



Working Paper 2025.2.3.16

- Vol. 2, No. 3

**TÁC ĐỘNG CỦA HIỆP ĐỊNH VKFTA ĐẾN TIỀM NĂNG XUẤT KHẨU HẠT MẮC CA
CỦA VIỆT NAM SANG THỊ TRƯỜNG HÀN QUỐC**

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Tóm tắt

Hàn Quốc đang trở thành thị trường tiềm năng cho hạt mắc ca Việt Nam nhờ nhu cầu ngày càng tăng đối với thực phẩm dinh dưỡng và có lợi cho sức khỏe. Cùng lúc, Việt Nam đẩy mạnh mở rộng diện tích trồng mắc ca, đặc biệt tại Tây Nguyên nhờ điều kiện khí hậu, thổ nhưỡng thuận lợi. Việc thực thi Hiệp định Thương mại Tự do Việt Nam-Hàn Quốc (VKFTA) không chỉ tạo ưu đãi thuế quan mà còn tăng khả năng tiếp cận thị trường, mở ra nhiều cơ hội cho doanh nghiệp trong nước. Nghiên cứu này phân tích thực trạng, tiềm năng xuất khẩu và những thách thức chính của ngành mắc ca Việt Nam tại thị trường Hàn Quốc trong khuôn khổ VKFTA. Thông qua dữ liệu thương mại, đánh giá lợi thế thuế quan và yêu cầu nhập khẩu, bài viết cho thấy dù VKFTA đem lại nhiều cơ hội, hoạt động xuất khẩu vẫn gặp khó khăn về quy mô sản xuất, chất lượng chưa đồng đều và các quy định kiểm dịch nghiêm ngặt. Từ đó, nghiên cứu đề xuất một số chính sách và chiến

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lược nhằm nâng cao năng lực cạnh tranh và thúc đẩy phát triển bền vững của ngành mắc ca Việt Nam trên thị trường quốc tế.

Từ khóa: VKFTA, Việt Nam, Hàn Quốc, mắc ca, xuất khẩu, hiệp định thương mại

EXPORT POTENTIAL OF VIETNAMESE MACADAMIA NUTS TO SOUTH KOREA UNDER VKFTA

Abstract

South Korea is becoming a potential market for Vietnamese macadamia nuts thanks to the increasing demand for nutritious and healthy foods. At the same time, Vietnam is expanding the area of macadamia cultivation, especially in the Central Highlands, thanks to favorable climate and soil conditions. The implementation of the Vietnam-Korea Free Trade Agreement (VKFTA) not only creates tariff incentives but also increases market access, opening up many opportunities for domestic enterprises. This study analyzes the current situation, export potential, and key challenges of the Vietnamese macadamia industry in the Korean market within the framework of VKFTA. Through trade data, assessment of tariff advantages and import requirements, the article shows that although VKFTA brings many opportunities, export activities still face difficulties in terms of production scale, uneven quality, and strict quarantine regulations. From there, the study proposes several policies and strategies to enhance competitiveness and promote sustainable development of the Vietnamese macadamia industry in the international market.

Keywords: VKFTA, Vietnam, South Korea, macadamia, export, trade agreement

1. Introduction

Currently, there are increasing demands and strong purchasing power for nutrient-rich nuts in South Korea due to a growing consumer trend towards healthier lifestyles and diets. Therefore, the South Korean market has become a prospective market, creating a myriad of opportunities for Vietnamese exporters. Moreover, owing to the presence of Vietnam-Korea Free Trade Agreement (VKFTA) with many preferential tariffs and trade facilitation mechanisms, Vietnamese products can be more competitive and easier to access the Korean market.

However, exporting macadamia nuts from Vietnam to South Korea in the current global context is not without challenges. Increasing geopolitical tensions, supply chain disruptions, and rising protectionist measures have created new complexities in international trade. Furthermore, South Korea maintains strict import standards regarding food safety, labeling, and origin

traceability, which require exporters to adapt their production and compliance systems accordingly.

Even with the increasing significance of macadamia cultivation and the VKFTA architecture, there is scant empirical analysis integrating these components into the structure of international trade relations. This study seeks to fill the gap and provide a comprehensive analysis of the opportunities and challenges faced by Vietnam's Macadamia exports under the Vietnam-Korea Free Trade Agreement (VKFTA).

2. Literature Review

2.1. FTAs Studies

A free trade agreement (FTA) is an agreement between two or more countries to reduce or eliminate trade barriers to goods, services, investment, and intellectual property rights (Vietnam National Trade Repository, n.d.). In Asia, according to Plummer (2007), when tariffs are already low, FTAs mainly help reduce transaction costs, promote FDI inflows, transfer technology, and apply advanced management practices, thereby improving economic competitiveness.

Vietnam has signed 17 FTAs, including new-generation agreements such as CPTPP, EVFTA, and VKFTA (HCMCPV, 2025). As a result, the economic openness index has increased sharply from 20% in 1985 to 173% in 2015 (Mateus & Hoang, 2021), contributing to attracting investment capital, improving labor productivity, and promoting integration into regional and global value chains. In particular, FTAs with high-standard markets like Korea both open up opportunities and pose challenges for new export industries like macadamia.

2.2. Vietnam Agricultural Export Studies

Underpinned by flagship commodities such as rice, coffee, cashews, and, more recently, high-value fruits and nuts, Vietnam's agricultural export sector has experienced a dramatic increase in export value, rising from approximately USD 15 billion in 2005 to over USD 62 billion in 2024 (World Bank & IPSARD, 2016; ScienceDirect, 2023). Despite this growth, geographical distance, exchange-rate volatility, and logistics inefficiencies remain significant barriers to export volumes. Conversely, empirical research utilizing gravity-model frameworks consistently identifies partner-country GDP and participation in regional and bilateral trade agreements, such as ASEAN, RCEP, and VKFTA, as strong positive drivers of export volumes (ScienceDirect, 2023; WTO Center, 2021; Emerald Insight, 2020). Specifically, studies employing spatial gravity models on Vietnam's

coffee exports indicate that port efficiency and technological preparedness significantly enhance export performance, highlighting the importance of infrastructure investment for sustaining growth in high-value and perishable crops (Tandfonline, 2024; ResearchGate, 2022).

2.3. Studies on Non-Tariff Measures (NTMs)

As tariff rates decline, Non-Tariff Measures (NTMs), including sanitary and phytosanitary (SPS) regulations, technical standards, licensing, and labeling, have become significant obstacles to international trade, especially in agriculture (WTO, 2024). According to Trade Cost Theory (Anderson & van Wincoop, 2004), both tariffs and NTMs increase trade costs, directly affecting market access and trade flows. This dual effect is evident in Vietnam's macadamia exports, where tariff preferences under VKFTA must be balanced with Korea's strict SPS requirements.

The impact of NTMs on trade is further supported by empirical research. Mgeni (2025) found that eliminating NTMs within the East African Community boosted intraregional food trade by over 40%, with minimal trade diversion. However, persistent issues in digital certification and customs systems still hinder full facilitation. These findings highlight that although NTMs can hinder trade, effective reforms can unlock significant market potential, an important lesson for Vietnam's agricultural exports to Korea.

2.4. Gap Analysis

To date, no study has systematically examined the interplay between VKFTA opportunities and the export readiness of macadamia products from a specific production region, such as the Central Highlands. This leaves a research gap concerning the integrated assessment of market access conditions, regional supply capacity, and policy leverage under a trade agreement framework.

Addressing this gap is essential for informing export strategies of macadamia producers and policymakers aiming to position Vietnam as a competitive supplier in the Korean high-value nut market.

3. Analytical framework

The analytical framework of the study is built on four main groups of factors:

- Tariff incentives from VKFTA: analyze the 0% preferential tax rate and its impact on the competitiveness of Vietnamese macadamia compared to competitors such as Australia.
- Vietnam's production and export capacity: evaluate raw material areas, processing technology, logistics costs and the ability to meet technical standards.
- Characteristics and requirements of the Korean market: analysis of regulations on food safety, traceability, quarantine and healthy food consumption trends.
- Business case analysis: case study of ViNaMacca Tay Nguyen to illustrate the specific process of accessing the Korean market.

4. Overview of Vietnam-Korea Free Trade Agreement (VKFTA)

4.1. Overview of VKFTA

The Vietnam-Korea Free Trade Agreement (VKFTA) was officially signed on May 5, 2015, and it came into effect on December 20, 2015. VKFTA is a bilateral agreement that complements, but does not replace, the ASEAN-Korea FTA (AKFTA), providing deeper commitments between Vietnam and South Korea in the areas of trade in goods, services, and investment. Businesses can choose which FTA is more beneficial and suitable.

The VKFTA consists of 17 chapters and 208 articles and 15 Annexes, covering a variety of topics including Trade in Goods, Trade in Services, Investment and intellectual property, measures food safety and animal and plant quarantine (SPS), rules of origin, customs Facilitation, Bathrooms commercial, technical barriers to trade (TBT), e-commerce, Competition, economic Cooperation, institutional and Legal.

The Agreement is expected to bring substantial benefits: enhancing the business environment, allocation and use of social resources more efficiently, accelerating the process of restructuring the economy towards higher value added, and serving sustainable development goals. Transparent legal environment, ventilation will help to encourage investment from Korea to Vietnam, with high technology, advanced management skills and the opportunity to access third markets.

4.2. VKFTA Commitments Related to Agriculture

Table 1: Base and New Bilateral Tariff Data

Sector	Base data		New data	
	Vietnam	Korea	Vietnam	Korea
Fishing	5.38	19.89	14.60	16.54
Mineral products	17.95	4.14	9.14	2.33
Other agricultures	2.98	289.21	11.06	173.03
Electrical and Machinery	7.70	5.30	3.35	4.28
Textile	30.22	10.46	11.45	9.21
Transportation	34.29	5.33	25.91	4.39
Iron and Steel	5.80	5.03	4.23	2.92
Plastic and Rubber	6.88	3.15	3.69	3.75
Other manufactures	21.96	13.88	7.50	8.07
Services	0.00	0.00	0.00	0.00
Average	14.80	39.60	10.10	24.95

Source: Journal of East Asian Economic Integration

The table above reveals a significant shift in import tariff structures between Vietnam and Korea before and after the implementation of the Vietnam-Korea Free Trade Agreement (VKFTA), with notable changes observed in the agricultural sector. Korea's import duties on Vietnam's agricultural exports, which fall under the "Other agricultural" category, were drastically reduced from 289.21 percent to 173.03 percent. Korea's strong commitment to increasing market access for Vietnamese agricultural products is evident from this significant decline. For the agricultural sector as a whole, this represents a major opportunity to deepen access to the Korean market, especially for high-potential products such as fruits, macadamia nuts, and tropical vegetables.

4.3. South Korea's Import Requirements for Macadamia Nuts

South Korea maintains a science-based regulatory system and strictly adheres to the rules governing the importation of tree nuts, including macadamia, under its Food Sanitation Act - the legal basis for the food safety-related work conducted by MFDS, which aims to establish and enforce food regulations as well as set standards and specifications for domestic and imported foods. All importers must register and submit import declarations as well as product compliance. Macadamia shipments must be accompanied by a phytosanitary certificate issued by the exporting country's inspection authority to ensure that the product is free from quarantine pests (APQA,

2022). Besides, products have to go through an inspection process upon arrival, including sampling for pesticide residues, contaminants, and microbiological safety. Shipments must comply with South Korea’s Maximum Residue Limits (MRLs), and non-compliance can lead to detention or rejection (MFDS, 2023).

All packaged food must include South Korean-language labels that clearly state product name, ingredients, country of origin, expiration date, nutritional information, and allergen content (South Korea Customs Service, 2022). Macadamia, as a tree nut, is considered to have allergens; therefore, the raw materials must be listed on the label regardless of content. Moreover, a separate allergen labeling must be made near the raw material labeling with a different background color, to list the raw materials that require allergen labeling. Exporters may also need to meet Hazard Analysis and Critical Control Points (HACCP) certification if the product is processed.

5. Macadamia Nut Export Potential from Tây Nguyên to Korea

Year of trade	2019	2020	2021	2022	2023
USA	\$235.22 million	\$143.83 million	\$131.48 million	\$150.69 million	\$89.17 million
China	\$24.01 million	\$22.26 million	\$39.61 million	\$58.93 million	\$45.11 million
Germany	\$68.41 million	\$71.74 million	\$77.41 million	\$56.11 million	\$39.45 million
Japan	\$57.48 million	\$48.18 million	\$48.34 million	\$47.77 million	\$31.40 million
Netherlands	\$40.79 million	\$39.06 million	\$43.71 million	\$34.39 million	\$22.01 million
South Korea	\$12.29 million	\$13.10 million	\$18.64 million	\$13.02 million	\$13.86 million
Taiwan	\$15.39 million	\$13.77 million	\$16.31 million	\$12.68 million	\$9.76 million
Spain	\$13.40 million	\$11.83 million	\$18.04 million	\$12.69 million	\$9.27 million
Vietnam	\$4.59 million	\$23.43 million	\$9.79 million	\$10.16 million	\$8.52 million
Belgium	\$17.07 million	\$2.80 million	\$1.79 million	\$698K	\$8.34 million

Source: *Tradeimex*

Figure 2: Macadamia Importers Data from 2019-2023

South Korea is a potential market for Vietnamese macadamia nuts because import turnover is stable at a high level (average of 14-18 million USD/year from 2019 to 2023, showing that consumer demand is stable and not subject to large fluctuations. Meanwhile, Vietnam has only exported a small amount, so there is still room to penetrate deeper into this market.

5.1. Status of Macadamia Production in Tây Nguyên

According to data released by the Vietnam Administration of Forestry (Ministry of Agriculture and Rural Development) by the end of 2023, the total macadamia growing area in the country reached 46,241 hectares, of which the Central Highlands accounted for 27,334 hectares, equivalent to about 59% of the country's total macadamia growing area. The provinces with the largest macadamia growing in the Central Highlands include Lam Dong, Dak Lak, Dak Nong, and Gia Lai. This area currently accounts for 60.7% of the macadamia development plan of the Central Highlands. Currently, macadamia in the Central Highlands is mainly consumed domestically in the form of dried nuts, salted roasted nuts. It is gradually expanding exports to markets such as Korea, Japan, and China. However, macadamia production here still faces many difficulties, such as scattered areas, inconsistent seed quality, limited processing capacity, and the impact of climate change.

In the coming period, solutions such as developing concentrated raw material areas, standardizing seeds, investing in deep processing technology, and strengthening consumption linkages will be key priorities to improve the efficiency of macadamia production in the Central Highlands.

5.2. Vietnam's Export Competitiveness

Vietnam has significantly improved its ability to process macadamia nuts to meet international standards in recent years. Both state-led programs and private investments have concentrated on modernizing processing facilities and post-harvest handling methods as part of their long-term plan to boost export competitiveness. For example, Đắk Lắk Province's Ea H'leo District has made investments in extensive macadamia cultivation and set up preliminary drying and packaging facilities that satisfy export specifications (Ltd, 2024).

Vietnamese exporters closely follow technical guidelines for harvesting and processing to guarantee product quality and extend shelf life. Export-grade macadamia nuts must meet phytosanitary standards for consistent size (26-35 mm), moisture content (2-4%) after drying, and a natural wood-brown shell with an unbroken white kernel and safety requirements of high-standard markets like South Korea (VietLinh Agrimex, 2024).

Furthermore, Vietnam's increasing capacity to satisfy the stringent food safety, hygiene, and traceability requirements set by the Korean market is evidenced by the successful sale of more than 10 tons of macadamia nuts to South Korea in early 2024 (Vietnam Government Portal, 2024). This milestone indicates increased export potential under the advantageous terms of the VKFTA, in addition to advances in domestic processing capacity.

In addition to lowering the economic burden on Korean importers, the preferential tariff treatment provided by the VKFTA promotes long-term sourcing agreements, giving Vietnamese exporters stable market access. The tariff-free status of macadamia nuts can result in increased price competitiveness and visibility on store shelves and e-commerce platforms as Korea's desire for high-end, healthful snacks rises.

Additionally, the VKFTA has clauses that expedite customs procedures, rules of origin, and mutual acceptance of quality standards to encourage trade. For high-value and perishable agricultural products like macadamia, these techniques lower transaction costs and non-tariff barriers, which are especially important (USDA GAIN, 2024). These clauses, together with Vietnam's increasing adherence to food safety regulations, contribute to the conversion of macadamia exports from sporadic shipments into a steady commerce flow.

6. Impact Analysis: VKFTA and Global Trade Context

6.1. Positive Impacts

Notably, the VKFTA tariff schedules list both in-shell (HS 0802.61) and shelled (0802.62) macadamia nuts at 0% preferential import tariff since at least 2018. This duty-free access, which was built based on earlier ASEAN-Korea preferences, has helped Vietnamese macadamias become more price-competitive in the Korean market. As a result, exports have begun rising sharply.

Nutri Soil JSC, which is a Dak Lak grower-processor, sent the first official container of macadamia to Korea, celebrated in a local ceremony (VietnamPlus, 2024). These official, standards-compliant exports are a clear indication that VKFTA is helping Vietnamese producers

“break into” the Korean market, where demand for premium and healthy nuts such as macadamias is steadily increasing. Tariff advantages have helped reduce export costs and encouraged producers to invest in deeper processing and quality improvements to meet South Korea’s strict technical standards. This has not only helped to access the Korean market more easily, but has also paved the way for the expansion to other markets in the area and around the world.

6.2. Negative impacts

In addition to the positive impacts, VKFTA still has some barriers that limit the ability to effectively penetrate the Korean market - a demanding market with many strict regulations on plant quarantine (SPS), HACCP certification and food safety, especially for agricultural products. According to a report by the Korean Ministry of Food and Drug Safety (MFDS) in 2020, there were up to 37 cases of violations of food safety regulations related to processed foods imported from Vietnam. Some Korean regulations require that if a shipment is found to contain harmful substances, the importer must have a solution within the prescribed time. Korean consumers are also very strict about food quality and are willing to boycott brands if there is negative feedback. Therefore, if Vietnamese products do not ensure high quality, it will be difficult to access this market (MFDS, 2020).

After the COVID-19 pandemic, the global supply chain remains vulnerable, directly affecting the ability to export items that require careful preservation and timely transportation such as macadamia. With the need to transport at the right temperature and time to maintain quality, any delay or increased cost will reduce competitiveness. In addition, the nut market in Korea is gradually becoming saturated, along with the trend of "slowbalization" - a slowdown in global trade integration, manifested through increased protectionism and tighter import controls (The Economist, 2023). Korea is also currently importing macadamia from countries with strong positions such as Australia and the US - countries with modern production systems and strong brands.

6.3. Comparison with Key Competitors



Source: *Trademap*

Figure 2: List of supplying markets for macadamia imported by the Republic of Korea in 2024

Australia has traditionally held a leading position in global macadamia production, not only as one of the top producers but also a major exporter to high-value markets like South Korea. As of February 2024, Australia's export of roughly 1,465 tonnes of macadamia nuts into South Korea positions it as one of the leading horticultural exports into the Korean market (Horticulture Innovation, n.d.). Australian macadamias have enjoyed trade liberalization, especially from the Korea-Australia Free Trade Agreement (KAFTA), which came into effect in 2014. Australian exporters under KAFTA had access to the Korean market much earlier than other emerging suppliers like Vietnam, enabling Australian exporters to dominate the market to solidify buyer relationships (Australian Government Department of Foreign Affairs and Trade, n.d.).

This scenario is beginning to change with Vietnam's entry into the Korean market under the Vietnam–Korea Free Trade Agreement (VKFTA). Although still a newcomer, Vietnam's access to both in-shell and shelled macadamia nuts (HS 0802.61 and 0802.62) duty-free has lessened the competitive disadvantage to Australian products.

7. Opportunities, Challenges, and Strategic Recommendations

7.1. Opportunities

With a population of over 51 million and a GDP of over 1,700 billion USD (2023), South Korea is a dynamic market with significant purchasing power for agricultural products, according to the World Bank. Given that Korean customers are increasingly choosing plant-based, healthful meals, the Vietnamese macadamia industry has had a wonderful opportunity to break into this market since the VKFTA went into effect in 2015.

First, the VKFTA offers exceptional tariff benefits: South Korea receives 0% duty on Vietnamese macadamia (both nuts and seeds) exports, whereas nations without FTAs still pay 30–45% tax (Vietnam Embassy in Beijing, n.d.). This policy helps Vietnamese businesses reduce costs, increase competitiveness and expand market share in a price-sensitive market.

Second, Vietnam's production costs are lower than those of nations like the US or Australia. Vietnam's macadamia export prices range from 5.99 to 7.91 USD/kg, which is less than the average price of 10.67 USD/kg for imports worldwide, according to Selina Wamucii (2024) (World's Top Exports, 2024). Vietnamese businesses can now readily reach Korea's mid-range market as a result.

Third, there is a significant rise in the demand for macadamia in Korea. The nation imported around 13.86 million USD worth of macadamia in 2023, demonstrating a growing tendency to eat nutrient-dense foods (Tradeimex, 2024). Vietnam has the chance to progressively increase its market share in this sector.

Finally, Vietnam has focused on investing in post-harvest technology and traceability systems, meeting Korea's strict requirements on food safety and quality. At the same time, VKFTA also facilitates the reception of technology, machinery and raw materials from Korea, helping to improve the processing capacity and competitiveness of the macadamia industry.

7.2. Challenges

First, compared to long-standing exporting countries such as Australia and South Africa, Vietnam's macadamia production capacity and quality are still limited. According to OEC World, in 2023, Vietnam exported only about 13 million USD worth of macadamia (both nuts and kernels), accounting for about 2% of the global market share, while South Africa and Australia accounted for 37.4% and 25.3% respectively, with export values reaching 261 million USD and .

167 million USD. This shows that Vietnam needs to improve its production capacity and product quality to compete internationally (OEC World, 2023).

Second, Korea's strict technical standards and plant quarantine regulations require high product quality. Macadamia must be free of chemical residues, ensure food safety, and have clear traceability. Vietnamese enterprises need to invest in processing technology and quality control systems to meet this requirement, making it difficult to maintain market share in Korea.

Third, Vietnam's processing capacity and logistics system are still weak. According to the Vietnam Logistics Association (VLA), in 2021, logistics costs accounted for about 16.8% of the value of goods, higher than the global average of 10.6%. Although some large enterprises have invested in modern production lines, most processing facilities are still small and have outdated technology, causing large losses and high costs. In addition, international transportation costs, especially by sea to Korea, have increased due to geopolitical fluctuations and fuel prices, reducing the profits of exporting enterprises.

Finally, Vietnam is still weak in post-harvest preservation and deep processing. Most macadamias are exported in raw or semi-processed form, with few processed products, such as pre-roasted, seasoned, and vacuum-packed products, exported to high-end markets like Korea. Meanwhile, South Korea prioritizes importing pre-processed products, making it difficult for Vietnamese macadamia nuts to compete with goods from Australia or the US, countries with modern processing technology.

7.3. Strategic Recommendations

a. Take advantage of VKFTA tax incentives and expand mid-range market share

Enterprises should promote on retail and e-commerce channels targeting the mid-range segment, and design packaging in Korean, clearly stating the origin, production process and health benefits. Cooperating with supermarkets and stores in Korea will help increase brand awareness.

b. Leverage low-cost advantages to build a competitive pricing strategy

It is necessary to apply a flexible pricing strategy, focusing on the mid-range segment first, then improving quality to expand market share. Enterprises should also optimize the supply chain and reduce post-harvest losses to maintain price advantages.

c. Diversify products according to healthy food trends

Enterprises should develop new macadamia lines, such as honey roasted, traditional, vacuum-packed, or integrated into convenient products such as energy bars, to meet the needs of fast and convenient consumption in Korea.

d. Improve production capacity and quality

It is necessary to plan concentrated growing areas, select suitable varieties, and promote links between farmers and businesses. Investing in processing facilities in raw material areas helps reduce losses and improve product quality.

e. Investing in deep processing and post-harvest preservation

Enterprises should modernize roasting, drying, packaging, sterilization, and preservation technologies, such as cold storage, automatic shelling machines to extend shelf life and maintain nutritional value when exporting.

f. Meet standards and traceability

Enterprises need to apply standards such as ISO 22000, HACCP, VietGAP, and invest in growing area codes, packaging facility codes, and QR systems for traceability. Authorities can provide technical advice and testing.

8. Case study: ViNaMacca Tây Nguyên Co., Ltd.

8.1. Company Overview

ViNaMacca Tây Nguyên Co., Ltd. was established in 2005 as part of the Australian Government-funded CARD Project (No. 037/VIE/05) in partnership with Vietnam's Ministry of Agriculture and Rural Development. Utilizing the technical assistance and expertise from the CARD initiative, ViNaMacca established a 20-hectare demonstration plantation to produce and distribute premium seedlings, kernel products, and wild macadamia honey, thereby establishing a foundation for extensive cultivation of this high-value crop. Currently, the company reports annual revenues of approximately \$10 million, exports around 500 tons of nuts per year and commands roughly 15 percent of the global macadamia market, underpinned by its organic production methods and sustainable farming practices.

Today, the company maintains 23 distinct cultivars sourced from leading breeding programs in Australia, China, Thailand, Hawaii (USA), and the Western Highlands Agricultural Science and Technology Institute (WASI). Through demonstration plots ranging from 1 to 8

hectares and a series of over a dozen training workshops held between 2005 and 2012 in regions such as Hà Nội, Ba Vì, Buôn Ma Thuột, and Đắk Nông, ViNaMacca has consistently achieved a graft success rate of around 90% and first-year yields averaging 1 kg of nuts per tree in select pilot sites.

8.2. Export Journey under VKFTA

The exportation process of macadamia nuts under the Vietnam-Korea Free Trade Agreement (VKFTA) for Vinamacca Tây Nguyên Co., Ltd. is complicated and strictly controlled. In the initial stages, the company must comply with Korea's stringent sanitary and phytosanitary (SPS) measures, as outlined by the Korea Food and Drug Administration (KFDA) and the Animal and Plant Quarantine Agency (APQA). These requirements include the complete elimination of pesticides, mold, insects, and other contaminants.

Vinamacca must accompany each shipment with comprehensive traceability details such as a certificate of origin issued under VKFTA provisions, which grants the given product preferential tariff rates. Moreover, as required by Korean import regulations, the company must register its processing and packing facilities and obtain food safety certifications like Hazard Analysis and Critical Control Points (HACCP).

Vietnamese phytosanitary authorities, including the National Agro-Forestry-Fisheries Quality Assurance Department (NAFIQAD) and the NAQ Center, to undergo plant health inspections. A valid Phytosanitary Certificate must be issued, certifying the consignment is pest- and disease-free according to Korea's import plant quarantine protocols. Any missteps at this stage can lead to delays or even financial penalties.

Shipments arriving at major Korean ports like Incheon or Busan are subjected to a second round of scrutiny. Selected Korean customs officers from the APQA, KFDA, and other departments conduct random checks alongside document checks and labeling checks. Korean law mandates that all consumer-facing labels be translated into Korean, including allergen warnings, nutritional information, and product origin. Failure to meet labeling requirements may result in the consignment being detained, tested, or re-exported at the exporter's expense (Korea Customs Service, 2023)

These regulatory barriers, while designed to protect consumer health and safety, place considerable operational and administrative burdens on small and medium-sized enterprises (SMEs) such as Vinamacca. Many Vietnamese exporters face institutional constraints.

Nevertheless, enterprises that successfully adapt and comply with these requirements are rewarded with preferential market access and reduced tariff rates under VKFTA, facilitating their integration into one of Asia's most dynamic consumer markets (WTO, 2023).

9. Government response to VKFTA

9.1. Vietnam and Korea Government Response to VKFTA: Current Policies

a. Vietnam's policies

- Simplifying customs procedures and rules of origin: Vietnam is working closely with Korea to simplify customs procedures and rules of origin, to facilitate businesses in taking advantage of tariff incentives from the VKFTA.
- Supporting small and medium-sized enterprises (SMEs): The Vietnamese government encourages SMEs to participate in the global supply chain through training support, technology transfer, and connections with Korean partners.
- Human resource development: Vietnam is focusing on training human resources in the fields of high technology, digital transformation, and artificial intelligence, to meet the needs of the labor market and strengthen cooperation with Korea in these fields.

b. Korean policies

- New Southern Policy (NSP): Korea continues to promote the New Southern Policy, in which Vietnam is considered a key partner, to strengthen economic, cultural, and political cooperation with ASEAN countries, especially Vietnam.
- Supporting Korean businesses in Vietnam: The Korean government is committed to supporting Korean businesses to invest and expand operations in Vietnam, especially in areas such as electronics, renewable energy, and high technology.
- Cooperation in the energy and industrial sectors: Korea and Vietnam have signed memoranda of understanding on cooperation in the fields of nuclear energy, power transmission, and industrial development, aiming to promote technology transfer and investment between the two countries.

9.2. Gap Analysis

On the Vietnamese side, although policies promoting SMEs and simplifying customs procedures have been introduced, there remains a lack of targeted support for the macadamia sector. This includes insufficient credit incentives for deep-processing enterprises, underdeveloped

certified planting areas, and the absence of dedicated logistics services for perishable goods. Meanwhile, Korea's New Southern Policy continues to prioritize high-tech industries and investment projects, without incorporating import facilitation measures for Vietnamese agricultural products. As a result, Vietnam's macadamia industry faces significant challenges in market access and competitiveness, particularly in a market dominated by high-value, processed macadamia products from Australia and the United States.

10. Recommendations

Growing demand in Korea for premium, health-oriented nuts dovetails with Vietnam's competitive advantage in production costs and proximity, offering a strategic opportunity to capture market share alongside established suppliers from Australia and South Africa. Yet this opportunity is tempered by stringent Korean import requirements, including comprehensive pest-free certification, non-GMO attestations, and conformity with hygienic packaging and traceability standards.

Firstly, policymakers should reinforce pre-export quality assurance by supporting the expansion of accredited pest-control and laboratory testing facilities in key producing provinces such as Đắk Lắk and Gia Lai. Ensuring that consignments are free from soil, weed seeds, and quarantine pests, and accompanied by phytosanitary certificates conforming to the International Plant Protection Convention will smooth customs clearance and bolster buyer confidence. Financial incentives or cost-sharing schemes for small and medium enterprises (SMEs) to achieve ISO and Global Good Agricultural Practices (GAP) certifications would further elevate product credibility in the Korean market.

Secondly, technical capacity building is essential. Investing in cold-chain logistics and modern processing lines capable of maintaining kernel freshness and preventing aflatoxin contamination will align Vietnamese supply with Korean retailers' exacting standards. The success of Dak Lắk's inaugural 10-ton export batch, which passed rigorous pest control and hygiene inspections before distribution in Korean supermarket chains, underscores the importance of such infrastructure. Public-private partnerships to establish centralized packing centers can drive economies of scale and reduce per-unit compliance costs.

11. Conclusion

According to the study's findings, the VKFTA's tariff incentives and the trend toward healthier eating make the Korean market a possible destination for Vietnamese macadamia nuts. The Vietnamese macadamia industry must, however, overcome constraints in terms of production scale, processing capability, and the ability to satisfy the exacting requirements of the import market to fulfill its promise. To enhance competitiveness and expand market share, it is essential to invest in post-harvest technologies, improve product quality, and strengthen the traceability system. This study also provides practical recommendations to support the development of policies and strategic plans for the macadamia industry.

12. Acknowledgement

The research team would like to sincerely thank lecturer Vu Huyen Phuong for her dedicated guidance, insightful comments, and valuable professional guidance throughout the project implementation process. Her support is an important source of motivation and guidance to help the team complete the research scientifically and effectively.

The team would also like to acknowledge and thank the efforts, serious cooperation, and responsibility of each member: Do Le Phuong Anh, Ngo Minh Anh, Nguyen Minh Khue, Hoang Thanh Thao, and Nguyen Hoang Tieu Nguyen, who have contributed their efforts, knowledge, and time to complete this research paper.

The research was carried out entirely with internal resources, without receiving funding from any outside organizations or individuals. All content in the paper reflects the independent work process of the team under the academic guidance of the lecturer in charge.

Any limitations, if any, are the responsibility of the research team and we look forward to receiving comments from teachers and readers to improve in future studies.

Reference

- Animal and Plant Quarantine Agency (2022), *Quarantine procedures for imported plants and plant products*, Animal and Plant Quarantine Agency, Republic of Korea. Available at: <https://www.qia.go.kr/listindexWebAction.do> (Accessed: 8 May 2025).
- Australian Government Department of Foreign Affairs and Trade (n.d.), *KAFTA and trade in goods*. Available at: <https://www.dfat.gov.au/trade/agreements/in-force/kafta/factsheets/kafta-and-trade-in-goods> (Accessed: 10 May 2025).
- Embassy of the Socialist Republic of Vietnam in China (n.d.), *Agreement VKFTA: Large way opened*. Available at: <https://vnembassy-beijing.mofa.gov.vn/en-us/About%20Vietnam/General%20Information/Economic/Pages/VKFTA-Agreement-The-big-road-opened.aspx> (Accessed: 10 May 2025).
- Government of Vietnam (2021), Decision No. 344/QĐ-TTg dated 15 March 2021 on approving the Sustainable Macadamia Development Project for the period 2021–2030, with a vision to 2050, Government of Vietnam, Hanoi.
- Trung, K (2025), Mở rộng thị trường và ký kết thêm các Hiệp định thương mại tự do mới với đối tác tiềm năng, *Đảng bộ Thành phố Hồ Chí Minh*, 8 April. Available at: <https://www.hcmcpv.org.vn/tin-tuc/mo-rong-thi-truong-va-ky-ket-them-cac-hiep-dinh-thuong-mai-tu-do-moi-voi-doi-tac-tiem-nang-1491935744> (Accessed: 10 May 2025)
- Phan, T (2025), Chi phí logistics ‘thách thức’ xuất nhập khẩu, *Báo điện tử Chính phủ*, 26 May. Available at: <https://baochinhphu.vn/chi-phi-logistics-thach-thuc-xuat-nhap-khau-102220520195404604.htm>. (Accessed: 9 May 2025).
- Main commitments. (n.d.). Vietnam-Korea Free Trade Agreement (VKFTA). Available at: <https://vntr.moit.gov.vn/fta/21/2>.(Accessed: 8 May 2025).
- Mateus, C. and Hoang, B.T., 2021. Frontier markets, liberalization and informational efficiency: Evidence from Vietnam. *Asia-Pacific Financial Markets*, 28(4), pp.499–526. Available at: <https://doi.org/10.1007/s10690-021-09333-9> (Accessed: 9 May 2025).
- Mgeni, C.P., 2025. Elimination of non-tariff measures under AfCFTA: Implication for trade facilitation and food sector development in East African Community. *Eastern and Southern Africa Journal of Agricultural Economics and Development*, 13(1). Available at: <http://www.jaed.sua.ac.tz/index.php/jaed/article/view/27> (Accessed: 9 May 2025).

Ministry of Food and Drug Safety (2023) Foreign food facility registration and imported food safety management. Available at: https://www.mfds.go.kr/eng/brd/m_19/list.do. (Accessed: 8 May 2025).

Ministry of Food and Drug Safety (2023). Korean Labelling and Traceability Requirements for Imported Foods. Available at: <https://www.mfds.go.kr>. (Accessed: 8 May 2025).

OECD (2023) *Macadamia nuts (HS: 080260) exports and imports data*. Available at: <https://oec.world/en/profile/hs/macadamia-nuts> (Accessed: 26 May 2025).

Selina Wamucii (2024) *Vietnam Macadamia Nuts Prices*. Available at: <https://www.selinawamucii.com/insights/prices/vietnam/macadamia-nuts/> (Accessed: 26 May 2025).

The Economist, 2023. Globalisation, already slowing, is suffering a new assault. *The Economist*, 12 January. Available at: <https://www.economist.com/briefing/2023/01/12/globalisation-already-slowing-is-suffering-a-new-assault> (Accessed: 26 May 2025).

Tradeimex (2024) *Macadamia: Biggest importers and market insights 2024*. Available at: <https://www.tradeimex.in/blogs/macadamia-biggest-importers> (Accessed: 26 May 2025).

USDA Foreign Agricultural Service (2023). *Opportunities for U.S. agricultural products in South Korea*. Available at: <https://www.fas.usda.gov/data/opportunities-us-agricultural-products-south-korea> (Accessed: 26 May 2025).

Vietnam Embassy in Moscow, n.d. *Vietnam Embassy in Moscow*. Vietnam - South Korea has officially signed a Free Trade Agreement. Available at: <https://vnembassy-moscow.mofa.gov.vn/en-us/About%20Vietnam/General%20Information/Economic/Pages/Vietnam---South-Korea-has-formally-signed-a-free-trade-agreement.aspx> (Accessed 13 May 2025).

Vietnam Government Portal, 2024. *Dak Lak province exports macadamias to South Korea*. Available at: <https://en.baochinhphu.vn/dak-lak-province-exports-macadamias-to-south-korea-111240104153216588.htm> (Accessed 11 May 2025).

Vietnam National Trade Repository, n.d. *What are Free Trade Agreements?* Available at: <https://vntr.moit.gov.vn/what-are-free-trade-agreements> (Accessed 12 May 2025).

ViNaMacca, n.d. *Giới thiệu Công Ty Cổ Phần ViNa Macca*. Available at: <https://vinamacca.com.vn/gioi-thieu/> (Accessed 9 May 2025).

Warlord_ck, 2021. *Macadamia – A Promising Start to a New High Value Agricultural Industry for Vietnam*. Available at:

<https://www.scribd.com/document/521060449/Macadamia-a-Promising-Start-to-a-New-High-Value> (Accessed 8 May 2025).

World Trade Organization (WTO), 2023. *Sanitary and Phytosanitary Measures: Overview*.

Available at: https://www.wto.org/english/tratop_e/sps_e/sps_e.htm (Accessed 10 May 2025).