

Developments in Vietnamese Coffee Production and Market from 2010-2025 and Some Recommendations

Tran Xuan Hai¹, Nguyen The Anh¹, Pham Minh Thuy^{2,*}

¹Faculty of Economic Information Systems, Academy of Finance, Hanoi, Vietnam

²Institute of Economics and Finance, Academy of Finance, Hanoi, Vietnam

*Corresponding author: phamminhthuy@hvtc.edu.vn

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Abstract Vietnam is the world's second-largest coffee producer and exporter, with an average coffee yield over three times higher than the global average. Currently, Vietnam's coffee industry faces numerous challenges, including climate change, soil quality degradation, diseases, and increasing buyer demands for traceability, food safety, and coffee quality. This article highlights key trends in coffee production and the market from 2010 to 2025, the factors contributing to Vietnam's status as the world leader in coffee yield, and the industry's challenges and opportunities. It also proposes several solutions to promote the development of Vietnam's coffee production and exports in the future.

Keywords: Coffee market, coffee price, coffee yield

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1. Introduction

Vietnam is the second-largest coffee producer and exporter globally, boasting the highest average coffee yield worldwide - typically more than three times the global average. In 2023, Vietnam's coffee export turnover reached 4.24 billion USD, providing a large source of revenue for the national budget and balancing the trade balance. For farmers, coffee provides a large income, helping many households to escape poverty and improve their living standards. The Vietnamese coffee industry also creates many jobs, from planting and harvesting to processing and exporting. However, the Vietnamese coffee industry is currently facing many challenges, related to climate change, soil degradation, diseases, strong competition from other coffee-producing countries, new regulations of the coffee import market on traceability, food safety, coffee quality, etc.

Therefore, it is very important to collect, analyze, and update information on the production situation and the evolution of the coffee market. Understanding the current situation, and identifying challenges and opportunities in coffee cultivation and consumption will help the Vietnamese coffee industry improve production efficiency, increase income, and develop sustainably. At the same time, this accurate and timely information helps authorities to come up with appropriate strategies and solutions to support and promote the Vietnamese coffee industry to develop more strongly.

Therefore, updating information and analyzing coffee production and market developments in the period 2010-

2025, thereby proposing solutions to promote the development of coffee production and export in Vietnam is necessary in current conditions.

2. Literature Review

Coffee is a product, that is produced and consumed on a global scale. Therefore, studies on coffee production and consumption are conducted in many countries around the world. There are several published studies on this issue as follows:

The United States Department of Agriculture (USDA) [1] publishes reports twice a year (in June and December) on the main developments of the world coffee market and trade. It clearly states the production and trade situation, supply-demand correlation, coffee price developments of the past 4 crop years, and estimates/forecasts for the next 2 crop years.

The International Coffee Organization (ICO) [2] assessed that in recent years, the global production and consumption of Robusta coffee have tended to increase, while the consumption of Arabica coffee has decreased. The main reason is that the market demand replaces Arabica coffee with more competitive Robusta (due to increased living costs and decreased disposable income...).

Research by Sarah Charles [3] suggests that Robusta coffee is resistant to pests and diseases, resilient to weather fluctuations, and delivers a more stable yield than other coffee varieties. In many coffee-growing regions around the world, Robusta coffee is a safer choice than Arabica in the face of climate fluctuations, diseases, ...

Research by Jeffrey Sachs et al. [4] confirms that coffee

cultivation practices and methods in each country are the decisive factors that create the huge difference in current coffee yield between countries around the world.

Research by Nguyen Thi My Hang and Nguyen Thi Minh Thuy [5] suggests that: The impacts of climate change with extreme weather conditions have put coffee-growing areas in danger. From there, it is predicted that by 2050, global climate change could reduce Vietnam's Robusta coffee production area by 50% compared to the area in 2018.

Research by Precedence Research [6] estimates that the global coffee market is worth around \$245.2 billion in 2024 and is expected to reach around \$381.52 billion by 2034, with a compound annual growth rate (CAGR) of 4.51% from 2024-2034. The main reason for this growth trend is the growing popularity of coffee culture globally, leading to an increase in the coffee market and the number of coffee shops.

Minh Thuan's research [7] assessed: That robusta specialty coffee from Vietnam appears more and more at international coffee fairs in the United States, Italy, Japan, and Korea, and is highly appreciated by roasters and importers...

Son Trang's research [8] provides information: Vietnam is the first country to be very active in implementing the European Union Deforestation-Free Regulations (EUDR). As of the end of October 2024, most Vietnamese coffee exporting enterprises are ready to export coffee compliant with the EUDR, aligning with the regulation's planned implementation on December 30, 2024.

3. Research Methods

The article uses the general research methods of Dialectical Materialism and Historical Materialism; uses the method of analytical and synthetic methods to summarize relevant scientific materials, documents, and statistical data, to describe the current situation and propose solutions to promote the development of Vietnam's coffee production and exports under current conditions.

Scientific and practical significance:

- In terms of science, the article focuses on analyzing the position of Vietnamese coffee production and export in the global coffee market. It explains the key factors that have enabled Vietnam to achieve an average coffee yield more than three times higher than the global average.

- In terms of practice, the article provides an overview of the market developments and coffee prices globally and in Vietnam in the period 2010-2025; and identifies challenges and opportunities in the cultivation and consumption of Vietnamese coffee... Thereby, proposing some solutions to promote the development of coffee production and export in Vietnam.

Research object and scope:

The study focuses on analyzing the main developments in the global coffee market and prices in Vietnam in 16 years, from 2010 to 2025. In particular, it analyzes in depth the fluctuations in average coffee yield in Vietnam and some other countries; and identifies some challenges and opportunities in the current cultivation and consumption of Vietnamese coffee.

Data and data sources:

Based on actual research, and the collection and synthesis of secondary data from international agencies and organizations such as USDA, ICO, World Bank (WB), Food and Agriculture Organization of the United Nations (FAO) ... and Vietnamese agencies and organizations such as General Statistics Office, General Department of Customs, Ministry of Agriculture and Rural Development, Ministry of Industry and Trade... Export price is FOB price converted to USD, excluding export tax; Coffee volume is converted to bags (1 bag = 60kg)...

4. Findings

4.1. Overview of Global Coffee Market Developments and Coffee Prices in the Period 2010-2025

According to the USDA report published on June 20, 2024 [1], at the end of the 2023/24 coffee crop year (from October 2023 to September 2024), global coffee production is estimated to reach 169.18 million bags (increase 2,90% compared to crop year 2022/23); Of which, Arabica coffee production is 95.68 million bags (up 9.02%); Robusta coffee is 73.50 million bags (down 4.10%). Arabica coffee production increased mainly from Brazil (up 12.81% compared to the previous crop), Colombia (up 14.02%), Ethiopia (up 14.38%), Indonesia (up 12.50%)... mainly due to favorable weather for Arabica coffee and increased investment by farmers, causing coffee yield to increase; Robusta coffee production decreased mainly from Indonesia (down 28.42% compared to the previous crop), Malaysia (down 25.00%), Brazil (down 6.14%). Mainly due to drought and pests, causing Robusta coffee yield to decrease... (see Figure 1).

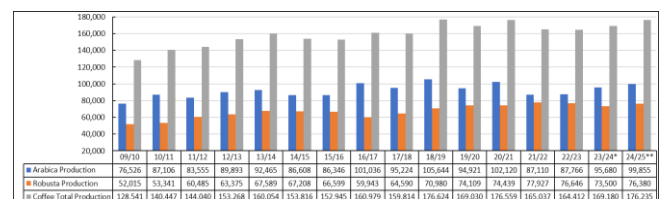


Figure 1. Global coffee production by crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecast. Source: Compiled from USDA reports

Figure 1 shows that, on average, in the period from 2010-2019, the proportion of Arabica coffee accounted for 59.09% of global coffee production, Robusta coffee accounted for 40.91%; on average, in the period from 2020-2025, the proportion of Arabica coffee decreased to 55.56% of global coffee production, Robusta coffee increased to 44.44%. Thus, in the past 5 years, the proportion of global Robusta coffee production and consumption has tended to increase quite strongly, causing the proportion of global Arabica coffee consumption to decrease accordingly. The main reasons are: (i) market demand to replace Arabica coffee with more competitive Robusta coffee (due to increased living costs and decreased disposable income) [2]; (ii) Robusta coffee is commonly used to make instant coffee, and this type of coffee is increasingly being used by roasters to blend with Arabica

coffee to reduce the cost of instant coffee.

Among the 10 largest coffee-producing countries in the world, on average, from the 2009/10-2024/25 crop year, Brazil's coffee production accounts for 36.27% of global coffee production, while Vietnam's accounts for 17.25% (of which Vietnam is the world's largest producer of Robusta coffee). Thus, Brazil and Vietnam's coffee production alone account for 53.52% of global coffee production (see Figure 2).

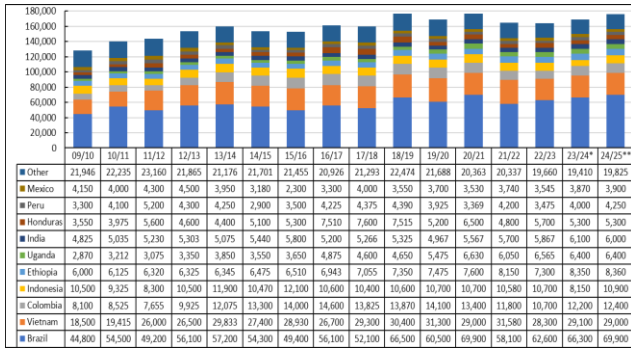


Figure 2. Production details of the world's 10 largest coffee-producing countries from crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

In the coffee crop year 2023/24, it is estimated that Coffee exports of countries/regions in the world reached 141.48 million bags (an increase of 5.22% compared to crop year 2022/23); Of which, green coffee bean exports (raw, unroasted beans) were 119.52 million bags (up 7.72%); roasted and ground coffee was 4.95 million bags (down 13.01%); instant coffee was 17.01 million bags (down 4.55%). On average, from the 2009/10-2024/25 crop year, green coffee bean exports accounted for 85.20% of global coffee exports; roasted and ground coffee exports accounted for 2.53%; instant coffee exports accounted for 12.26% (see Figure 3).

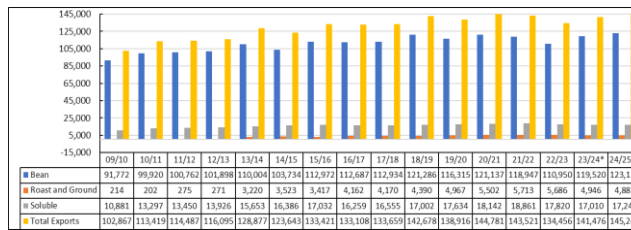


Figure 3. Coffee exports of countries around the world by the crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecast. Source: Compiled from USDA reports

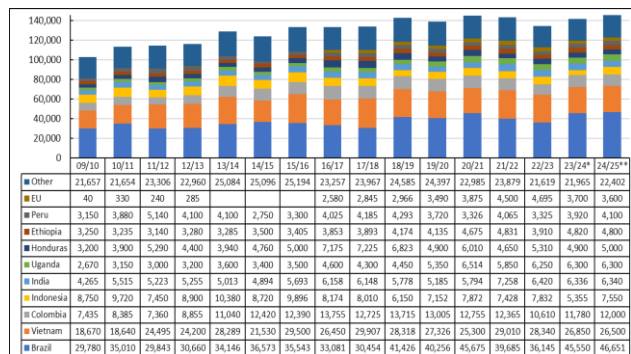


Figure 4. Details of coffee export volume of the world's 10 largest coffee exporting countries from crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

Among the 10 largest coffee exporting countries/regions in the world, on average, from the 2009/10-2024/25 crop year, Brazil's coffee export proportion accounted for 28.19% of global coffee exports, while Vietnam's accounted for 19.75%. Thus, Brazil and Vietnam's coffee exports alone accounted for 47.94% of global coffee exports (see Figure 4).

In the coffee crop year 2023/24, it is estimated that Coffee imports of countries/regions in the world reached 137.18 million bags (an increase of 2.44 % compared to crop year 2022/23); Of which, green coffee bean imports were 115.65 million bags (up 3.45%); roasted and ground coffee was 4.42 million bags (down 1.05%); instant coffee was 17.11 million bags (down 3.07%). On average, from the 2009/10-2024/25 crop season, the proportion of green coffee bean imports accounts for 85.85% of global coffee imports; roasted and ground coffee imports account for 2.32%; instant coffee imports account for 11.82% (see Figure 5).

Among the 10 largest coffee importing countries/regions in the world, on average, from the 2009/10-2024/25 crop year, the European Union (EU)'s coffee import proportion accounted for 36.33% of global coffee imports, and the United States (USA) accounted for 19.95%. Thus, the EU and USA's coffee imports alone accounted for 56.28% of global coffee imports (see Figure 6).

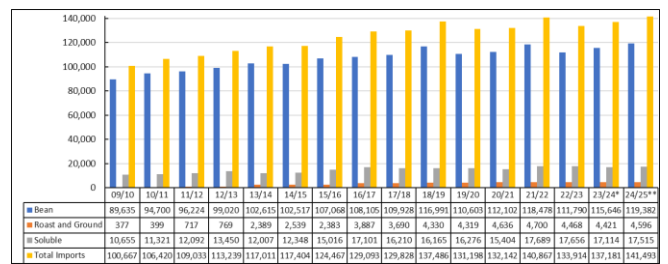


Figure 5. Coffee imports of countries around the world by the crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecast. Source: Compiled from USDA reports

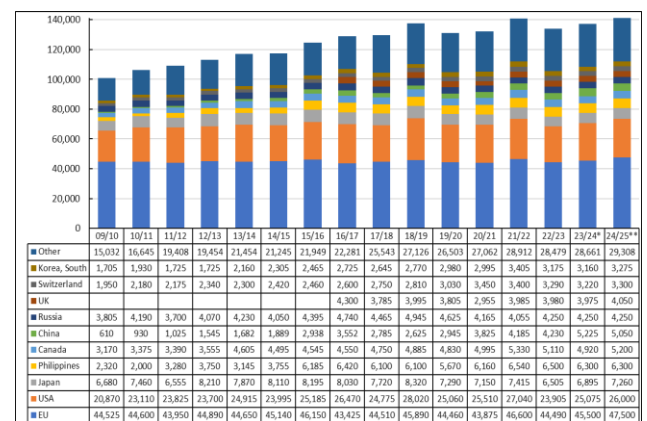


Figure 6. Details of coffee imports of the world's 10 largest coffee importing countries from crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

In the coffee crop year 2023/24, it is estimated that Domestic coffee consumption of countries/regions in the world reached 167.54 million bags (down 0.99% compared to crop year 2022/23); In the 11 largest coffee-consuming countries/regions in the world, the average period from crop year 2009/10-2024/25 consumption proportion EU coffee accounts for 28.29% of consumption

Global coffee, USA accounts for 16.28%, Brazil accounts for 14.04%. Thus, coffee consumption in these 3 countries/regions alone accounts for 58.61% of global coffee consumption (see Figure 7).

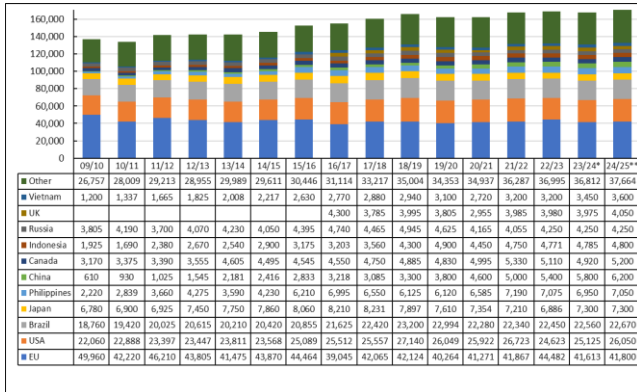


Figure 7. Details of domestic coffee consumption of the world's 11 largest coffee-consuming countries from the crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

In the coffee crop year 2023/24, it is estimated that The global coffee inventory is at 23.93 million bags (down 9.99% compared to the 2022/23 crop year). The global coffee inventory at the end of the period has decreased continuously for 3 consecutive years (from the 2021/22 crop year to 2023/24), causing world coffee prices to increase quite strongly in the past 2 years (see Figure 8 and Figure 11).

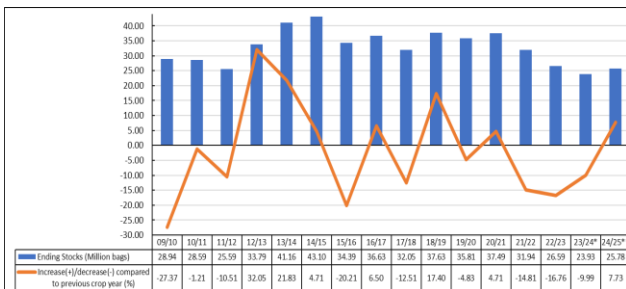


Figure 8. Evolution of global ending coffee inventories by crop year from 2009/10-2024/25, * Estimated, ** Forecasted. Source: Compiled from USDA reports

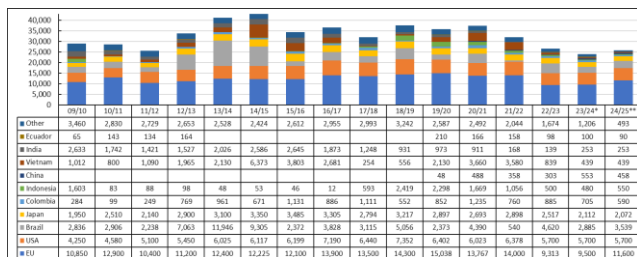


Figure 9. Details of ending coffee stocks of the 10 countries with the largest ending coffee stocks in the world from the crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

Among the 10 countries/regions with the largest end-of-period coffee inventories in the world, on average from the 2009/10-2024/25 crop year, the EU's end-of-period coffee inventories accounted for 38.15% of the global end-of-period coffee inventories, the USA's accounted for 18.38%, and Brazil's accounted for 12.74%. Thus, the

end-of-period coffee inventories of these 3 countries/regions alone accounted for 69.27% of the global end-of-period coffee inventories (see picture 9).

Looking at the global coffee supply-demand balance from crop years 2009/10-2024/25 in Figure 10 shows that: crop years 2010/11, 2017/18, 2021/22, and 2022/23 have coffee supply less than demand; the remaining crop years have coffee supply more than demand. This development is a very important reason for the fluctuations in coffee prices on the world market as described in Figure 11.

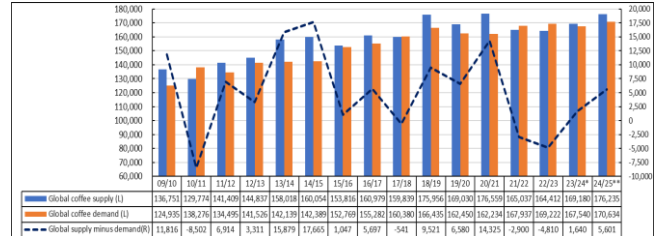


Figure 10. Global coffee supply-demand balance from the crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecast. Source: Compiled from USDA reports

Figure 11 shows that in 2023, the price of Arabica coffee reached 4.54 USD/kg, down 19.37% compared to 2023; the price of Robusta coffee reached 2.63 USD/kg, up 14.95%. The main reason for this price movement is because: (i) The world economy in 2023 began to recover after the Covid-19 pandemic, causing the demand for coffee to increase again, but the high inflation situation that occurred very seriously in many countries has forced the governments of these countries to implement a tight monetary policy, pushing the world economy to the risk of falling into recession, so consumers tend to tighten spending, reduce coffee consumption and shift consumption demand from high-priced coffee (Arabica) to lower-priced coffee (Robusta); (ii) In 2023, global Robusta coffee output will decrease, while Arabica coffee will increase compared to the previous year due to the impact of weather on major coffee growing regions and the prolonged low price of Robusta coffee, causing coffee growers to switch to other crops with higher efficiency...

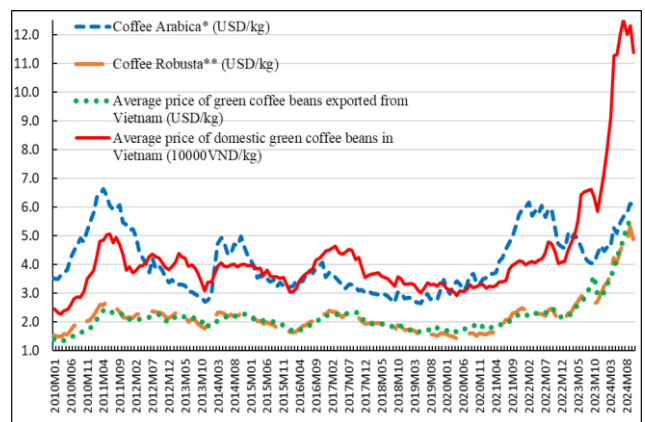


Figure 11. Average monthly coffee price movements in the world market and Vietnam's exports from January 2010 to October 2024 (USD/kg); * Coffee, Arabica (ICO), ICO indicator price, other mild Arabicas, average New York and Bremen/Hamburg markets, ex-dock; ** Coffee, Robusta (ICO), ICO indicator price, Robustas, average New York and Le Havre/Marseilles markets, ex-dock. Source: WB Commodity Price Data (The Pink Sheet) and calculated from data of the General Statistics Office of Vietnam

In the first ten months of 2024, coffee prices (both Arabica and Robusta) in the world market tended to increase very strongly (Robusta coffee prices increased by 65.56% compared to the same period in 2023, Arabica coffee prices increased by 16.90%). The main reasons are: (i) The world economy in 2024 recovered, causing coffee demand to increase again; (ii) In 2024, global Robusta coffee output continued to decrease, while Arabica coffee increased due to the impact of weather on major coffee growing regions... causing Robusta coffee prices to increase even more strongly; (iii) Geopolitical tensions in the Middle East continue to negatively affect the stability of container supply and the availability of coffee shipping routes to major consuming markets.

In general, in the period 2010-2024, coffee prices in the world market fluctuate due to main factors such as supply - the demand balance in the market; weather developments affecting coffee growing areas; activities of speculators, coffee roasters; world economic developments; geopolitical tensions in the Middle East and Russia - Ukraine; performance of coffee producers and traders...

4.2. Overview of Market Developments and Coffee Prices in Vietnam in the Period 2010-2025

According to the General Statistics Office of Vietnam, in the 2023/24 crop year, Vietnam's coffee harvest area is estimated to reach 667.0 thousand hectares, an increase of 1.69% compared to the 2022/23 crop year.

According to the USDA report, Vietnam's total coffee supply to the market in the 2023/24 crop year is estimated at 30.79 million bags, down 4.90% compared to the 2022/23 crop year (see Figure 12).

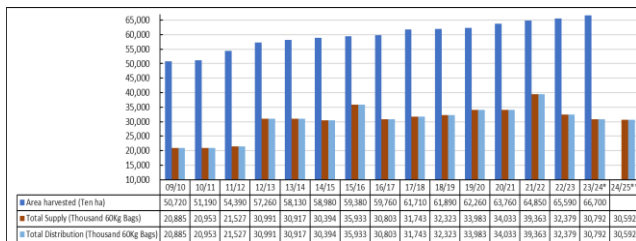


Figure 12. Coffee area for harvest and coffee supply-demand balance in Vietnam from crop year 2009/10-2024/25. * Estimated, ** Forecasted. Source: Compiled from reports of USDA and the General Statistics Office of Vietnam

Regarding the structure of Vietnam's coffee supply, on average, from the 2009/10-2024/25 crop year, the proportion of Robusta coffee produced in Vietnam accounts for 87.24% of the total supply; coffee inventory at the beginning of the period accounts for 7.93%; Arabica coffee produced in Vietnam accounts for 3.29%; imported green coffee beans account for 1.17%; imported roasted and ground coffee accounts for 0.49%; imported instant coffee accounts for 0.42%. Notably, the amount of coffee in stock at the beginning of the 2023/24 crop year decreased very low compared to the average of the previous 4 crop years (the amount of coffee in stock at the beginning of the 2023/24 crop year decreased by 75.98% compared to the 2022/23 crop year and decreased by 79.35% compared to the average of the previous 4 crop years). This is the main reason why

Vietnamese coffee prices in 2024 increased very strongly (see Figure 11 and Figure 13).

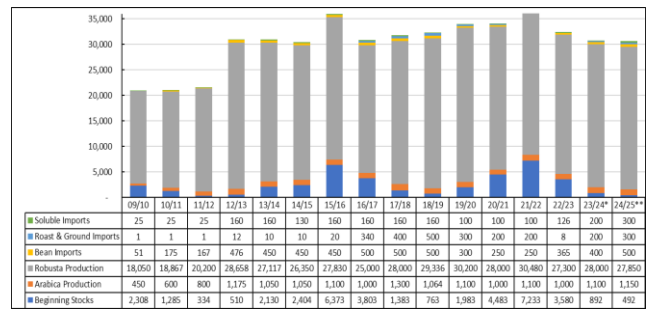


Figure 13. Details of Vietnam's coffee supplies from crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

Although it is the second largest coffee-producing country in the world, Vietnam still imports a large amount of coffee from other countries every year. For example, in the 2023/24 crop year, it is estimated that Vietnam will import 800 thousand bags of various types of coffee (an increase of 60.32% compared to the 2022/23 crop year), of which green coffee beans will be imported at 400 thousand bags (an increase of 9.59%), roasted and ground coffee will be imported at 200 thousand bags (an increase of 2,400.00%), and instant coffee will be imported at 200 thousand bags (an increase of 58.73%). Vietnam has been importing coffee for many years now, mainly for export processing or domestic consumption. With green coffee beans, Vietnam imports from countries with lower prices (Laos, Brazil...), or from coffee types that Vietnam can grow less due to climate and soil conditions such as Arabica coffee (this type has special quality and flavor so it must be imported to meet demand).

In terms of Vietnam's coffee distribution channels, on average, from the 2009/10-2024/25 crop year, the proportion of exported green coffee beans accounts for 78.71% of total consumption; End-of-season coffee inventory accounted for 7.48%; roasted and ground coffee for domestic consumption accounted for 7.22%; instant coffee for export accounted for 4.73%; instant coffee for domestic consumption accounted for 1.24%; roasted and ground coffee for export accounted for 1.15% (see Figure 14).

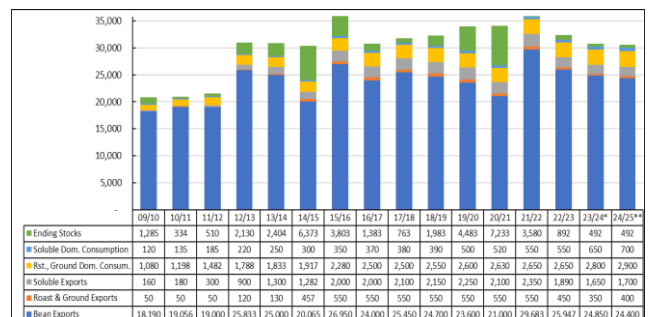


Figure 14. Details of Vietnam's coffee distribution channels from crop year 2009/10-2024/25 (thousand bags), * Estimated, ** Forecasted. Source: Compiled from USDA reports

According to the General Statistics Office and the General Department of Vietnam Customs, in 2023, Vietnam's coffee exports are estimated to reach 27.05 million bags with a turnover of 4.243 billion USD (down 8.68% in volume, but up 4.61% in turnover compared to

2022); the average export price of coffee in 2023 is 156.8 USD/bag, equivalent to 2.614 USD/kg (up 14.56%). Although Vietnam is currently the second largest country in the world (after Brazil) in terms of total coffee exports, the export value is not high because Vietnam mainly exports Robusta coffee (a low-value variety) and unprocessed green coffee beans with low unit prices (in the 2022/23 crop year, the amount of exported green coffee beans accounts for 91.74% of Vietnam's total coffee exports).

In the first ten months of 2024, Vietnam's coffee exports are estimated to reach 19.22 million bags with a turnover of 4.576 billion USD (down 11.07% in volume, but up 39.22% in turnover compared to the first 10 months of 2023); the average export coffee price in the first 10 months of 2024 reached 238.1 USD/bag, equivalent to 3.968 USD/kg (up 56.55%), (see Figure 15 and Figure 16).

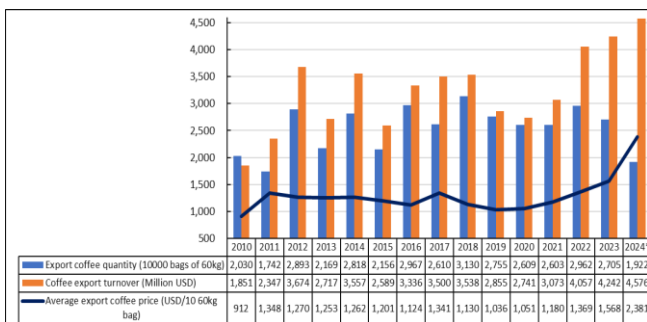


Figure 15. Volume, turnover, and average price of coffee exported by year of Vietnam from 2010-2024. * Preliminary for the first 10 months of 2024. Source: Compiled from reports of the General Statistics Office and the General Department of Vietnam Customs

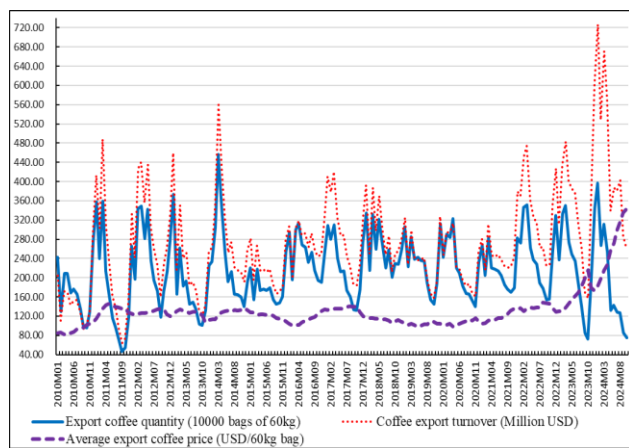


Figure 16. Volume, revenue, and average price of coffee exported by month of Vietnam from January 2010 to October 2024. Source: Compiled from reports of the General Statistics Office and the General Department of Vietnam Customs

Figure 16 shows that the average monthly coffee export volume and value of Vietnam have very clear cyclical fluctuations (usually increasing in the months from November of the previous year to May of the following year, then decreasing in the months from June to October). The main reason is that the coffee harvest season in Vietnam starts from October of the previous year to September of the following year, while the main harvest season is from November of the previous year to April of the following year. Therefore, when the main harvest season begins, the supply is abundant, and the amount of

coffee exported will be large; when the harvest season ends, the supply is limited, so the amount of coffee exported decreases accordingly.

By the end of 2023, Vietnamese coffee was exported to more than 80 countries/territories in the world, with the largest market shares being Europe (48.0%), Asia (21.0%), and the US (7.3%)... In 2023, Germany was the largest coffee importer of Vietnam (accounting for 12.08% of Vietnam's total coffee exports); followed by Italy (accounting for 8.76%); the US (accounting for 7.32%); Japan (accounting for 6.84%); Spain (accounting for 5.62%). Thus, coffee imports from these 5 countries alone accounted for 40.62% of Vietnam's total coffee exports in 2023 (see Figure 17).

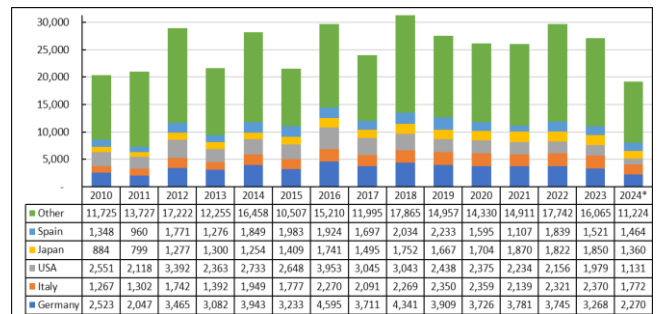


Figure 17. Details of the 5 largest coffee importing countries of Vietnam from 2010-2024 (thousand bags), * Preliminary for the first 10 months of 2024. Source: Compiled from reports of the General Statistics Office and the General Department of Vietnam Customs

In the domestic market of Vietnam in 2023, coffee prices have shown a strong upward trend. In general, in 2023, the average price of green coffee beans in Vietnam reached 57.2 thousand VND/kg (ranging from 41.0-66.5 thousand VND/kg), an increase of 34.71% compared to the average price in 2022; in December 2023, the price of green coffee beans in Vietnam ranged from 64.0-67.50 thousand VND/kg.

In the first ten months of 2024, coffee prices in the domestic market in Vietnam tend to increase even more strongly. On average, in the first 10 months of 2024, the price of green coffee beans in Vietnam reached 107.0 thousand VND/kg (ranging from 68.0-130.0 thousand VND/kg), an increase of 89.98% compared to the average price in the first 10 months of 2023; in July 2024, the average price of green coffee beans in Vietnam reached its highest level of 125.1 thousand VND/kg (see Figure 11).

Coffee prices have increased sharply in recent times because the demand for Robusta coffee beans in the world has increased, while the supply has decreased. The main reason is that the supply of Robusta coffee has decreased sharply due to the impact of climate change, unfavorable weather conditions, especially the El Nino phenomenon causing drought and pests in many Robusta coffee growing areas in the world, in which Indonesia and Vietnam are affected, causing the largest reduction in output.

4.3. The Average Coffee Yield in Vietnam Is More Than Three Times Higher Than the Global Average

According to FAO data, Vietnam is the country with

the highest coffee yield in the world. In 2022, Vietnam's average green coffee yield reached 49.65 bags/ha (equivalent to 2,979 kg/ha); this yield is 1.76 times the average yield of Brazil, 4.82 times the average yield of Indonesia, 10.61 times the average yield of Mexico, 3.23 times the average yield of the 9 largest coffee producing countries in the world (the group of 10 largest coffee producing countries in the world, excluding Vietnam), and 3.37 times the average global yield.

In the period 2000-2022, the CAGR of green coffee bean yield in Vietnam is quite high compared to the world average (only lower than the CAGR of Brazil). Specifically, in 2022 compared to 2000, the CAGR of green coffee bean yield in Vietnam is 2.63%, in Brazil is 3.24%, in Indonesia is 1.56%, in Mexico is -2.43%, and in the world is 1.06%.

In the period 2010-2022, the CAGR of green coffee bean yield in Vietnam is the highest in the world. Specifically, in 2022 compared to 2010, the CAGR of green coffee bean yield in Vietnam is 2.72%, in Brazil is 1.94%, in Indonesia is 1.14%, in Mexico is -1.35%, and in the world is 0.76% (see Figure 18).

Vietnam has achieved such great success in coffee yield due to several main reasons as follows:

(1). Vietnam focuses mainly on producing Robusta coffee because this type of coffee is resistant to pests and diseases and is suitable for the climate and soil in many regions of Vietnam.

According to agricultural experts, the variety of coffee plants is the most important factor in determining the yield of a coffee plant, and no coffee variety can grow perfectly in all environments. Some coffee varieties grow and yield optimally in some countries, but they may face many limitations in other countries. For example, in Central America (where the problem of coffee leaf rust is very serious), farmers will have to find coffee varieties that are resistant to rust. Producers must choose coffee varieties that are suitable for the soil and environment of the area. Each coffee variety will have different yield levels. Therefore, the coffee yield of each country will also have significant differences.

Robusta is a coffee variety that can grow well in the climate and soil conditions of many regions in Vietnam; it is resistant to many types of pests and diseases, so when growing this type of coffee, it is not necessary to use many types of pesticides and fungicides but still produces high yields. Robusta coffee grows well at altitudes of 0-800 meters above sea level, so it is relatively suitable for the actual terrain of Vietnam. They are grown in places with unstable weather and require more rainfall than Arabica growing areas (Robusta grows well in areas with seasonal rainfall of 1,200-2,500 mm/year, while Arabica grows well in areas with seasonal rainfall of 1,100-2,000 mm/year). Robusta is also able to withstand high temperatures and humid climates (conditions in which Arabica is difficult to grow well). The time from planting to harvest of Robusta coffee is shorter than that of Arabica (after planting, Robusta only takes 2-3 years to harvest, while Arabica takes 4-5 years), which helps reduce labor costs and increase production efficiency. Therefore, Robusta coffee is a safer choice against climate fluctuations, diseases, etc. in many coffee-growing regions [3].

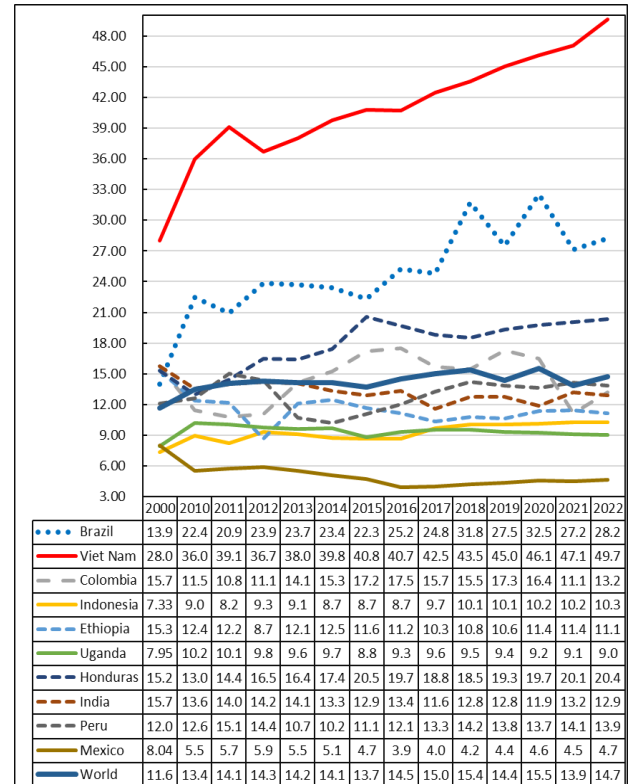


Figure 18. Details of average green coffee bean yield of the world's 10 largest coffee-producing countries from 2010-2022 (bags/ha). Source: Calculated from FAO data

In addition, Robusta is also a coffee line that suits the taste of Vietnamese people, this is the source of raw materials for production to meet domestic production requirements. Robusta coffee has a caffeine content of 1.8-3.5%, so the flavor is very rich and quite strong. It provides a refreshing sensation, boosts mental alertness, and may increase heart rate and blood pressure (while Arabica coffee has a caffeine content of 0.9-1.7%, so it is quite light, only keeping the mind alert but not increasing heart rate). Vietnamese Robusta coffee is evaluated by many coffee experts as having high quality, with many unique flavors (each coffee growing region in Vietnam has its coffee flavor characteristics), regions in Vietnam all have favorable conditions for developing high-quality coffee products, specialty coffee...

Therefore, according to FAO data, 40 years ago, Vietnam's coffee output was still very small (Vietnam's coffee output in 1984 was only 80.0 thousand bags of green coffee beans, with an average yield of 6.76 bags/ha, equivalent to 405.7 kg/ha). However, by 1999, Vietnam had risen to become the second largest country in the world in coffee production and export, with an output of 9.22 million bags, an average yield of 34.17 bags/ha (an increase of 405.40% compared to the average yield in 1984), in which the Robusta coffee area accounted for 93.0% of the total coffee growing area and the Robusta coffee output accounted for 96.0% of Vietnam's total coffee output.

However, it should be emphasized that not everywhere in the world does Robusta coffee grow as productively as in Vietnam. For example, in the period from crop year 2009/10 to 2021/22, in Indonesia, Robusta coffee accounted for 86.92% of the country's total coffee output,

but the average coffee yield was only 9.40 bags/ha (equal to 22.42% of the average coffee yield in Vietnam); in Uganda, Robusta coffee accounted for 79.53% of the country's total coffee output, but the average coffee yield was only 9.49 bags/ha (equal to 22.63% of the average coffee yield in Vietnam); in India, Robusta coffee accounted for 69.49% of the country's total coffee output, but the average coffee yield was only 13.11 bags/ha (equal to 31.26% of the average coffee yield in Vietnam)...

Therefore, the main reason behind Vietnam's consistently high average coffee yield is that the authorities and coffee growers in Vietnam have focused on investing and updating new cultivation techniques... which will be analyzed in detail in the following sections.

(2). The Vietnamese government has focused on investing in developing coffee production, updating and widely disseminating many advanced cultivation techniques to improve the efficiency of coffee cultivation.

The reality of coffee cultivation in the world shows that coffee yield depends not only on objective factors but is also strongly influenced by subjective factors. In particular, the customs and methods of coffee cultivation in each country are the decisive factors that create the huge difference in current coffee yield between countries in the world [4].

In the group of objective factors, climate, weather, water, and humidity, along with soil quality... all play an important role. Favorable climate, weather, and suitable humidity will create favorable conditions for coffee trees to grow healthily, limit diseases, and achieve high yields. Soil containing adequate nutrients is essential to ensure the growth of trees.

Subjective factors that play a decisive role in coffee yield include: (i) The origin of the variety and the careful selection of coffee varieties, suitable for the climate, soil conditions, and farming habits in each region are decisive factors in the success of coffee production, ensuring that the selected trees have high yield, good quality, and are resistant to harsh conditions. (ii) The level of workers in coffee cultivation is one of the decisive factors in the development and yield of each coffee tree; Fertilization is also considered a very important measure, directly affecting the yield and quality of coffee; Proper watering during the dry season is indispensable to maintain the growth and flowering ability of the tree. (iii) Technical measures such as reasonable planting, weeding, pruning, controlling the age of the tree at its peak, etc. all play an important role in maintaining a stable environment and providing the best conditions for the tree to grow.

Therefore, since 1986, the Vietnamese Government has focused its investment resources on developing coffee production, aiming to transform coffee into an important agricultural sector. In addition to state farms, the Government also encourages households and individuals to grow coffee.

At the same time, Vietnamese authorities have conducted research, tested, compiled and promptly published many documents guiding coffee cultivation, processing and preservation techniques such as: Industry Standard No. 10 TCN 84: 1987 on Technical process of coffee cultivation (1987, issued by the Ministry of Agriculture and Rural Development); Coffee planting, care and processing techniques (1987, Dak Lak Provincial

Science and Technology Committee); Coffee growers' handbook (1989, Agricultural Publishing House); Coffee planting, care and processing techniques (1995, Agricultural Publishing House); Coffee planting and care techniques (1999, Agricultural Publishing House); Technical process of planting, care and harvesting Robusta coffee (2002, Ministry of Agriculture and Rural Development); Planting - care and pest control for coffee and cocoa (2007, Agricultural Publishing House); Robusta coffee replanting process (2010, Ministry of Agriculture and Rural Development); Sustainable coffee production guidelines (2016, Agricultural Publishing House); Arabica coffee replanting process (2018, Ministry of Agriculture and Rural Development) ... help coffee growers and caretakers update and apply new technical knowledge, improving coffee cultivation efficiency.

As a result, coffee production in Vietnam has increased sharply in terms of area, yield, output, and export value as mentioned above.

(3). Vietnam has promoted replanting and grafting coffee trees, helping to significantly increase the average coffee yield in Vietnam.

In the years since 1999, Vietnam has always maintained its position as the world's second-largest coffee producer and exporter, and the world's largest Robusta producer and exporter. However, as of 2010, Vietnam had nearly 100 thousand hectares of coffee trees over 30 years old, with low yield, grown mainly from replanted coffee varieties. Therefore, in 2010, the Ministry of Agriculture and Rural Development issued the Robusta Coffee Replanting Process; then, on October 21, 2014, The Ministry of Agriculture and Rural Development issued Decision No. 4521/QĐ-BNN-TT on "Approval of the coffee replanting project in the Central Highlands provinces for the period 2014-2020". This replanting project aims to improve yield, quality, efficiency, and income for coffee growers; contributing to the sustainable development of the coffee industry for the period 2014-2020. The specific goal for the period from 2014 to 2020 is to replant and graft about 120 thousand hectares of coffee in the Central Highlands provinces, of which replanting 90 thousand hectares, grafted and renovated 30 thousand hectares.

The content of this project has provided specific instructions on technical measures, such as conditions for replanting, land preparation, hole-digging procedures, fertilization, care, and seed standards... by the current coffee replanting process. Immediately after that, credit, science, and technology policies were also issued by the authorities to support the implementation of the project. In particular, the most prominent is that the State Bank of Vietnam has built a credit program with a scale of up to 12 trillion VND (equivalent to 560 million USD) and issued document No. 3227/NHNN-TĐ dated May 11, 2015, to implement the coffee replanting loan policy in the Central Highlands provinces in the period of 2014-2020. According to this credit program, the loan amount is agreed upon by the customer and the Bank for Agriculture and Rural Development of Vietnam (Agribank), but the maximum is 150 million VND/ha for the coffee replanting method and 80 million VND/ha for coffee grafting and renovation method; The maximum loan term is 8 years for coffee replanting, in which the grace period for principal and interest repayment is 4 years from the time the

customer and Agribank sign the loan contract; The maximum loan term is 4 years for coffee grafting and renovation, in which the grace period for principal and interest repayment is 2 years; The loan interest rate during the grace period for principal and interest repayment does not exceed 7%/year (lower than the normal loan interest rate for agricultural production on the market by 3-5 percentage points/year)...

The coffee replanting project has put into replanting most of the new high-yielding Robusta coffee varieties, which not only have high yield and good bean quality but also have good resistance to rust such as TR4, TR9, TR11, TR13, TRS1... Some varieties such as TR4, TR15... have late ripening time (from January to March), which is the time when the dry season in the Central Highlands has entered, so it is very favorable for harvesting, processing products, reducing the pressure of harvesting labor, especially reducing one watering period compared to early ripening and medium ripening varieties... Therefore, most of the replanted coffee areas grow, develop well, and give high yields; the green coffee beans harvested have good quality and economic efficiency has increased significantly.

As a result, in the period 2014-2021, the Central Highlands of Vietnam had an area of replanted and grafted coffee reaching 129 thousand hectares (of which, 95 thousand hectares were replanted area, 34 thousand hectares were grafted and renovated area); the accumulated area of replanted and grafted coffee from 2011-2021 was 166.6 thousand hectares. According to statistics from the Ministry of Agriculture and Rural Development, replanting and grafting coffee has helped increase green coffee bean yield from 41.0 bags/ha (in 2014) to 46.7 bags/ha (in 2020), coffee yield in 2020 increased by 13.90% compared to 2014; The economic efficiency of replanted and grafted gardens is 25-40 million VND/ha-year higher than mass production.

The analysis results from FAO's coffee yield data show that: In the period 2000-2013, Vietnam's green coffee bean yield CAGR was lower than Brazil's yield CAGR (Specifically: In 2013 compared to 2000, Brazil's green coffee bean yield CAGR was 4.14%, Vietnam's was 2.37%, Indonesia's was 1.65%, Mexico's was -2.86%, and the world's was 1.51%); However, in the period 2013-2022, the CAGR of green coffee bean yield in Vietnam reached the highest level in the world (Specifically: In 2022 compared to 2013, the CAGR of green coffee bean yield in Vietnam reached 3.01%, in Brazil reached 1.97%, in Indonesia reached 1.42%, in Mexico was -1.80%, and in the world was 0.43%). This outstanding achievement in increasing coffee yield in Vietnam has a great contribution from the implementation of the coffee replanting project in the Central Highlands provinces in the period 2014-2020 mentioned above.

Following this success, on March 31, 2022, the Ministry of Agriculture and Rural Development issued Decision No. 1178/QĐ-BNN-TT approving the Coffee Replanting Project for the period 2021-2025 with the specific goals of: Replanting and grafting about 107 thousand hectares of coffee (of which, replanting 75 thousand hectares, grafting and replanting 32 thousand hectares); The yield of coffee gardens after replanting and grafting in the stable business period reached an average of 58.3 bags/ha; Income from 1 hectare of coffee after

replanting and grafting increased 1.5-2.0 times compared to before replanting...

Accordingly, for coffee gardens over 20 years old, with poor growth, an average yield of less than 20.0 bags/ha-year for 3 consecutive years, and ineffective care and fertilization, replanting will be guided. For coffee gardens with normal growth but small, uneven fruit, with an average yield of less than 16.7 bags/ha-year for 3 consecutive years, pruning and grafting will be carried out to improve some new coffee varieties with high yield and quality. The authorities continue to review and perfect the technical process of replanting and grafting coffee to suit each ecological region and specific conditions (intercropping other crops in coffee gardens to create a multi-layered system to help coffee trees resist strong sunlight, prevent soil erosion and increase humidity in coffee gardens; create additional income from intercropping crops such as durian, mango, avocado, jackfruit, etc.), then transfer the technical process to coffee producers, etc.

4.4. Some challenges and Opportunities for Vietnam's Coffee Industry

4.4.1. Challenges

Although coffee production in Vietnam is currently considered to have many advantages and achieve the highest yield in global coffee production, the Vietnamese coffee industry still faces some challenges as follows:

(1) The negative effects of global climate change. Recently, the effects of climate change with extreme weather conditions have put coffee-growing regions in a dangerous position. According to the International Center for Tropical Agriculture (known as CIAT after the Spanish name Centro Internacional de Agricultura Tropical, the Center is based in Palmira, Colombia), rising temperatures and changing rainfall patterns could cause Vietnam to lose 50% of its current Robusta coffee production area by 2050 [5]. Without strong enough solutions to prevent this process, Vietnam's coffee output will decrease significantly and will directly affect the global coffee supply.

(2) Deterioration of soil quality. In recent years, many coffee farms in Vietnam have focused on intensive farming to increase coffee yield, so they have increased the use of inorganic fertilizers, lacked land management, and supplemented soil nutrients with organic fertilizers, causing soil quality to deteriorate and will negatively affect coffee yield in the following crops. In particular, coffee growers have not widely utilized organic by-products from coffee husks, and other agricultural by-products, or planted cover crops and fertilized and fixed nitrogen for the soil. This is a low-cost solution to increase soil fertility but is highly effective and sustainable.

Besides, many Vietnamese coffee gardens are planted on sloping land, which can easily cause soil erosion, reduce soil quality and productivity, or destroy coffee trees...

(3) Pests pose a risk of reducing coffee yields. The larger the coffee growing area, the more strongly the pests and diseases on coffee trees develop, including major pests such as Nematodes causing yellow leaf and root rot; Green scale, brown scale accompanied by sooty mold; Mealybugs that damage fruit; Branch and fruit borers;

Stem borers, bark borers; Rust, anthracnose, pink mold, root rot... In which, major diseases such as Coffee berry borer larvae (*Hypothenemus* sp.), feeding on old and dry fruit can reduce yield; *Fusarium* spp. The fungus can cause wilt and death of coffee trees...

(4) The harvesting, processing, and preservation of coffee in many coffee gardens do not comply with technical procedures, leading to high post-harvest losses and low-quality green coffee beans. When coffee prices are high, farmers tend to harvest coffee that is not ripe enough, with many young, flat beans that must be discarded during processing and sorting. This situation reduces the yield and quality of Vietnamese green coffee beans.

(5) The area of old coffee trees is still large, causing coffee yield to decrease. According to data from the Ministry of Agriculture and Rural Development of Vietnam, by the end of 2024, Vietnam will still have about 140 thousand hectares of coffee that have been cultivated for 20 years or more but have not been replanted or grafted, causing the yield and quality of coffee to decline. This area of old coffee trees needs to be replanted or grafted soon to contribute to increasing the average yield and quality of Vietnamese coffee beans.

(6) Increasing competition from other coffee-producing countries. Countries such as Brazil, Colombia, and Indonesia... are very strong competitors of Vietnam in the global coffee market. These countries are increasing investment in coffee production and processing, improving product quality, and using many effective marketing measures to attract international customers. Therefore, Vietnamese coffee enterprises need to focus on investing in improving their competitiveness to maintain and expand their existing coffee market share.

(7) The strong fluctuations in coffee prices make coffee growers' profits unstable (sometimes they suffer losses), leading to many coffee areas being cut down to plant trees that bring higher benefits to farmers such as durian, macadamia, passion fruit, turmeric... In the period from January 2010 to October 2024, coffee prices on the world market fluctuated quite strongly, especially the average Robusta price in the New York and Le Havre/Marseilles markets in April 2020 at the lowest level of 1.41 USD/kg (equal to 26.45% of the highest price in September 2024); As a result, the average price of green coffee beans in the domestic market in Vietnam in April 2020 was 29.2 thousand VND/kg (equivalent to 1.24 USD/kg and equal to 23.7% of the price in September 2024), (see [Figure 11](#)). This situation causes Vietnamese coffee growers to suffer losses when coffee prices drop too low, forcing them to cut down coffee trees to plant other crops that bring higher economic efficiency. But when coffee prices increase, they focus on growing coffee without following the recommendations and planning of planting areas for each type of tree by management agencies... causing the area and output of coffee to increase beyond the plan, resulting in coffee prices falling out of control. This process of planting - cutting down - replanting coffee continues unceasingly, causing coffee output and prices in Vietnam to fluctuate strongly, reducing the benefits of coffee growers and society as a whole.

(8) Although Vietnam is the second largest coffee exporting country in the world, the role of Vietnamese coffee exporting enterprises in regulating the world coffee

market is still very weak; the added value from processing and exporting activities of a unit volume of Vietnamese coffee is still very small compared to the general reality of the global coffee industry. The main reason for this situation is that Vietnam's coffee exports are still mainly in the form of green beans, so there is no brand; Most of Vietnam's exported coffee becomes raw material for many other countries to be used for deep processing in the form of powdered, instant, ready-to-drink coffee... In addition, the coffee processing machines, and equipment of farmers are still backward, and the coffee berries when picked do not meet the standards of ripeness and still contain many impurities... making the quality of exported green coffee beans unstable, often being forced by importers to sell at a lower price than green coffee beans from other countries. This is a big loss in the export value of Vietnamese coffee.

(9) The coffee industry needs to prepare and complete documents to comply with the EUDR. On May 16, 2023, the European Parliament (EP) approved the EUDR, which will take effect from December 30, 2024, and apply from June 30, 2025, to small and medium-sized enterprises. Accordingly, companies cannot export certain agricultural products (including coffee) to this market if they cannot prove that their products are not related to deforestation after December 31, 2020. The EU is currently the world's largest coffee-importing region (about 33-34% of the global market share). In Vietnam, the EU is the largest coffee exporting customer (in 2023, 37.0% of Vietnam's total coffee exports will be exported to the EU). Therefore, when the EU issued the EUDR regarding coffee imports, it forced Vietnamese coffee growers and businesses to quickly find ways to meet the requirements of the EUDR. This requirement will cause Vietnamese coffee growers to have more work to do and increase the cost of coffee production.

However, on 14 November 2024, the EP voted to postpone the implementation of the EUDR for another year. This postponement will give Vietnamese coffee growers more time to complete their dossiers, but it will still be a big challenge when exporting coffee to the EU from 30 December 2025.

4.4.2. Opportunities

Despite many challenges in its operations, the Vietnamese coffee industry still has opportunities to develop steadily and sustainably as follows:

(1) Vietnamese coffee growers have rich cultivation techniques and experience, creating the highest yield and coffee in the world... so there will be many creative solutions to reduce production costs and improve coffee business efficiency. In addition, Vietnamese authorities and authorities pay great attention to supporting and guiding coffee growers to update new coffee business techniques and trends, helping the Vietnamese coffee industry develop sustainably, and meeting the environmental and social requirements of global coffee import and consumption markets. Coffee replanting and grafting projects are continuously implemented in Vietnam to help rejuvenate old, low-yielding coffee gardens and bring high yields to coffee growers.

(2) Increased demand for coffee increases coffee prices and brings great opportunities for coffee producers and traders. After the strong impact of the COVID-19

pandemic, global coffee consumption began to recover from 2022 and is likely to grow quite strongly in the period 2024-2034. According to a report by Precedence Research, the global coffee market was worth about 245.2 billion USD in 2024 and is expected to reach about 381.52 billion USD in 2034, with a CAGR of 4.51% from 2024-2034. The main reason for this growth trend is that coffee culture is becoming more and more popular globally, causing the coffee market and the number of coffee shops to increase [6].

In addition, Vietnam is also becoming a large coffee consumption market. With the development of the economy and the increasing living standards of the people, coffee is no longer a luxury product but has gradually become an indispensable part of the daily life of Vietnamese people. The increasing demand for coffee consumption with a CAGR of 10% and a population of over 100 million people will create opportunities for domestic coffee businesses to expand the domestic market and develop their brands.

Demand increases, while coffee supply is limited due to the negative effects of weather, reducing yield, and competition from other crops with higher economic efficiency, causing a significant amount of coffee acreage to be cut down... This supply-demand correlation has caused global coffee prices to increase quite sharply since the end of 2023. In particular, Robusta coffee prices have increased sharply, and the gap between Arabica and Robusta coffee prices has narrowed significantly. According to WB coffee price statistics, the average price of Robusta coffee on the world market in the first 10 months of 2024 reached 4.28 USD/kg (an increase of 65.56% compared to the first 10 months of 2023), while the average price of Robusta coffee in 2023 and 2022 compared to the previous year only increased by 14.95% and 15.34%, respectively; The average price of Robusta coffee in the first 10 months of 2024 is 80.43% compared to Arabica, while this ratio in 2023 and 2022 is only 57.86% and 40.58% respectively (see also Figure 11).

This increase in Robusta coffee prices is a great opportunity for the Vietnamese coffee industry in particular and for countries that grow a lot of Robusta coffee in general. When coffee prices are high, the Vietnamese coffee industry needs to take advantage of this to accelerate the transition from quantity to quality, from raw exports to deeply processed coffee... However, Vietnamese coffee traders need to be vigilant about the recent increase in coffee prices. Because coffee prices on the global market fluctuate due to many unforeseen factors, when coffee prices increase sharply, coffee harvesters benefit, but coffee exporters may suffer losses because they have signed coffee export contracts at low prices in advance (signed export contracts before buying enough coffee in the domestic market...). Therefore, Vietnamese coffee traders need to implement many strong enough risk prevention solutions to limit bad situations from happening.

(3) Vietnam has been negotiating to join many free trade agreements (FTAs), these FTAs will continue to facilitate Vietnamese coffee to penetrate new markets (especially European, Asian, and North American markets...), helping to boost and increase exports. As of the end of October 2024, Vietnam has participated in 16 FTAs (such as CPTPP, and EVFTA...), the FTAs that

Vietnam participates in cover most continents with nearly 60 economies with a total GDP accounting for nearly 90% of global GDP, which 15 countries are G20 members and 9/10 of Vietnam's largest economic and trade partners belong to the 3 largest economic centers in the world: North America, Western Europe, and East Asia. Participating in these FTAs helps Vietnam's export industries (including coffee) have more opportunities to penetrate the market with incentives such as tariff incentives (all markets under the FTA that Vietnam participates in are open to Vietnam's processed coffee products with preferential tax rates from 0-5%); reducing dependence on a specific market, reducing trade risks when diversifying export markets; improving competitiveness; developing the global supply chain; attracting investment, deep processing of coffee right in Vietnam...

(4) Vietnam's natural conditions are favorable for coffee cultivation; there are many sub-regions with soil and climate... that develop high-value specialty coffees. Meanwhile, consumers are increasingly concerned about the quality, safety, origin, and sustainability of coffee products... This is an opportunity for Vietnam to develop specialty coffees, organic coffees, and sustainable coffees to meet market demand.

In recent years, authorities many businesses and Vietnamese coffee growers have made efforts to switch to cultivating and building specialty coffee brands to increase economic efficiency. On April 2, 2021, the Ministry of Agriculture and Rural Development of Vietnam issued Decision No. 1392/QĐ-BNN-TT approving the Project on developing Vietnamese specialty coffee for the period 2021-2030. The project sets the goal: in the period 2021-2025, the area of specialty coffee will reach 11.5 thousand hectares (accounting for about 2.0% of the total coffee area in Vietnam); in the period 2026-2030, the total area will reach 19.0 thousand hectares (accounting for about 3.0%). Vietnamese specialty coffee is a type of coffee that must meet three main conditions: (i) Coming from a growing area with natural conditions and special care, harvesting, and processing processes; (ii) Having a unique flavor; (iii) Achieving 80 points or more according to the standards and evaluation process of the World Specialty Coffee Association (SCA) and the World Coffee Quality Institute (CQI). To implement the Project, the Ministry of Agriculture and Rural Development as well as localities have issued technical processes on cultivation, replanting, and processing... guiding localities to apply according to certification standards. For high-quality coffee and specialty coffee, apply the care process according to the certification standards: UTZ Certified (A set of internationally recognized criteria for economically, socially, and environmentally responsible coffee production), Rainforest Alliance (RA - A set of practices for biodiversity conservation and sustainable development globally implemented by Rainforest Alliance), 4C (common code for the coffee Community), GlobalGAP (Global Good Agricultural Practices), VietGAP (Vietnam Good Agricultural Practices), Organic... It is recommended that coffee growers only harvest ripe fruit and harvest it properly; at the same time, pre-processing and packaging apply according to Hazard Analysis and Critical Control Point System (HACCP) standards ...

These efforts have yielded initial results. According to

preliminary statistics from the Ministry of Agriculture and Rural Development, by the end of 2023, Vietnam had 300 thousand hectares of coffee certified by international standards (UTZ, RA, 4C, GlobalGAP, VietGap, Organic....) and 10 thousand hectares of specialty coffee. In particular, in the past 3 years, Robusta specialty coffee from Vietnam has appeared more and more at international coffee fairs in the United States, Italy, Japan, Korea, etc., and has been highly appreciated by roasters and importers, who have shown interest in connecting and have had large export shipments; At the "Odjeta Swan Cup 2024" Competition organized by the Greater China Coffee Industry Elite Forum (GCEF) from August to October 2024, Vietnamese specialty Robusta coffee won the highest prize [7]...

(5) According to the Vietnam Coffee and Cocoa Association (VICOFA), Vietnam is the first country and is very active in implementing the regulations of the EUDR. As of the end of October 2024, most Vietnamese coffee exporting enterprises are ready to export coffee that meets the EUDR as soon as this regulation is implemented as originally planned from December 30, 2024 [8]. Therefore, although the EUDR creates additional barriers for coffee exporting enterprises to the EU, it is also a good opportunity when the Vietnamese coffee industry proactively prepares and is ready to meet the requirements of the EUDR, thereby gaining a competitive advantage over other countries when exporting coffee to the EU.

In the past time, VICOFA has closely followed and coordinated with the Ministry of Agriculture and Rural Development, and with international organizations, to implement activities to support businesses in meeting the requirements of EUDR. The content of documents related to EUDR has been updated by VICOFA with Vietnamese translations sent to members and posted on VICOFA's website. Therefore, when the time to start implementing EUDR is approaching, many European importers have focused on buying Vietnamese coffee, because Vietnam is almost the only source of coffee that can help them ensure EUDR with certainty. This is one of the important reasons that has pushed Vietnamese coffee prices to very high levels, and Robusta coffee prices have at times been higher than Arabica coffee (September 2024). However, on November 14, 2024, the EU announced a 12-month delay in the implementation of EUDR, causing Robusta coffee prices on the London floor to drop significantly. Even if the EUDR is postponed, it will still take 1-2 years for this regulation to be implemented in the EU. Therefore, Vietnamese coffee enterprises need to prepare better to be ready to execute coffee export contracts to the EU under the EUDR.

5. Some Solutions to Promote the Development of Coffee Production and Export in Vietnam

From the above findings and analysis, the following solutions are proposed to promote the development of coffee production and export in Vietnam:

Firstly, relevant ministries, sectors, and local authorities should continue to issue the most specific, feasible

policies and guidelines to help the Vietnamese coffee industry move towards efficient and sustainable production, providing high-quality coffee products to the market.

These policies and guidelines need to cover many issues from production to trade, such as Planning key coffee production areas, and high-quality coffee areas; Promoting coffee replanting and grafting; Converting the structure of varieties; Updating standards and technical processes for sustainable coffee production, certified coffee; Managing the system of purchasing and preserving coffee effectively, ensuring quality; Having policies to invest, support and encourage businesses to develop deep-processed coffee; Encouraging, strengthening linkages and cooperation in coffee production and business to stabilize exports, maintain and expanding the market... Thereby, it will help the Vietnamese coffee industry overcome difficulties and challenges such as the negative impacts of global climate change; Deterioration of land quality; Diseases that harm coffee; and the Risk of a decline in coffee yield and quality...

Along with improving coffee quality, branding must be given greater attention and focus. Businesses need to survey market demand in areas including market share, taste, quality, and price... thereby determining the proportion of processing appropriate products to orient product development, build promotion strategies, and position brands by their capabilities.

Second, coffee growers need to strictly comply with the regulations and recommendations of competent agencies and local authorities on issues such as: Planning coffee growing areas; Standards and technical processes for sustainable coffee cultivation, adapting to climate change; Programs and projects on coffee development, replanting, grafting and improvement; Developing specialty coffee and organic coffee; Using advanced coffee varieties with high yield and quality; Implementing intercropping of industrial crops and fruit trees in coffee gardens according to the correct techniques and through practical testing; Increasing investment in deep processing to improve the quality of coffee for export and domestic consumption...

In particular, it is necessary to pay attention to building standard coffee material areas to ensure domestic consumption and export requirements; Use of plant protection drugs must be in the permitted list and ensure the requirements of importing countries; The cultivation process must comply with certification standards of GlobalGAP, VietGAP, 4C, Rainforest Alliance, Organic, UTZ... to create high-quality clean coffee products, meeting the needs of consumers; It is necessary to promote the completion of coffee traceability records to meet the requirements of EUDR, thereby creating a favorable basis for exporting coffee to the EU market.

Third, encourage coffee processing and exporting enterprises to invest in modern technological lines to develop deep-processed coffee; Focus and pay attention to investing in brand building, product development, building promotion, marketing strategies, and brand positioning suitable to the capacity of each enterprise. The State supports enterprises in building and developing brands through trade promotion programs; communication campaigns, image promotion; training programs, guidance, capacity building in design, product formats, and ways to create and promote coffee brands.

Deeply processed products such as instant coffee, roasted coffee, ground coffee, canned coffee, etc. are the key to enhancing the export value of Vietnamese coffee, while also building a brand and increasing the competitiveness of Vietnamese coffee in the international market. This is a necessary direction to shift from exporting green coffee beans to exporting finished products while reducing dependence on price fluctuations in the green coffee bean market.

Fourth, increase the application of technology and digital transformation in coffee production and trading to increase yield, reduce costs, and improve product quality. Using high technology in coffee garden management, harvesting, processing, and packaging will help improve production efficiency and minimize losses; help ensure traceability, meet sustainable farming requirements and improve coffee quality from demanding markets such as the US, EU, Japan, and Korea. In addition, digital transformation in market access is also a solution to help Vietnamese coffee businesses access international markets more effectively. The application of e-commerce platforms and digital tools will help expand sales channels and enhance the competitiveness of Vietnamese coffee in the global market.

Fifth, it is necessary to promote the linkage of farmer households and build a sustainable coffee value chain, in which coffee processing and exporting enterprises are the core. To do so, it is necessary to first build awareness among farmers, and orient coffee production according to the standards and requirements of enterprises, as well as technical processes to ensure both output and coffee quality, to develop sustainable coffee in the long term. Enterprises need to support and provide capital to farmers when necessary so that they can operate according to the chain's plan; At the same time, support farmers in terms of technology, organize training activities on the process of caring for, harvesting, preserving and processing coffee to ensure scientific and unified standards; Enterprises need to commit to purchasing enough coffee output at stable prices, encouraging farmers to create high-quality coffee products by purchasing high-quality coffee at higher prices...

Along with that, coffee businesses need to actively participate in international fairs and exhibitions held domestically and internationally to introduce products and seek export partners. At the same time, update information and changes in trade developments to promptly adjust their business production activities in accordance with market signals.

Sixth, coffee exporting enterprises need to effectively utilize the FTAs that Vietnam has signed in coffee export activities, thereby increasing competitiveness, expanding markets, and enhancing the brand value of Vietnamese coffee products.

The advantages of FTAs are opening up many development opportunities for businesses. Many businesses have stepped up investment in modern equipment to increase production and increase the value of exported coffee such as roasted and ground coffee, instant coffee, etc. However, coffee businesses still face challenges such as requirements on the origin of goods, transportation costs, and certification of growing areas; at the same time, Vietnamese coffee businesses will not only compete with each other but also have to compete a lot with foreign-invested enterprises (FDI) in Vietnam (because they also want to take advantage of tax incentives when exporting coffee from Vietnam to markets participating in that FTA).

To seize opportunities and overcome challenges, state agencies and the business community must fully understand the contents of FTAs, tariff reduction roadmaps, and regulations on standards and quality of trading partners to properly implement FTAs and benefit from the advantages. Only in this way will the process of participating in FTAs truly contribute positively to the sustainable development of the coffee industry and the economy in Vietnam.

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