International Journal of Science and Research (IJSR)
ISSN: 2319-7064
SJIF (2020): 7.803

The Export Competitiveness of Thai Rubber Industry in China

Chindalak Balls

Shanghai University

ballschindalak[at]gmail.com

Abstract: ***Rubber or latex is a material that can be applied in many industries. Rubber is collected from the rubber tree. It can be grown in many climates, but the requirement for growing rubber trees is a minimum rainfall of 1500mm. Thailand is the largest producer of natural rubber in the market. The most significant product export is concentrated latex, technically specified rubber (TSR), ribbed smoked sheet (RSS), and compound rubber. China has a large demand for a rubber with makes China has bargaining power in the rubber market. China has rubber production but has limitations of natural conditions to grow rubber trees. To avoid these natural limiting factors, and to increase the bargaining power of the suppliers, Chinese investors start to invest in neighboring countries are Laos and Vietnam. It significantly increases of area for growing rubber in Laos. But the product is unable to traceability and the absence of rubber standard. There are factors Thailand can maintain and enhance to maintain to get advantages in the global rubber market. Thailand should focus on high quality as supported by scientific sources and emphasize to its consumer the advantages of using Thai-sourced natural latex over all other sources.***

Keywords: Thai Rubber Industry

1.Introduction

Rubber or latex is a material with many applications. Rubber is collected from the rubber tree (Hevea brasiliensis) through a process called tapping. The resulting viscous liquid is then processed into many products, ranging from the larger and more visible car tires to smaller and less noticeable electrical insulators. With so many applications choosing rubber as its favored material, rubber enjoys a high trade volume and mass production.

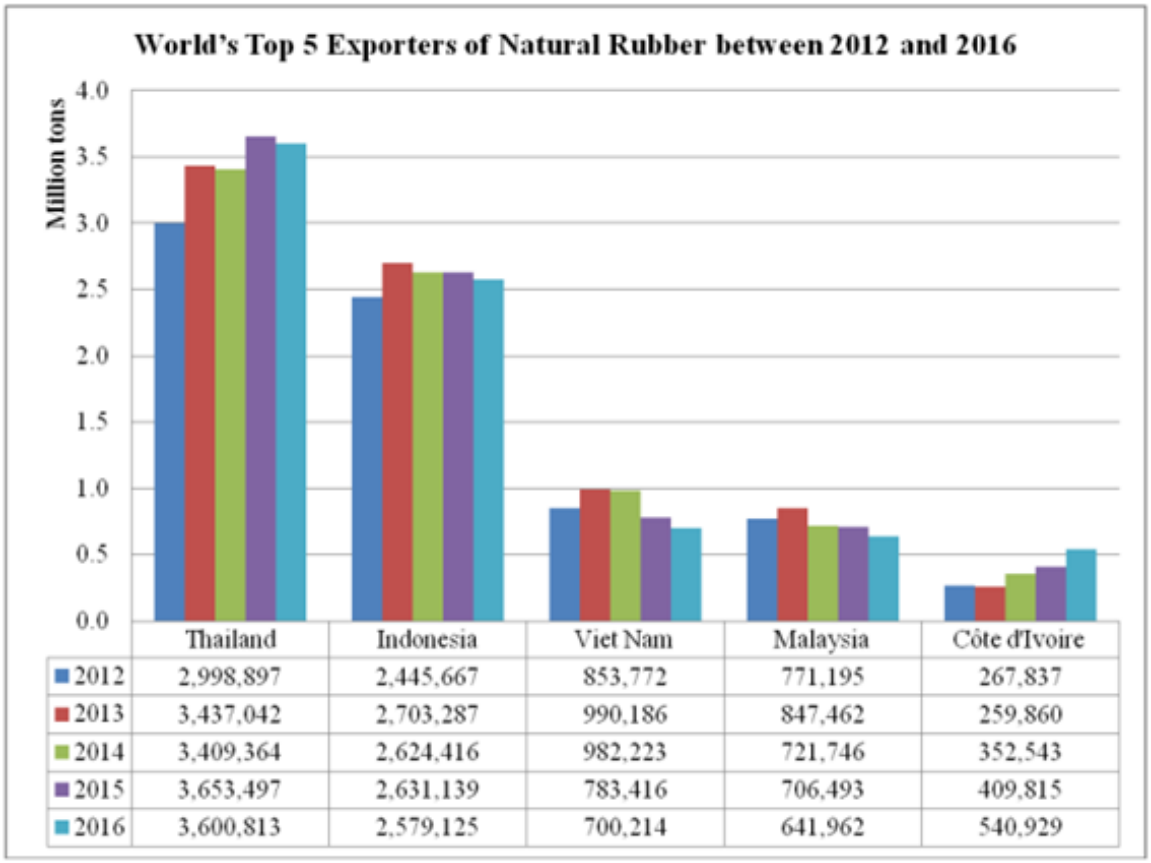
While rubber trees can be grown in many climates ranging from warm and humid to cold and dry as long with its only true requirement being a minimum rainfall of 1500mm, [1] their preferred climate are tropical climates (warm and humid). [2] With this fact in mind, Thailand with its annual cumulative rainfall (as of 2020) of 1528.8 mm [3] and tropical climate naturally places the country among the top producers of natural rubber. Nevertheless, they cannot rest on their laurels - the production oligopoly over natural rubber borne from such an advantage is facing an active challenge, constantly at risk of customers discovering alternative supply sources through both natural competitors (e. g., Malaysia who enjoys the same climate as Thailand) or competitors based in less ideal climates (e. g., Laos), [4] or of customers turning to substitute materials in the form of synthetic latex.

One large consumer that rubber indusstries must keep an eye on is China, the indisputable economic powerhouse of the 21st century. [5] Offering both an expansive manufacturing capability and a vast consumer base, China naturally requires plenty of resources to fuel its growth. With rubber being an integral part of modern society, rubber itself is one such resource. However, in 2010, in an effort to combat domestic inflation, the Chinese government implemented a controlled “cooldown” of its economic growth. [6] As a major importer of rubber from Thailand, the reduction in Chinese demand notably affected the prices of rubber in Thailand. [7] This shows the inextricable link between the Chinese economy and the Thai rubber industry.

Thailand

The following section examines Thailand’s position in the rubber market. Thailand enjoys many factors ideal for rubber production such as its climate, soil and supportive government policies, [8] allowing it to produce huge quantities of rubber. This is best summarized by the Thai Board of Investment:

“This is largely due to Thailand’s tropical climate, advanced cultivation methods and its dedication to research and development (R&D) that has helped the country consistently improve the quality and consistency of its natural rubber output.” [9]



	Thailand	Indonesia	Viet Nam	Malaysia	Côte d'Ivoire
2012	2,998,897	2,445,667	853,772	771,195	267,837
2013	3,437,042	2,703,287	990,186	847,462	259,860
2014	3,409,364	2,624,416	982,223	721,746	352,543
2015	3,653,497	2,631,139	783,416	706,493	409,815
2016	3,600,813	2,579,125	700,214	641,962	540,929

Source: *International Trade Centre retrieved 25 September 2017 from*

The guidebook goes on to further discuss the factors that encourage rubber production in details. Firstly, Thailand acted as a hub for global companies engaging in rubber business where "given its leading status in natural rubber production, it is easy to see why many leading international rubber product companies (chose Thailand) … Thanks to a strong manufacturing segment and the large volume of natural rubber, Thai and foreign companies not only produce enough rubber products to meet local demand but also have a surplus to export internationally. In 2015, the total value of rubber products exported was THB 230 billion (USD 6.6 billion) according to the Thai Customs Department." [10] Such companies include Bridgestone, the Siam Michelin Group, Dunlop and many other large companies.

Another factor is the strong government support, which provides favorable locations for the production of rubber. The government has set up numerous initiatives over the years encouraging rubber growth by setting up specialized zones with good infrastructure. The policy aims to attract rubber processing companies to the area where they would be able to source their material right from the plantation in these specialized zones. [11] The government allocated a total area of 487.2 acres towards the specialized zones, [12] extending their support not only to the large companies but to smaller farmers as well. [13]

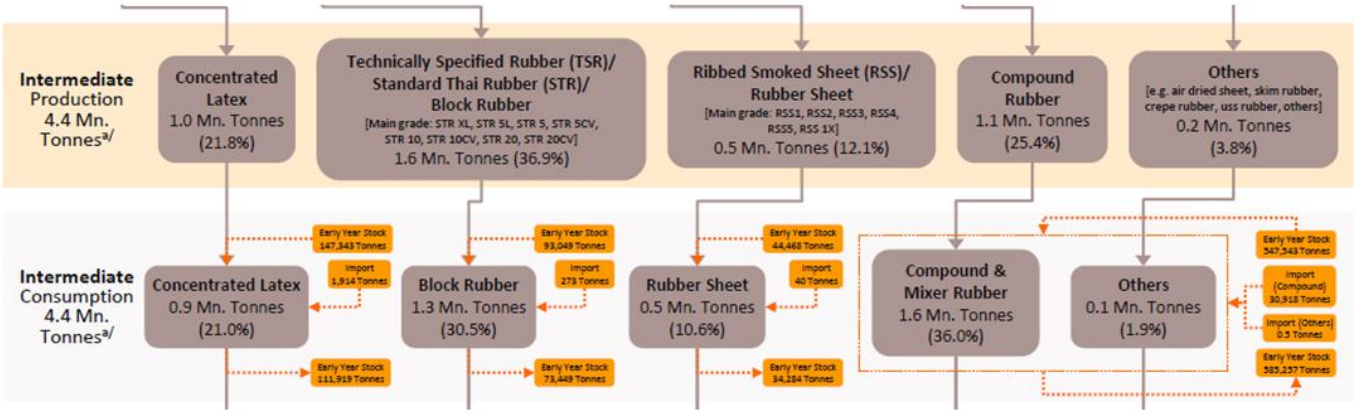
However, such strong support has been subject to criticism of encouraging market-inefficient prices, where the guaranteed prices were calculated to be approximately 50% more than the current market prices. [14] [15] Nevertheless, with such factors, Thailand's natural rubber production has been on an upward trajectory with no signs of slowing down.

Thailand's midstream and downstream industry, It is interesting to note that in the allocation of land set aside for the special zone, a substantial portion was set aside for Thailand's midstream and downstream rubber industry. [16] Such industries buy the rubber manufactured by the primary industry and process and manufacture rubber products. This section will examine these industries, their products as well as the implication for the competitiveness of the Thai rubber industry.

The total value of intermediate rubber production in Thailand as of 2020 was valued at THB 140 billion. A substantial majority (86.7%) were sold to overseas markets for further processing. [17] Major exporters include China (holding more than one-third of all intermediate goods export, valued at approximately THB 51 billion), Malaysia (holding more than one-fifth, valued at approximately THB 31.64 billion), the United States, Japan and South Korea. [18] The remaining percentage of goods not exported (13.3%) was consumed domestically. [19]

Fresh latex/fresh rubber comprises the main product offering of the natural rubber production at 92% of industry production. [20] This is unsurprising as fresh latex offers an astounding amount of flexibility in its capability to be sold directly or processed further into most midstream product offerings.

Types of processing



The aforementioned products export mix can be further divided into five types of products. The four most significant mixes are concentrated latex, technically specified rubber (TSR), ribbed smoked sheet (RSS) and compound rubber.

1. Concentrated Latex

This type of semi processed rubber is made through a process called centrifuging; the actual rubber content and the water content of the harvested rubber are separated by gravitational force. The resulting product is composed of at least 60% rubber content and is useful for further high-end processing. [21] Concentrated latex was evaluated to hold a total market value of THB 50 bn, of which more than three-fourths are exported to overseas markets, [22] with Malaysia being the largest exporter holding half of the export share, China following in second with one-third, and South Korea as third with a meagre 1.8% share. [23] Most of the concentrated latex is used for further processing in the production of condoms and medical gloves.

2. Technically Specified Rubber (TSR)

The production method of Technically Specified Rubber varies wildly according to the subtype produced. Some are produced with pure concentrated latex with strict specification and properties that must be adhered to, where others are not beholden to such standards, resulting in the amalgamations of thin rubber strips, sheets and different rubber inputs. The former with exacting requirements that lends to a higher quality is used in the manufacturing of airplanes tire and rubber bands, while the latter with laxer standards are mostly used in the manufacturing of tires.

The total value for this type of rubber is valued at around THB 60 bn, inclusive of both domestic and export markets. Thailand's main exporters are China (47.9), the United States (8.5%) and South Korea (5.9%). [24] As for the domestic market, almost all of the TSR sold is used in the manufacturing of tires. [25]

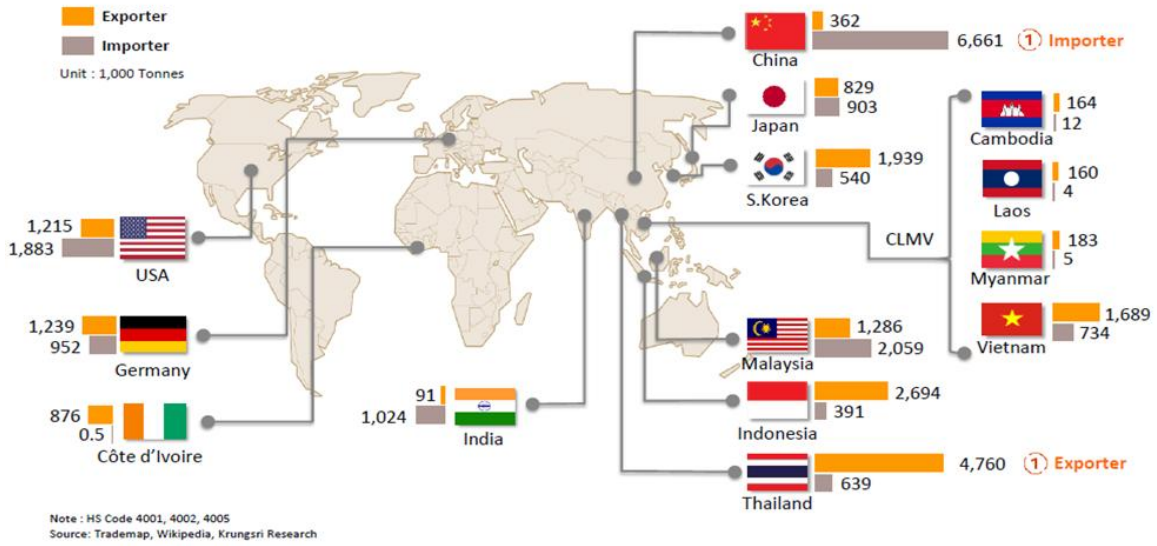
3. Ribbed Smoked Sheet (RSS)

Ribbed smoked sheets are produced by filtering the raw latex to remove contaminants, mixing with formic acid which causes the rubber to harden, then rolling the hardened rubber into sheets for drying with solar energy. Most of Thailand's RSS is of middling to decent quality and are used in the making of belts, hosing, rubber auto parts, and rubber shoes.

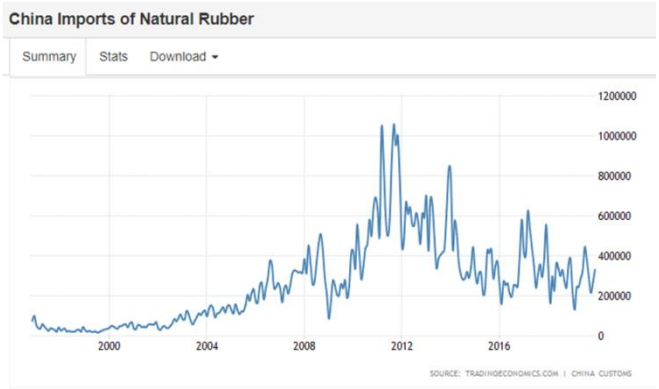
Unfortunately, the sales of this type of processed rubber are in decline, with buyers coming to favor other types of processed rubber that offers constant qualities and features (namely TSR). This can be seen from the decrease in the market value of RSS, from THB 83 bn in 2010 to THB 27 bn in 2020. [26] Nevertheless, production and purchase has yet to completely cease; at present, the major exporters of RSS from Thailand are Japan (23.9%), the United States (16.1%) and China (15.4%). [27]

4. Compound Rubber

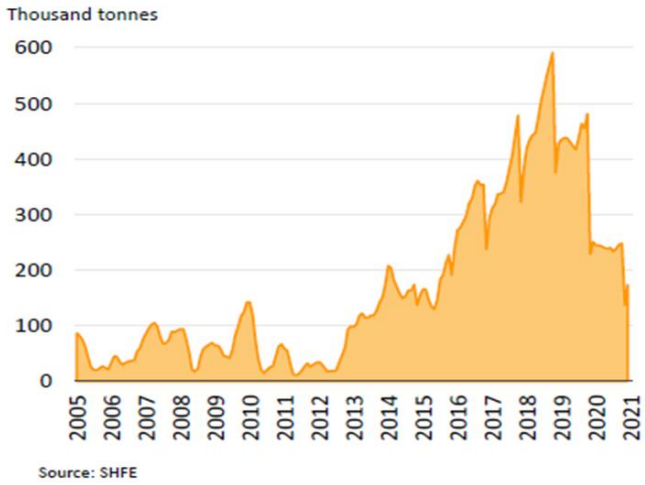
Compound rubber is a rubber product where some rubber is mixed with other products (such as vulcanite and catalysts) and made into other types of products such as tires, latex gloves, rubber bearing pads, hosing and elastic ties. The total value of this type of product is around THB 7.5 bn. [28] Almost all of the compound rubber manufactured in Thailand is exported, with China taking a lion's share of the export (87.9%). [29]



As stated in the beginning and as proven above, China is a very important buyer of Thailand's rubber product with Malaysia being a distant second. This affords China a lot of bargaining power in the rubber market despite their shrinking demand, especially when juxtaposed against Thailand's expanding rubber supply. While China's deceleration of its economy may reside mostly out of the Thai government's control, their policies encouraging the production of rubber [30] have indirectly caused Thailand to reduce its bargaining power by increasing the supply of rubber in the market.



[31]



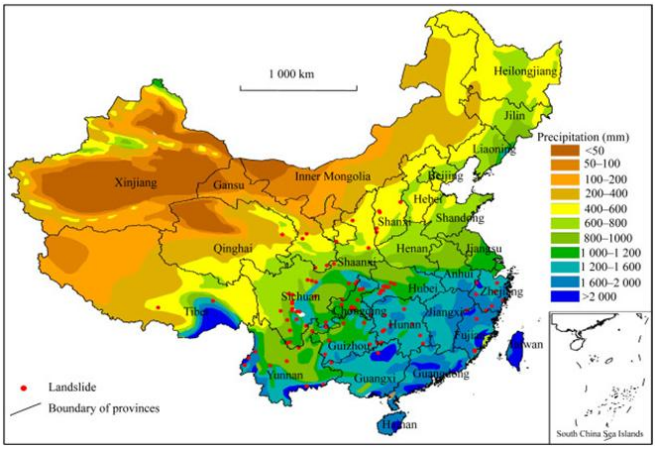
China's Inventory for Rubber is on a downward trend which is in line with their decelerating economic growth. (6.7% in 2018, 5.9% in 2019 and 2.3% in 2020)

However, there remains another side to this story - mainly China's own effort to erode the seller's bargaining power via direct production and through proxy. In the next section, we will be examining the actions taken by China to improve its bargaining position. China's Consolidation of Bargaining Power

China is a vast country with various types of weather, from the freezing climate of the Himalayas to the tropical heat of Hainan, allowing many types of crops to be grown in the country. One could assume that China's encompassing climate range might offer the perfect atmosphere for rubber plantations - this could not be further from the truth.

The minimum annual rainfall required for the commercial production of rubber is 1500mm. [32] Locations that matches such condition are far and few in China as very few areas have rainfall that exceeds 200 cm, let alone 250 cm. [33] Areas that do feature heavy rainfall can be found in Southern China, but are extremely hilly areas causing them to be unsuitable for large scale rubber cultivation, where:

"The most distinctive feature of China's rubber economy is that rubber is grown under sub-optimal environments with extreme climatic stress conditions. The rubber growing tracts experience stress situations like low temperature, typhoons, dry periods and high altitude. The regions are highly vulnerable to the perils of typhoons and cold waves."[34]



https://gidr.ac.in/pdf/WP-177.pdf

To avoid these natural limiting factors, and to increase the bargaining power of the suppliers, Chinese investor began to diversify their natural rubber production into neighbouring countries such as Laos and Vietnam. [35]

Table 1: Rubber are from 2008 to 2015 - 2018

Province	2007 planted area (ha) [1]	2008 planted area (ha) [2]	2010 planned area (ha) [2]	2013 planted area (ha) [3]	2018 [4]	
					Planted area (ha)	Tapped area (ha)
Phongsaly	13	12,600	26,400	17,841	22,173	1,751
Oudomxay	4530	17100	21000	28,293	29,190	688
Bokeo	701	9800	25000	25,222	19,150	9,114
Luang Namtha	8,770	21700	20000	33,264	35,493	22,000
Xayaboury	66	5200	50000	1,213	13,718	1,251
Luang Prabang	2467	9500	22000	17,652	18,191	7,245
Houapanh		0	2100	3		
Vientiane	100	9200	10000	23,248	12,984	6,705
Vientiane Capital	474	600	0	1,466	1,330	931
Xaisomboune					7,707	53,95
Xienghouang		50	0	124		
Bolikhamsay	1026	5100	4000	12,627	14,000	9,000
Khammoune	1447	6100	6300	5,519	7,480	4,936
Savannakhet	243	4600	14000	13,192	18,181	10,000
Champasack	6719	20100	33500	33,853	28,824	26,378
Sekong	100	6200	5000	7,468	6,466	3,000
Salavan	1418	4700	6500	5,853	6,000	5,000
Attapeu	500	8000	3500	22,008	17,000	8,000
Total	28,574	140,550	249,360	248,846	258,446	121,394

Sources: (1) Douangsavanh et al. (2008); (2) NAFRI 2009; (3) NAFRI 2013 in Southavilay 2016; [4] NAFRI 2018 unpublished data.

The table above showed that the area used for growing rubber in Laos has increased rapidly. The research points out that:

"Rubber has been planted throughout Laos, with concentrations in the north, the centre, and the south. In Northern Laos, small holders and contract farming are common, while in the centre and south investments are dominantly concession-based. The main foreign investors are from China and Vietnam."[36]

This rapid expansion is also helped along by the fact that the Lao government started an initiative to suppress opium cultivation and replace them with more ethical cash-crops with rubber being one of the plants chosen, where:

"Some Lao rubber growing entrepreneurs feel disadvantaged by export quotas for Chinese companies in Northern Laos. Quotas allow producers to import their rubber to China without paying import tax, but these are only available to Chinese companies through the Opium

Replacement Program, not to other producers and processors."[37]

Table 7: Rubber Exports from Laos 2010-2019

Year	Rubber Export Destinations (kgs)						Total
	China	Viet Nam	India	Malaysia	Thailand	Other	
2010	315,243				1,991		317,234
2011	575,609	848,712			6,068		1,430,389
2012						15,676	
2013							
2014	8,352,275	9,664,903	23,716	581,540	350,488	519,267	19,492,189
2015	12,544,416	18,293,369		1,759,184	603,217	443,718	33,643,905
2016	16,840,499	34,519,648	413,623	943,714	352,766	346,043	53,416,291
2017	43,329,058	36,667,779	66,466	732,790	43,381	469,965	81,309,443
2018	40,793,995	47,800,475	94,915	171,024			88,860,411
2019	121,757,594	100,079,180	483,840	1,600,000			223,920,614

The export figure to Vietnam is almost as high as China, this could be attributed to the fact that the Vietnamese economy is also growing at a rapid rate (despite the global setback caused by the global pandemic) thus these imports are quite normal. The research, however, mentioned this:

"Most companies have, or plan to build, their own processing factory and source latex from their own plantation and smallholders. Latex products (block or crumb) are mostly exported to China and Vietnam. Manufacturing of rubber products in Laos has not yet developed as an industry. Unprocessed latex (e. g. cup lump or sheet) is also exported directly, where it is mixed with rubber produced by the importing country, creating problems for traceability."[38]

These initiatives by China to grow rubber in less developed country are also confronted by its own unique problem namely, lack of traceability and the absence of rubber standards, though there is an collaborative effort between the Laos government and their Chinese partners to address such problems. [39]

2.Suggestions

Laos as an alternative supplier of rubber may pose as an upcoming challenger to the Thai rubber industry with their capital advantage as furnished by the funds of private Chinese investors. Nevertheless, there are still some factors Thailand can maintain and enhance to maintain their competitive edge in the global rubber market, such as their rubber quality and the traceability of their products. With certain types of rubber products on the decline, Thailand should shift gears away from the production of all rubber mixes and focus more heavily on Technically Specified Rubber products (TSRs) for future production. With its history and experience in the various qualities of rubber and its natural terrain advantage Thailand should market its high quality as supported by scientific sources, and emphasize to its consumer the advantages of using Thai-sourced natural latex over all other sources, whether Laotian or synthetic.

Despite China's subversive attempts to chip at Thailand's oligopoly over the rubber industry, the fact remains that China is still the major exporter of rubber. Therefore, keeping an eye on the Chinese demand would serve Thailand well in forecasting demand, taking into account their alternative suppliers. In addition, the Thai rubber industry should refrain from further expanding their production base in order to stabilise supply, and instead of land grants the Thai Board of Investment should instead offer incentives for innovations within the rubber industry in order to keep the Thai rubber industry at the forefront of the global rubber market.

References

[1] Eric Gohet, Philippe Thaler, Yann Nouvellon, Régis Lacote and Frédéric Gay, Worldwide climate typologies of rubber tree cultivation. Risks and opportunities linked to climate change. (Conference: Workshop "Climate Change and Natural Rubber Systems", 2020), 11
[2] ibid
[3] Thailand Meteorological Department (TMD), Report on the Climate of Thailand B.E. 2563 (A.D. 2020) (2021), https://www.tmd.go.th/climate/climate.php?FileID=5. (Accessed 11 November 2021)
[4] Gohet, Worldwide climate typologies of rubber tree cultivation, 11.
[5] "China: powerhouse of the 21st century," Grotenhuis Organisatieadvies BV, accessed 11 November 2021, https://www.grotenhuisadviseert.nl/2019/01/22/china-powerhouse-of-the-21st-century/.
[6] Emily Kaiser, "Calibrating China's cool-down," Reuters, 6December 2010, https://www.reuters.com/article/us-economy-weekahead-outlook-idUSTRE6B422920101205.
[7] Bank of Thailand (BOT), Thailand's Economic Conditions in 2013 (2014), 23
[8] Reuters Staff, "Thailand to propose $850 million in subsidies for rubber farmers." Reuters, 2 September 2019, https:/www.reuters.com/article/us-thailand-rubber-idUSKCN1VN0TH

[9] Thai Board of Investment (BOI), A Guide to the Board of Investment 2016 (2016)
[10] ibid
[11] Reuters Staff, "Thailand to propose $850 million in subsidies for rubber farmers."
[12] BOI, A Guide to the Board of Investment 2016
[13] ibid
[14] ibid
[15] Reuters Staff, "Thailand to propose $850 million in subsidies for rubber farmers."
[16] BOI, A Guide to the Board of Investment 2016
[17] "Industry Outlook 2021-2023: Natural Rubber Processing," Bank of Ayudhya Public Company Limited (Krungsri), accessed 9 November 2021, https://www.krungsri.com/en/research/industry/industry-outlook/Agriculture/Rubber/IO/io-rubber-21.
[18] ibid
[19] ibid
[20] ibid
[21] https://www.sritranggroup.com/en/business/natural-rubber/latex
[22] Krungsri, "Industry Outlook 2021-2023: Natural Rubber Processing."
[23] ibid
[24] ibid
[25] ibid
[26] ibid
[27] ibid
[28] ibid
[29] ibid
[30] BOT, Thailand's Economic Conditions in 2013
[31] BOI, Thailand: The World's Leader in Natural Rubber Production, Thailand Investment Review August 2016 26/8, 2016. https://www.boi.go.th/upload/content/TIR_AUGUST_PROOF_10_44271.pdf.
[32] "Hevea brasiliensis (rubber). In: Invasive Species Compendium," CABI, accessed 11 November 2011 https://www.cabi.org/isc/datasheet/27999.
[33] P.K. Viswanathan, Critical Issues Facing China's Rubber Industry in the Era of Market Integration: An analysis in retrospect and prospect (2007)
[34] ibid
[35] Hilary Smith, Juliet Lu, Phuc Xuan To, Soytavanh Mienmany, and Khonethong Soukphaxay, Rubber Plantation Value Chains in Laos: Opportunities and Constraints in Policy, Legality and Wood Processing. (Forest Trends, 2020)
[36] ibid
[37] ibid
[38] ibid
[39] ibid