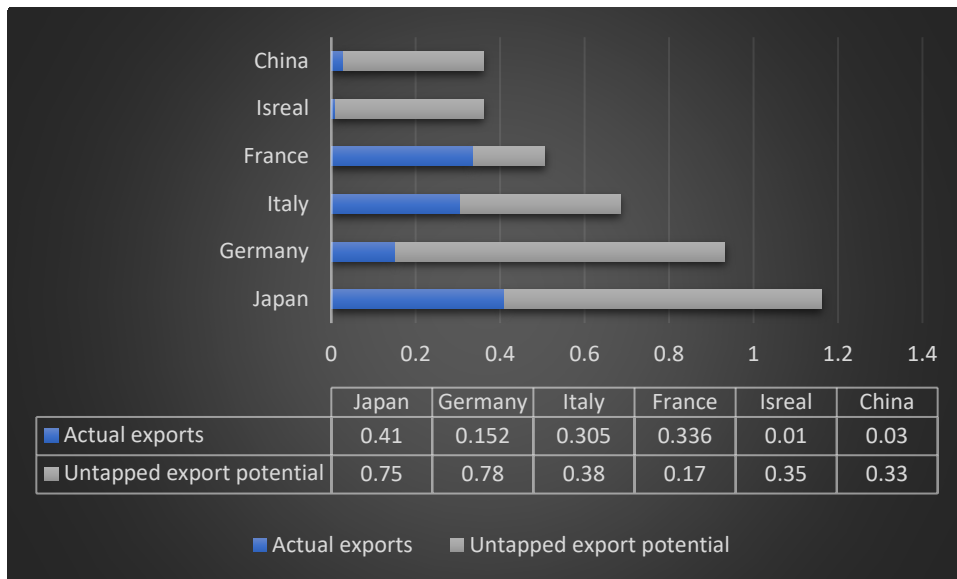


Source: Author’s calculations based on BACI Database

d. Export Potential of Fish Fillets in the International Market

Sri Lanka has focused on a few specific markets to export Fish fillets and other fish meat. However, as Figure 40 shows, the sector has untapped export potential in several current export destinations. Japan and Germany are the two countries with the highest untapped export potential. Japan has an untapped export potential valued USD 0.75million while Germany has USD 0.78million. Other than these two countries, some significant untapped export potentials exist in Italy, France, Israel and China.

Figure 40. Untapped export potentials for Fish fillets and other fish meats



Source: Based on International Trade Centre, Trade Potential Map

2. Enhance export product diversification

a. Need for tea export diversification

The export basket of tea has not changed for many years. Therefore, the Sri Lankan tea industry should also look at developing new products to become more competitive in the world tea market (Product diversification). A policy document for 2020-2035 released by the government of Sri Lanka also highlighted the importance of discouraging export of tea in bulk and encourage tea export in value added form. Tea consumption in the world market is changing in favour of tea products, replacing bulk tea. For instance, 75 per cent of the Middle East and Pakistan market are for packet tea, and over two-thirds of the western and Northern American markets are for tea bags and instant tea. Thus, markets are shifting away from bulk tea towards value-added tea products. The Sri Lankan tea industry has failed to explore the needs of consumers in the international market and is just exporting tea as a commodity (Hilal, 2019). Sri Lanka should have to pay more attention on enhancing the value addition towards healthier and herbal tea products as an option to increase the resilience of Sri Lanka's tea industry. Even in the black tea segment, much more can be done to cater the need of tea with health benefits. Creating awareness on black tea properties to improve immunity, fight against adult-onset diabetes and lipid and glucose metabolism disorders, could boost the demand for black tea as well.

The competition from other beverages that have innovated with the change of time (according to the needs of the consumers targeting various strata) could attract tea consumers especially the younger ones towards their products. Therefore, having unique products that attract the younger generation is vital for the sustainability of the industry. Sri Lanka should think beyond the primary level of production of tea for its profitability and sustainability in the long-term. Even if the country spends the entire amount of tea promotion fund on the promotion of Ceylon Tea with the existing model in our traditional markets (Lanka Business Onile, 2020), it will not be able to boost the export revenue beyond the value of USD 1.6 billion unless the whole model of the industry is changed.

b. Need for digital marketing strategies

The pandemic caused a sharp deceleration in economic activity for which economies were largely unprepared. One impact within this, has been an uptake in e-commerce resulting from the need for much activity to move online. It seems likely that the accelerated trend towards e-commerce seen during the pandemic will be sustained during recovery. Responding to that, Sri Lanka Tea Board has planned for digital advertising campaigns in 12 key markets for Ceylon Tea and the first stage was in Russia and Ukraine commencing from October 2020. As an initiative of integrating e-strategies in marketing, the Colombo Tea Auction in Sri Lanka has switched to an online platform as a countermeasure against the Covid-19 pandemic.

All promotional campaigns for Ceylon Tea for the future are being focused through digital and social media against the backdrop of a pandemic lockdown in many global destinations. Utilizing the power of social media applications such as Facebook, Twitter, Instagram, YouTube, WeChat etc. through an identified panel of Influences, Bloggers, Authentic Opinion Makers and a few Celebrities, Ceylon Tea clips, videos, messages, electronic banners etc. are to be aired within the global campaign. It will be reinforced through search engines such as Google, Yandex, Baidu and other effective digital media as per the respective country of operation. This strategy is to be combined with other necessary upgrades on the supply chain mechanism (The island, 2020). Despite

all these important initiatives, there still remain a digital technological gap which can be utilized to boost the industry performance within the rapidly changing environment.

Market Intelligence Report 2020 highlights few key technologies related to post COVID-19 market trends which are used by various businesses. Even before the COVID-19 breakout, the digital economy has been playing an increasingly significant role as a new driver for economic growth and social transformation. During the crisis, digitalisation allowed rapid responses to short-term requirements such as remote working, distance learning, telemedicine and e-commerce which have the potential to become long-standing shifts in the digital landscape. Investments will target four top key technologies: big data, IoT, cloud computing and 5G. Recovery strategies should acknowledge how ICT and digital technologies are continuously changing the business and market dynamics, while supporting these trends.

Online platforms are digital environments that enable different parties to interact online. They are increasingly important in the world economy, using data driven business models to complement, disrupt and sometimes displace more traditional ways of doing business. Aligning with the technological reforms, Sri Lanka could adopt new digital based technologies such as blockchains and registration-based-system for Geological Indications (GIs).

A GI is a sign used on products that have a specific geographical origin and possess qualities or a reputation that are due to that origin. The lack of a registration-based system under the Sri Lankan GI regime has attracted criticism and raised concerns about the functionality, enforcement procedures, and level of protection and has prompted a call for an update to ensure that Sri Lankan products enjoy fuller protection. The authorities should expedite the legislation for GI registration in Sri Lanka to enable Sri Lanka Tea Board to protect the Ceylon Tea name internationally and also to focus on the link between Ceylon Tea and Sri Lanka in their global Ceylon Tea campaign.

Furthermore, when Blockchain technology is considered, transparency, decentralization, and safety are the underpinnings of the blockchain. These are the features that have made it such a useful technology. It's because of these features that many companies and nations are trying to sync their operations with blockchain. Unilever is one of the examples that is coming up with blockchain-based solutions to track and trace the whole tea supply chain (Blockchain council, n.d.).

VII. CONCLUSIONS AND RECOMMENDATIONS

Sri Lanka is more susceptible to external and internal shocks as it is highly dependent on external trade. Over the past few decades, the country has been subjected to various shocks. Sri Lanka could successfully manage the shocks by taking multiple measures to stabilise the country's economy. With the COVID-19 situation, most of the food value chains were disrupted, and the existing trade patterns were changed. Most of the export and import partner economies became vulnerable unexpectedly. Significant reductions in income, a rise in unemployment, and disruptions in the transportation, service, and manufacturing industries are the consequences of the disease. These impacts are also being felt by the food and agriculture sector. While the supply of food has held up well to date, in many countries, the measures put in place to contain the spread of the virus are starting to disrupt the supply of agro-food products to markets and consumers, both within and across borders.

With this background, the report was designed in order to identify the impact of the pandemic on Sri Lanka's trade flows. For that, the study analysed the main agricultural export and import flows of the country. There, it was identified the average agriculture exports value during 2006-2018 was USD 2,652 million while agriculture imports reported a USD 2,193 million in the same period. The net agriculture trade was therefore reported as USD 458 million in 2006-2018. The highest net agriculture trade value in Sri Lanka was in 2013 as a USD 794 million, while the lowest in 2018 as USD 140million. In the year 2020, the value of total agriculture exports was nearly USD 2,336 million while the agriculture imports accounted for about USD 2,196million. Therefore, the net agriculture trade in 2020 was also USD140million. The analysis confirmed that the share of agriculture exports from total exports of Sri Lanka has fluctuated over time. In the 1998-2006 period, the average share of agriculture products in total exports was 21.04 per cent, while 2006-2018 shows a 27.3 per cent value.

When agriculture import sector is considered, the top 10 agricultural import commodities of HS-4-digit level were wheat, milk and cream, cane and beet sugar, vegetables, rice, palm oil, etc. in the period of 2008-2018. The importation of food and beverages accounted for 7.2 per cent of total imports in 2018. The largest/ number one agriculture import was wheat over the years. Sri Lanka has imported approximately 1.19 million MTs of wheat in 2018, while nominal value of the wheat import was approximately USD 180.67 million for the year 2018. Sri Lanka imported 1.4 million MTs of wheat which was USD 250 million worth during COVID-19 in 2020. However, study could forecast the wheat import quantity for the year 2020 considering the past import patterns. The forecasted volume was 0.93 million MTs. This implies that Sri Lanka has imported more wheat than the normal importation pattern.

Milk is the second largest agri-food import in Sri Lanka. The leading milk import partner of Sri Lanka has been in New Zealand for decades. Australia and the USA are the 2nd and 3rd largest milk and cream import partners of Sri Lanka. Sri Lanka has imported 102,355 MTs of milk and cream in 2020, while the calculated forecasted value of 2020 import volume was nearly 96,351 MTs.

The third largest import commodity was cane and beet sugar, valued at 174 USD million in 2018. Sri Lanka has imported USD 276 million worth sugar during the year 2020. During 2020, 626,000 MTs of sugar has been imported. During first 6 months in 2021 country has imported 600,000 MTs of sugar. The 2020 import volume was forecasted using linear forecasting method and came up with a value for the import quantity as 504,558 MTs. However, the actual imported volume in the year 2020 was higher than the forecasted import volume.

According to BACI data, tea, cinnamon, fish, pepper, natural rubber, coconut, vegetables are among the country's top 10 export earning industries. The leading export agricultural commodity from Sri Lanka to the world is tea. The second and the third largest agricultural export commodities are cinnamon and fish in HS-4-digit level. The top 5 agricultural export destinations from Sri Lanka were identified as the USA, India, Russian Federation, Mexico and Germany.

This study could further identify the untapped export potentials of the existing export destinations and other emerging markets for main 3 export commodities. The United States and Russia show the largest absolute differences between potential and actual exports in value terms, with an additional export worth USD 103.5 million. Other than these leading partners, the UK, India, China and Pakistan are also having considerable untapped potentials within their economies for tea.

The USA has an untapped export potential about USD 14 million. Currently, Sri Lanka is exporting only USD 22 million worth cinnamon. Even though we are exporting a considerable amount of cinnamon to the USA, we still have a lot of untapped potentials to be reached in exporting cinnamon. Sri Lanka does not export cinnamon to Bangladesh. However, Bangladesh has untapped export potential which is USD 28 million worth of cinnamon.

When the natural rubber exports are considered, Malaysia is the country which has a USD 6million untapped export potential for natural rubber. Currently Sri Lanka is exporting nearly USD 1.6million worth natural rubber to Malaysia. However, this is a country with a huge opportunity for us as we are already exporting rubber to the destination. The other country with a huge potential for export rubber is China with an untapped potential of USD 3.7million. India is also having a USD 2.6million worth untapped potential.

Japan and Germany are the two countries with the highest untapped export potential for fish fillets. Japan has an untapped export potential valued USD 0.75million while Germany has USD 0.78 million. Other than these two countries, some significant untapped export potentials exist in Italy, France, Israel and China. Strategically, when overall fisheries sector is considered, Sri Lanka can and does compete internationally in exports of several varieties of fish, mainly fresh but also processed and frozen. These include high-value tuna, large and small marine fish, prawns, crabs (fresh and frozen) and bech de mer. Sri Lanka's exports in these categories are relatively small, but they do meet international standards. Prawns and 2008 exports were down 50% from 2007. The most promising commercial strategy for Sri Lanka is to continue to develop and compete in these "Niche markets" for high-value items. Potential niche markets Sri Lanka should consider creating are pond or cage-cultured live sea bass, live grouper and crabs.

Most importantly, Sri Lanka requires to adopt different innovative strategies to cope up with the modern market trends and to remain competitive in the market environment in export agriculture trade.

Finding out untapped potentials is one of the key strategies which should be driven through policy support in order to expand agri-exports globally. Seek for new and emerging niche markets instead of existing most competitive markets would be an ideal solution to achieve comparative advantages of existing trade flows. This strategy is called Blue Ocean Strategy. Product diversification aligned with COVID-19 consumption changes, digital media marketing of Ceylon tea, Ceylon cinnamon, Sri Lankan rubber and fish is also needing more policy attention. Block chain strategy for tea value chain is another area of concern.

These strategies have the capacity to enhance the potential of export agriculture commodities to compete with other tea brands and exporters not only during the COVID-19 pandemic but also in

the long run. Understanding the changing world situation and responding to it without delay is important for the sustainability of the export agriculture industry.

Policy recommendations:

1. The study could identify the existing trade flows of agri-food imports and exports of Sri Lanka. There, it was identified the individual performance of each of the main export, import commodities. The government should take the trade flows into consideration before going for an emergency trade measure during a shock.
2. The study could identify untapped export potentials for each of the main agri-food commodities in various existing and new export partners. Policy strategies should be initiated to tap these untapped export potentials.
3. Export marketing strategies should be updated and improved catering the current trends of the markets adopting digital marketing strategies such as block chain method.
4. Export marketing strategies should give a special consideration on blue ocean strategy which is the technique used to target less competitive export partners in an era where the competition is very high.
5. Product diversification and adopting modern technologies in manufacturing process should be given the major consideration in export-oriented policies of the country.
6. While adopting new technologies and strategies, the existing issues and challenges which were highlighted in this study should be addressed immediately, unless they will trigger the pandemic impact on both import and export sectors.

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