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PROMOTING INDIA-US AGRICULTURAL TRADE UNDER THE NEW US TRADE REGIME

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Abstract

The Indo-US agricultural trade has experienced significant changes and steady growth in the last two decades signaling deepening bilateral economic ties. However, sudden announcement of “reciprocal tariffs” and enhanced market access for US exports by the US administration following re-election of Donald Trump as President of the United States in January 2025, have sent shock waves in the world especially among the trading partners of US. These measures pose significant challenges for developing countries like India and have reignited protectionist trade policies. This paper presents a detailed analysis of the trends, composition and competitiveness of agricultural trade between India and the United States and suggests measures to strengthen agricultural trade and enhance competitiveness of Indian agriculture to adapt to the emerging changes in US trade regime. The bilateral trade trajectory is examined through four lenses: evolving trade composition, competitiveness dynamics, policy shifts, and future opportunities.

The composition of agricultural trade between India and the US revealed that both countries are diversifying their export portfolios. While traditional items such as frozen shrimp, basmati rice, and spices continue to dominate, there has been a marked increase in the export of processed cereals, and other value-added products. India’s imports from the US remain concentrated in high-value commodities such as almonds, pistachios, and walnuts.

India's agricultural sector needs safeguards, to ensure price stability for both producers and consumers, against excessive volatility in international markets. In the aftermath of “reciprocal tariffs”, the India-US agricultural trade relationship is at a crucial juncture. A dual-track approach is essential now. In the short term, India should consider to selectively reduce high tariffs on non-sensitive imports and negotiate non-tariff safeguards on vulnerable segments such as poultry. India can also strategically offer concessions where domestic supply gaps exist, such as in edible oils and nuts. Alongside strategic trade management, India must undertake medium-term structural reforms to improve the global competitiveness of its farm sector. This includes bridging the productivity gap by embracing appropriate technologies, market reforms, private sector participation, improvement in logistics and development of competitive value chains. The strategic interplay of diplomacy and trade policy will be central to unlocking the next phase of growth in this vital partnership.

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BACKGROUND

The agricultural trade relationship between the United States and India is of strategic importance. While agriculture accounts for a modest share of bilateral trade, it holds great significance in both countries. During the recent years, tariff barriers, non-tariff measures, and domestic support policies have emerged as major contentious concerns in sustaining and promoting the bilateral trade. India, with its large rural base and thrust on domestic food security and farmers' welfare, has historically maintained relatively high tariffs on agricultural imports (Pursell et al., 2007) to protect domestic producers from global price volatility (Anderson, 2016). On the other hand, the United States, as a major agricultural exporter, advocates for greater market access and lower tariffs (USTR, 2023).

These concerns have heightened after announcement of reciprocal tariffs on imports by President Trump on April 2, 2025, which extend to almost all countries. This has triggered a sort of panic across the world as the new tariffs on imports announced by the USA are extraordinarily high and devoid of any logic. Moreover, the new administration is changing tariffs frequently. It is feared that such a tariff regime, if comes into force, can have devastating effect on trade and economy. While India uses tariffs to protect its producers, a calibrated approach is now essential to adapt to the evolving US trade policy (Chand and Saxena, 2025).

These, so called, reciprocal tariffs vary from country to country and are significantly impacting major exporters and altering the competitive landscape. At the same time USA has invited its trading partners to renegotiate tariffs with it to achieve the goal of closing trade gap and social goals. Further, after these initial announcements, USA is engaging with various countries and groups and moderating tariff escalations announced as a part of move towards "reciprocal tariffs". A classic example of US shifting stand on import tariff is, first escalation in tariff on Chinese imports to 150% and recently announced to come down to 30%. This has created a lot of confusion about actual tariffs to be levied on imports into US, nevertheless, it is evident that US remains open to tariff negotiations, and the concept of 'reciprocal tariffs' should be viewed more as a negotiating stance.

Chand (in Prasad and Roy, 2025 and Pandey, 2025) provided some insights into the potential impact of US reciprocal tariffs on India's agricultural sector and acknowledged the challenges posed by the tariffs imposed by the Trump administration in April 2025, but also identified areas of potential benefit for India. He suggested that certain Indian agricultural exports, such as seafood and basmati rice, could experience a modest positive impact due to the tariff changes. He suggested that high import duties on certain agri-commodities could be selectively reduced under bilateral trade deals. Such reductions would not threaten Indian farmers, since the price gap would still protect domestic producers.

The reciprocal tariffs from the United States could reduce the market access and reduce India's agri-exports. To address that, India must transition from tariff-based protectionism to productivity-driven competitiveness (Gulati et al. 2025). Gulati (2025) emphasized that the repercussions of the tariffs are expected to vary across different agricultural commodities. He posits that while the US reciprocal tariffs present challenges, they also offer India an opportunity to reassess and reform its agricultural trade policies.

The US-India agricultural trade relationship is characterized by both promise and peril. While high tariffs, regulatory barriers, and domestic support policies pose significant challenges, there are also clear opportunities for reform and mutual benefit. This paper systematically examines the trends in trade, tariffs, and opportunities for agricultural trade enhancement, aiming to contribute to the broader discourse on balancing trade liberalization with inclusive agricultural development in both countries.

1.1 Trends in India-US Bilateral Trade

Growth and composition of Indo-US bilateral trade over the past two decades presents interesting insights. While overall trade volumes between the two countries have expanded, the trade trajectory experienced significant structural shift. Between the triennium ending (TE) 2004 and TE 2024, India's agricultural exports to the United States grew nearly fivefold, from $ 1.18 billion to 5.75 billion (Table 1). The share of US in India's agricultural exports exhibited a mixed pattern: increasing from 11.5% in TE 2004 to 11.8% in TE 2014, before dropping sharply to 9.8% by TE 2024.

Agricultural imports from the United States increased even faster, from $ 291 million in TE 2004 to $ 2,217.9 million in TE 2024. A notable feature of Indo-US agricultural trade is India's consistent net agricultural trade surplus. India's agricultural export to USA declined after TE 2014 in contrast to 16 per cent increase in such export to the world. Second, agricultural export to US declined while non-agricultural exports more than doubled. The trade data presented in Table 1 show that a part of India's trade surplus in agriculture has been wiped out during the last ten years as a result of faster increase in US agricultural imports into India.

From 2001 to 2024, India's total merchandise trade with the USA has experienced substantial growth. Total exports increased from less than $ 10 billion in 2001 to nearly $ 80 billion in 2024, while imports also rose but remained consistently lower than exports in the later years resulting in expanding trade surplus. Notable fluctuations include a sharp rise in imports around 2008—possibly due to global commodity price shocks—and a brief contraction in both exports and imports around 2020, possibly linked to the COVID-19 pandemic. A strong recovery could be witnessed in the exports due to policy facilitation.

Table 1. Trends in India-US bilateral trade ($ million)

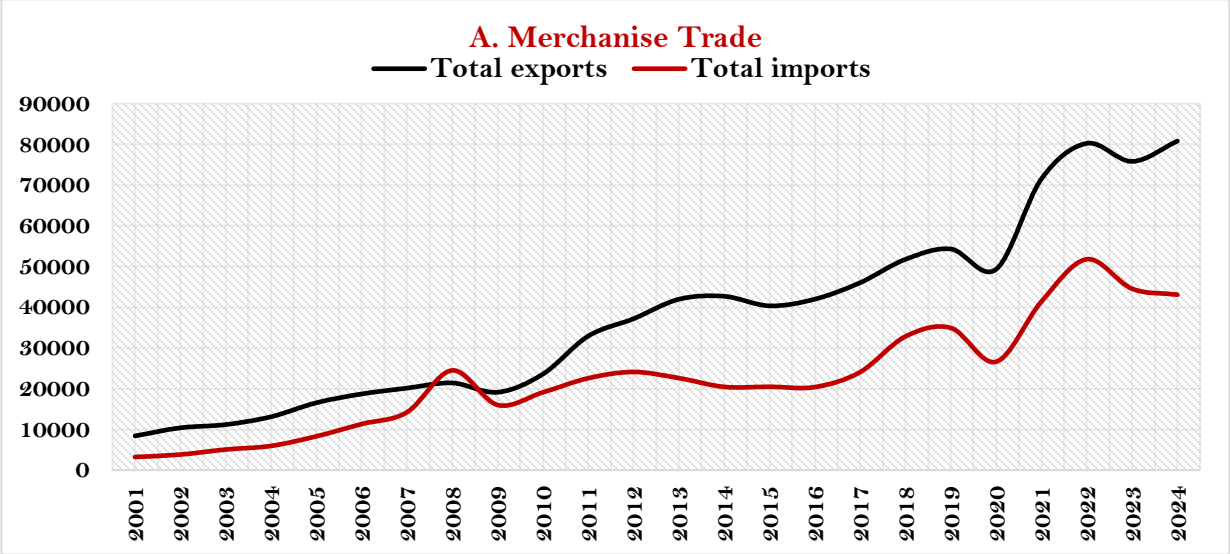
	TE 2004	TE 2014	TE 2024
Agricultural exports to the USA	1177.2	5994.5	5750.7
Agricultural exports to the World	10237.0	50721.3	58794.7
Share of agricultural exports to US (%)	11.5	11.8	9.8
Total exports to the USA	11560.2	40604.1	78939.4
Total exports to the World	61787.6	314573.6	441962.2
Share of total exports to US (%)	18.7	12.9	17.9
Agricultural imports from USA	290.9	1165.6	2217.9
Agricultural imports from the World	5124.8	23215.0	39449.4
Share of agricultural imports from US (%)	5.7	5.0	5.6
Total imports from USA	4945.0	22381.8	45649.6
Total imports from the World	76288.4	471463.8	703043.5
Share of US in India's imports (%)	6.5	4.7	6.5

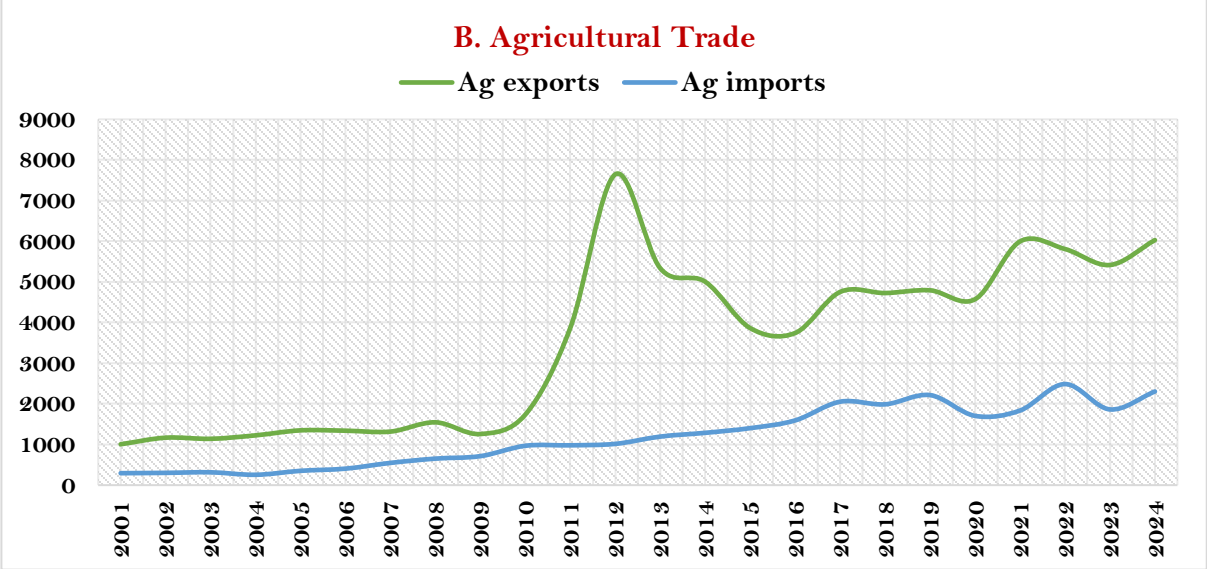
Source: Based on INTRACEN database.

In contrast to the trend in total trade, agricultural trade between India and the United States remained sluggish until 2010, after which India's agri-exports to the US witnessed a remarkable surge—quadrupling within just two years and reaching a record $7.6 billion, a peak that still holds (Figure 1 A&B). This extraordinary growth was driven by sudden surge in the demand for lac, gums, resins etc. in US. The next four years brought agricultural export down to $3.4 billion which marked beginning of new trajectory. In contrast to the volatility in India's exports, its agricultural imports from the US followed a relatively steady and less fluctuating trend.

A combination of factors like global shocks, domestic policy shifts, and climatic aberrations are underlying factors for volatility in India's trade. For instance, the 2008–09 global financial crisis led to decline in trade due to reduced global demand. Recently, the COVID-19 pandemic in 2020 caused a major contraction in trade due to global lockdowns. Additionally, export restrictions imposed in 2022–23 on staples like rice to check excessive rise in prices further added to the volatility.

Figure 1. Trends in exports to and imports from US ($ million)





Source: Based on INTRACEN database.

1.2 Composition of Agricultural Trade

The composition of India's agricultural exports to the United States has undergone notable changes over the three reference periods—TE 2004, TE 2014, and TE 2024 reflecting changing trends in US demand, shifts in India's agri-export policy priorities, and the evolving competitiveness of Indian agricultural commodities. The composition and trends in exports are presented in Table 2 and Figure 2.

Agri export basket was heavily reliant on fish & crustaceans, edible fruit & nuts, cereals and coffee, tea, maté, and spices in TE 2004. In the next two decades, fish and

crustaceans maintained their dominance in exports, but edible fruits and nuts witnessed significant decline after TE 2014. Cereals (mainly rice) and rubber articles recorded much faster growth and increased their share in total export basket. The processed cereal preparations, sugars and sugar confectionery, preparations of vegetables, fruit and nuts, and oilseeds have gained importance. This period reflects India's push toward value addition, niche exports, and responsiveness to the US market's evolving preferences for natural, plant-based, and healthier food alternatives.

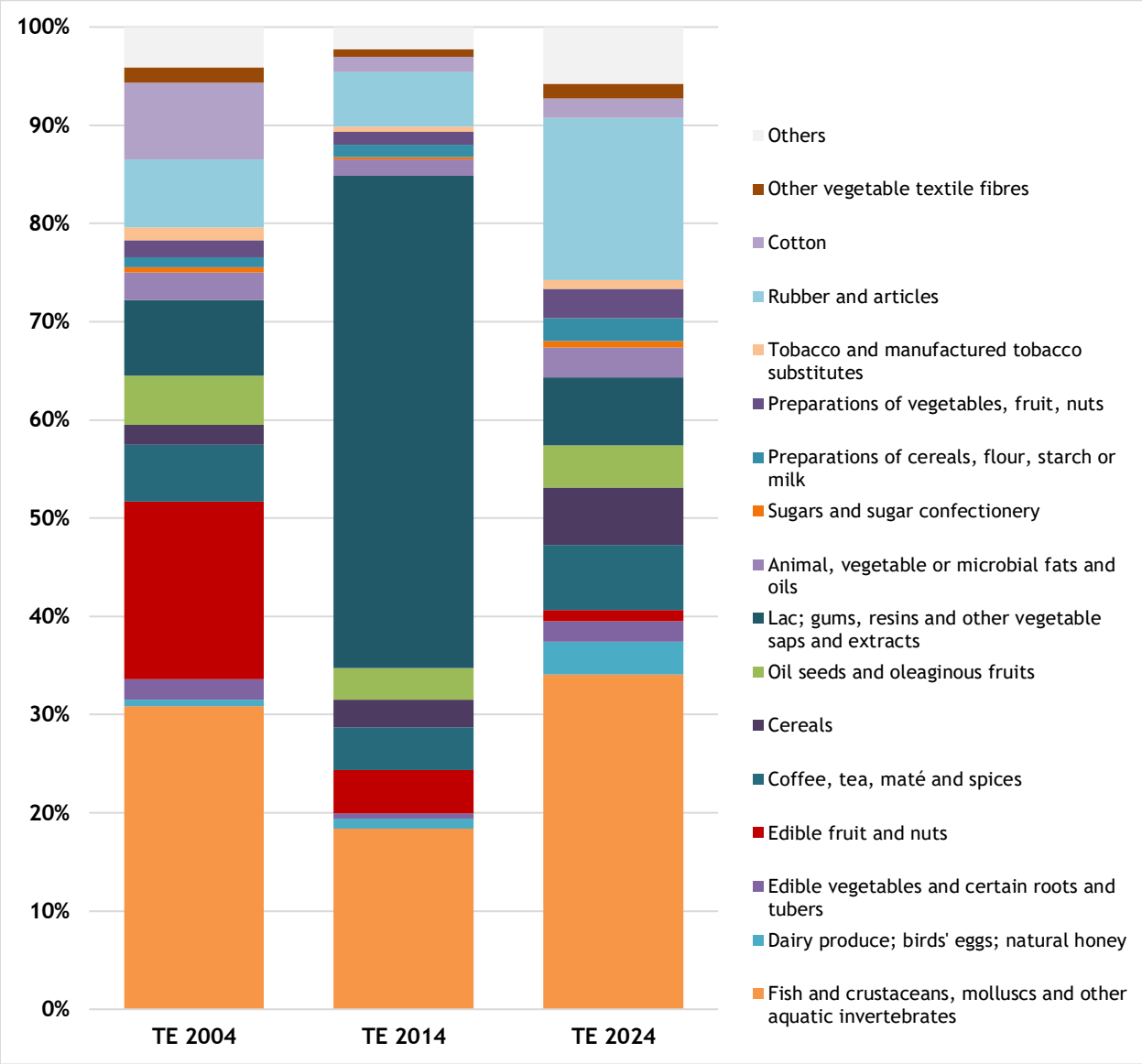
Table 2. Bilateral agricultural trade between India and the US ($ million)

Product code	Product label	India's exports to United States of America			India's imports from United States of America			Net trade		
		TE 2004	TE 2014	TE 2024	TE 2004	TE 2014	TE 2024	TE 2004	TE 2014	TE 2024
'01	Live animals	0.1	0.0	0.0	0.1	3.6	5.2	-0.1	-3.6	-5.1
'02	Meat and edible meat offal	1.9	0.1	0.6	0.0	0.0	0.1	1.9	0.1	0.5
'03	Fish and crustaceans, molluscs and other aquatic invertebrates	**363.5**	**1102.2**	**1960.3**	1.1	6.8	29.4	362.4	1095.4	1931.5
'04	Dairy produce; birds' eggs; natural honey	7.6	62.7	**190.5**	0.7	5.2	0.8	6.9	57.5	189.7
'05	Products of animal origin	1.0	2.7	1.6	1.9	10.0	12.4	-0.9	-7.3	-12.4
'06	Live trees and other plants	11.8	15.4	21.9	0.1	0.4	0.8	11.7	15.0	21.1
'07	Edible vegetables and certain roots and tubers	24.4	32.1	122.3	2.3	126.8	25.8	22.1	-94.7	96.7
'08	Edible fruit and nuts	212.6	263.1	65.9	**62.5**	**488.2**	**1048.9**	150.0	-225.2	-984.3
'09	Coffee, tea, maté and spices	**68.2**	**259.5**	**379.8**	3.8	2.2	2.3	64.4	257.3	378.1
'10	Cereals	**24.4**	**169.9**	**334.4**	0.0	0.5	1.7	24.4	169.5	332.7
'12	Oil seeds and oleaginous fruits	**58.8**	**192.4**	**249.4**	3.8	10.9	20.6	55.0	181.5	228.8
'13	Lac; gums, resins and other vegetable saps and extracts	90.6	3004.3	397.1	4.9	17.7	11.0	85.7	2986.6	386.3
'14	Vegetable plaiting materials	0.8	0.9	2.5	0.0	0.0	0.0	0.8	0.8	2.5
'15	Animal, vegetable or microbial fats and oils	32.9	100.9	174.6	37.5	45.1	93.2	-4.6	55.7	81.3
'17	Sugars and sugar confectionery	6.4	14.2	36.2	1.6	15.2	18.2	4.8	-1.0	18.1
'19	Preparations of cereals, flour, starch or milk	11.7	75.5	134.2	10.3	1.6	0.9	1.4	73.9	133.3
'20	Preparations of vegetables, fruit, nuts	20.6	77.4	171.7	1.6	12.6	22.6	19.0	64.9	150.1
'21	Miscellaneous edible preparations	16.4	80.6	274.1	17.8	36.7	33.7	-1.5	43.9	240.2
'22	Beverages, spirits and vinegar	1.4	4.9	19.0	0.6	40.2	295.5	0.7	-35.3	-279.4
'24	Tobacco and manufactured tobacco substitutes	15.7	31.9	53.5	0.3	0.4	0.6	15.3	31.5	52.9
'40	Rubber and articles	**81.3**	**332.0**	**950.3**	35.8	216.6	261.1	45.5	115.3	684.9
'41	Raw hides and skins	10.0	19.0	6.8	7.3	10.9	7.3	2.7	8.0	-0.4
'51	Wool, fine or coarse animal hair	5.4	13.0	6.1	1.9	8.5	1.1	3.5	4.5	5.1
'52	Cotton	91.7	95.8	111.0	92.7	105.2	324.7	-1.0	-9.3	-214.8
'53	Other vegetable textile fibres	18.2	43.8	86.7	2.0	0.2	0.1	16.3	43.6	86.6

Source: Based on INTRACEN database.

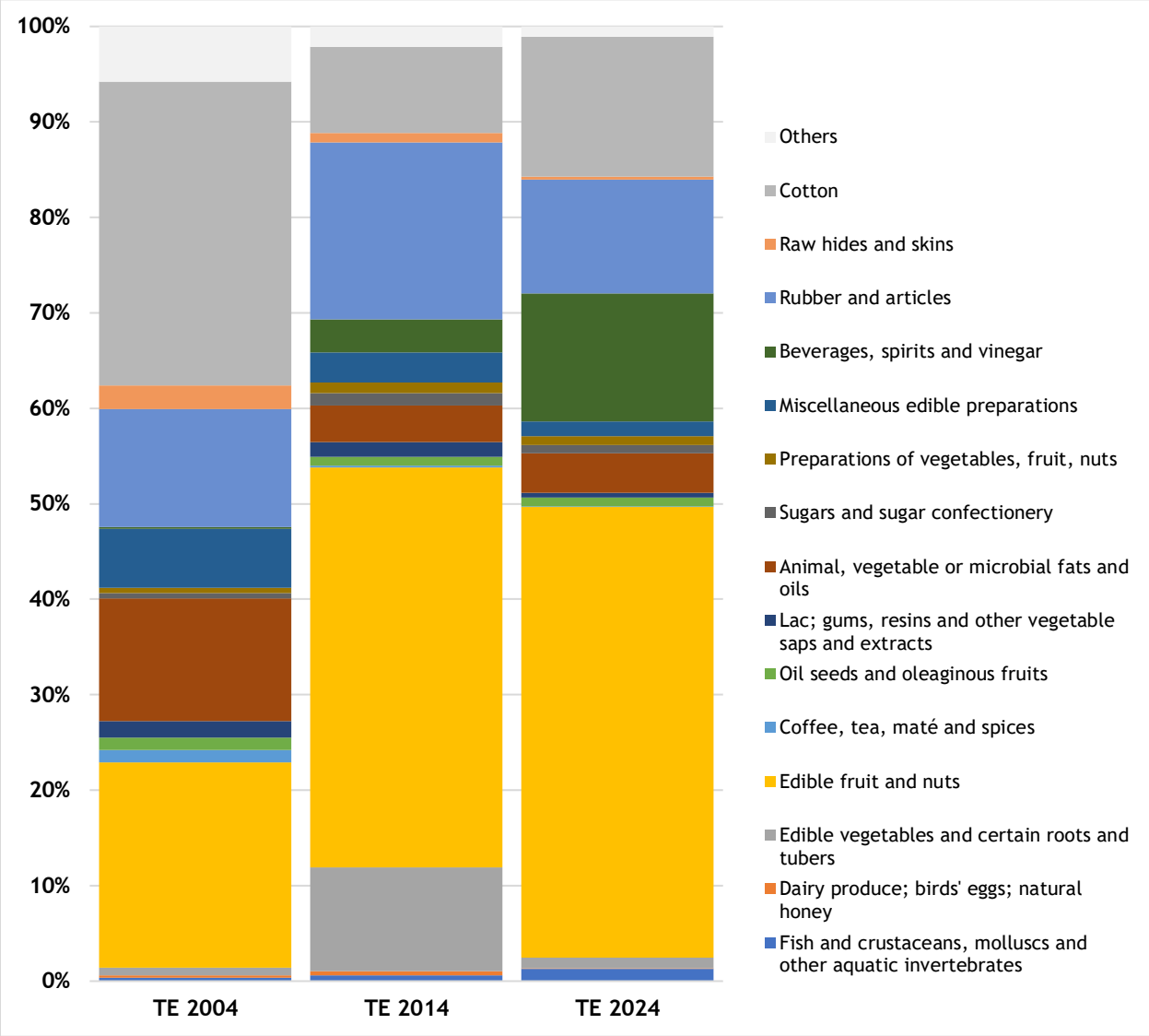
The composition of India's agricultural imports from the US has also undergone considerable changes during the last two decades (Figure 3). Edible fruits & nuts have emerged as dominant item of agricultural imports followed by cotton and beverages and spirits. These three categories constitute 75 per cent of total agricultural imports from US into India and have been the significant item of imports throughout. Changes in composition of agri-imports reflects broadening consumption and industrial needs.

Figure 2. Composition of Agricultural Exports to US



Source: Based on INTRACEN database.

Figure 3. Composition of Agricultural Imports from US



Source: Based on INTRACEN database.

2

MAJOR EXPORTS TO THE US: COMMODITY HIGHLIGHTS

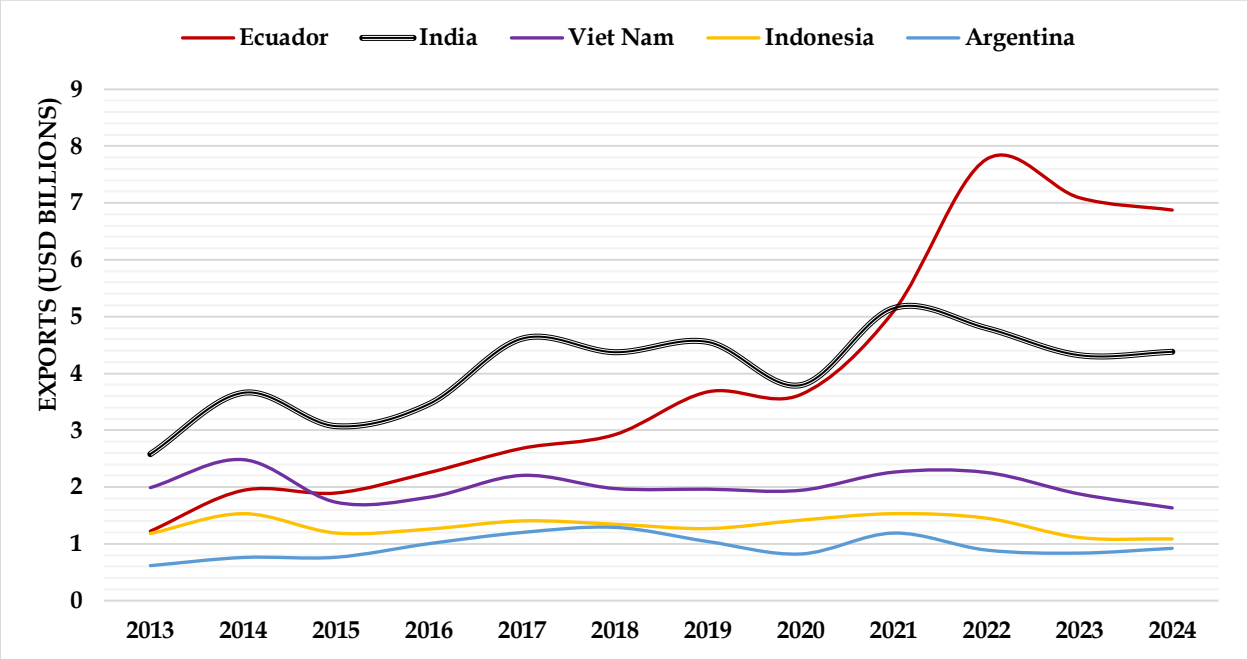
2.1 Frozen Shrimps and Prawns

2.1.1 Global Exporters

The frozen shrimps and prawns (HS 030617) are the most important agricultural export item from India to US with 34 per cent share. The global trade in this product has risen rapidly, from $ 14.5 billion in TE 2015 to over $ 21 billion in TE 2023—with a compound growth of 6%. Among major players, Ecuador has emerged as the most striking success story. Its exports have grown exponentially, particularly since 2019, peaking close to $9 billion in 2022 before settling slightly lower in 2023-24 (Figure 4). India ranked at the top till year 2019 and then lost to Ecuador by a big margin. Still, it accounts for 21.5% share of global shrimp and prawn exports.

India remains a strong player in the US market, where it retains the largest market share. Indonesia's export trend has been relatively stable, with moderate growth followed by a slight dip post-2022. Viet Nam's trajectory shows early gains up to 2015, followed by a largely flat trend. Argentina has been a minor player in shrimp trade with USA.

Figure 4. Trends in exports of key players for frozen shrimps and prawns



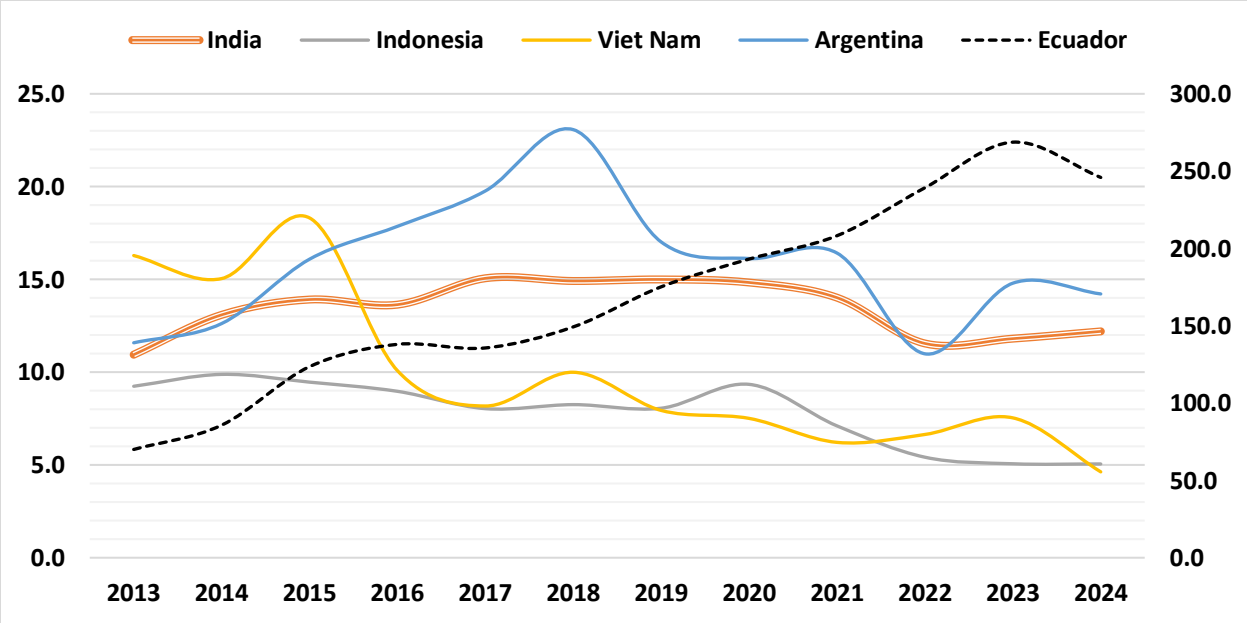
Source: Based on INTRACEN database.

The revealed comparative advantage (RCA) trends for major shrimp-exporting countries over the 2013-2023 period reveal significant shifts in global competitiveness (Figure 5). Ecuador shows a clear and dramatic upward trajectory in RCA throughout the period, reflecting a consistent and sharp increase in competitiveness. This steep rise

corresponds with Ecuador's strategic expansion in shrimp production, integration of technology, and diversification of export markets, particularly to the US and China.

India, which maintained a strong comparative advantage throughout the period, experienced a peak between 2016 and 2020, after which its RCA began to decline. Viet Nam's RCA peaked around 2015–16 and dropped thereafter.

Figure 5. RCA for major global exporters



Source: Computed by authors based on INTRACEN database.
Note: RCA indices for Ecuador have been presented on secondary axis due to relatively very high values.

2.1.2 Global Importers

Import trend in shrimp and prawn reveals strong surge in China's imports, which ballooned from $ 314.6 million to $ 5.2 billion—a more than 16-fold increase during the last decade (Table 3). The United States, while already a leading importer in 2015, continued its upward trend, with imports rising from $ 4.6 billion to $ 5.2 billion. For major exporters like India and Ecuador, the US remains a strong and stable market destination. In contrast, traditional markets like Japan have seen a decline in imports, falling from $ 1.8 billion to $ 1.3 billion.

Table 3. Global imports of frozen shrimps and prawns (HS 030617)

	TE 2015		TE 2024		Compound annual growth rate (CAGR, 2013-24)
	Imports ($ billion)	Share (%)	Imports ($ billion)	Share (%)	
World	14.0	100.0	20.6	100.0	4.5
USA	4.6	32.9	5.2	25.2	1.5
China	0.3	2.3	5.2	25.2	39.7
Japan	1.8	12.5	1.3	6.4	-3.4
Spain	1.1	8.1	1.2	5.6	0.4
France	0.8	5.4	0.8	3.9	0.5
Others	5.4	38.8	6.9	33.7	2.4

Source: Based on INTRACEN database.

2.1.3 Competitiveness Effects for US Market

A key indicator used to assess this shift is the competitiveness effect. It is calculated as the ratio of the change in a country's market share in US relative to its global share. A value above 1 indicates improved positioning in the US relative to its overall global export performance. The US shrimp market has seen a realignment of sourcing patterns between 2014 and 2024. The share dynamics along with competitiveness effects can be seen from Table 4. Among these, India, Ecuador, and Argentina expanded their share in this high-value market. India continues to be the leading supplier of shrimp to the US, with its market share showing precipitous increase from 24.4% in 2015 to 40.6% in 2024. The competitiveness effect is indicative of the export advantages in USA which is a major import hub as compared to other nations. India's continued dominance in US market suggests it has effectively leveraged existing trade relationships and maintained a strong position amidst global supply chain disruptions. India's edge in tariff preferences (0.6%) and its ability to quickly respond to demand surges further consolidated its standing.

Ecuador has shown exceptional progress in its market share in US from 16.7% to 27%. This is accompanied by a positive competitiveness effect (0.43). Argentina, while a smaller player, has expanded its US market presence from 0.8% to 4.1%. Indonesia and Viet Nam, are losing their share both in global and US market with faster decline in US market. Thus, their competitiveness effects have not been computed.

Table 4. Competitiveness effects in US market for frozen shrimp and prawns

Exporters	Share in global market (%)		Share in US market (%)		Competitiveness effect (ratio)
	2014	2024	2014	2024	
Ecuador	11.7	35.4	16.7	27.0	0.43
India	22.1	22.6	24.4	40.6	32.40
Viet Nam	15.0	8.4	12.7	6.5	NA
Indonesia	9.2	5.6	20.8	14.3	NA
Argentina	4.6	4.7	0.8	4.1	33.00

NA stands for "not applicable".

2.1.4 Tariffs

The United States has introduced new set of tariffs named reciprocal tariffs on its imports on April 2, 2025. These tariffs vary from country to country and are significantly impacting major exporters and altering the competitive landscape. The old and new tariffs on frozen shrimp and prawn announced by USA for major countries are presented in Table 5. India, which holds the largest (40.6%) share in US imports of frozen shrimp and prawn now faces a 26% tariff, a sharp increase from the earlier zero-duty regime, potentially weakening its price advantage. Ecuador, with a 27% share and the lowest unit value of $7,058 per tonne, faces only 10% tariff, positioning it to gain from the shifting trade dynamics with USA. Indonesia, which accounts for 14.3% of imports and has a unit value of $8,028 per tonne, is now subject to a 32% tariff, diminishing its competitiveness. Viet Nam, though holding only ~~a~~ 6.5% share, is the most affected with a 46% tariff despite exporting at a relatively high unit value of $10,936 per tonne.

The imposition of 26% tariff on India's frozen shrimp and prawn exports to the US—its largest market—poses significant challenges for the sector. As a leading supplier with over 40% market share, India stands to lose price competitiveness, especially against countries like Ecuador and Argentina, which now face only a 10% tariff. This shift could lead to reduced demand for Indian shrimp in the US unless exporters absorb part of the cost or reposition toward value-added or certified sustainable products.

Table 5. Tariff structure for major exporters to US for frozen shrimps and prawns

Country	Share in US imports (%)	Tariffs (%)	New tariffs* (%)	Unit value ($/tonne)
India	40.6	0	26	7689
Ecuador	27.0	0	10	7058
Indonesia	14.3	0	32	8028
Viet Nam	6.5	0	46	10936
Argentina	4.1	0	10	12994

Source: Based on INTRACEN database, *Executive orders, The White House (April 2, 2025).

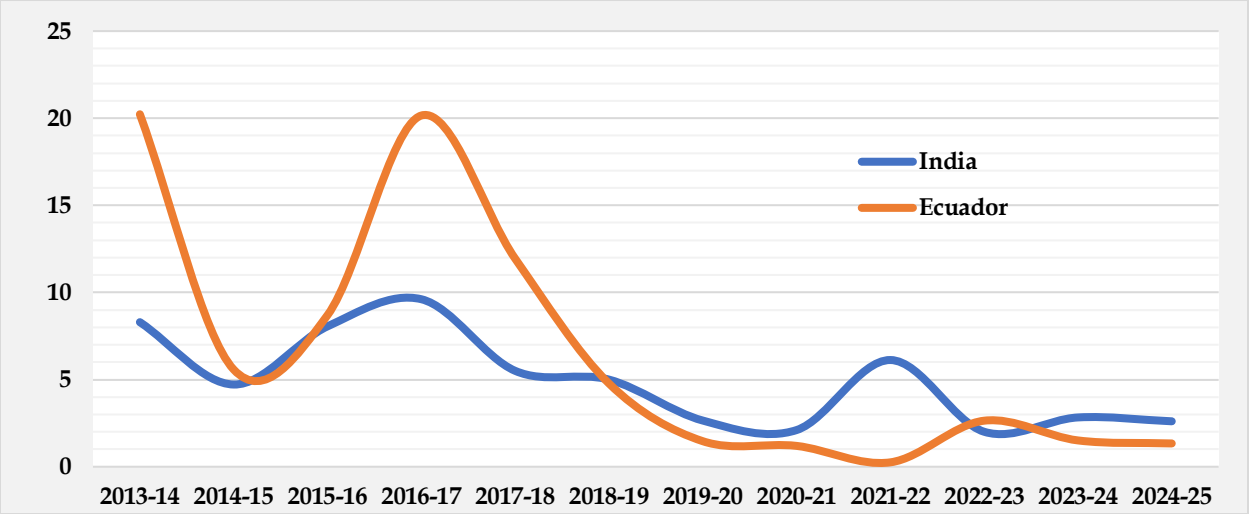
2.1.5 Non-tariff Barriers Hindering Shrimp Trade

The trend in import refusals of frozen shrimp and prawn exports to the USA is presented in Figure 6. In 2013-14 and 2016-17, Ecuador faced a refusal rate close to 20 per 10,000 tonnes, while India's rate was moderate. After 2017-18, a clear downward trend is visible for both countries. By 2020-21, refusal rates had dropped significantly. It is evident that both India and Ecuador have made sustained improvements in meeting US import standards, achieving low and stable refusal rates by 2024.

In 2023-24, India faced a total of 65 refusal charges for frozen shrimp and prawn exports to the USA (Table 6). The dominant issue was adulteration, which accounted for the vast majority of refusals. Specifically, the most frequent charges were related to the presence of decomposed substances, contamination with Salmonella, residues of banned veterinary drugs, and the presence of harmful food additives like nitrofurans and chloramphenicol. A smaller proportion of refusals (4.6%) involved combined charges of adulteration and misbranding, highlighting labeling or identity issues in addition to contamination.

Ecuador encountered 28 refusal charges for its frozen shrimp and prawn exports to the USA in 2023-24. Similar to India, adulteration was the overwhelming cause of refusals, representing around 93% of all cases (Table 7). The most frequent violation was linked to decomposed or unfit-for-food products. Additional refusals involved combinations of adulteration charges, related to the presence of poisonous or deleterious substances including histamine. Smaller fractions of refusals were associated with Salmonella contamination, the presence of unapproved animal drugs, and food additives like nitrofurans.

Figure 6. Import refusals from the US
(refusal per 10,000 tonnes of frozen shrimps and prawn exports)



Data source: USFDA (2025)

Table 6. Refusal charges for India, 2023-24: 65

Refusal Charges	Frequency	%	Import Refusal Violation Labels
"2860", "3220"	20	30.8%	"Contains a new animal drug", "bears/contains a food additive (nitrofurans)"
"3220"	9	13.8%	"bears/contains a food additive (nitrofurans)"
"2860"	8	12.3%	"Contains a new animal drug"
"249"	7	10.8%	"Product appears to consist of filthy/ putrid/decomposed material"
"2900", "3885"	7	10.8%	"Contains a food additive (chloramphenicol)", "contains a poisonous/deleterious substance (chloramphenicol)"
"3885"	5	7.7%	"Contains a poisonous/deleterious substance (chloramphenicol)"
"249","9"	3	4.6%	"Product appears to consist of filthy/ putrid/decomposed material", "Contains Salmonella (poisonous/deleterious substance)."
"2860", "320"	3	4.6%	"Contains a new animal drug"
"9"	2	3.1%	"Contains Salmonella (poisonous/deleterious substance)."
"249", "2860", "3220"	1	1.5%	"Product appears to consist of filthy/ putrid/decomposed material"," Contains a new animal drug"," bears/contains a food additive (nitrofurans)"

Data source: USFDA (2025)

Table 7. Refusal charges for Ecuador, 2023-24: 28

Refusal charges	%	Frequency	Import Refusal Violation Labels
"249"	17	60.7%	"Product appears to consist of filthy/ putrid/decomposed material"
"9"	4	14.3%	"Contains Salmonella (poisonous/deleterious substance)."
"249", "3878"	2	7.1%	"Product appears to consist of filthy/ putrid/decomposed material"," Contains a poisonous/deleterious substance"
"3220"	2	7.1%	"bears/contains a food additive (nitrofurans)"
"328"	1	3.6%	"Appears to be misbranded"
"2360", "249"	1	3.6%	"bears/contains histamine (poisonous/deleterious substance)"
"2860"	1	3.6%	"Contains a new animal drug"

Data source: USFDA (2025)

2.2 Semi-milled Rice

2.2.1 Market Structure

Rice is the second most important commodity exported by India to US market. With export value of $1.52 billion in 2024, commanded 27% share ranking second after

Thailand (55.7%) in the US market (Table 8). India's rice exports to the US stood at $409 million, exhibiting the CAGR of 11.9% between 2005 to 2024—much higher than Thailand's 6.6%. India is notably the top exporter of rice globally with 35.8% share followed by Thailand (18%) and Viet Nam (12%). Despite the competitive landscape, India's exports are differentiated by a higher unit value ($ 1359/tonne), compared to Thailand ($ 1072/tonne) and China ($ 663/tonne). This is due to the notable presence of India in Basmati rice segment, which is known for its premium quality and aroma worldwide. The US tariff regime is favorable for Indian exports, with an estimated average tariff of only 0.6%, the same for Thailand and Pakistan, and substantially lower than the 6.2% imposed on China and Viet Nam. This tariff advantage enhances India's cost competitiveness, especially relative to other Asian suppliers.

Table 8. Profiling of major exporters of semi-milled rice in US market, 2024

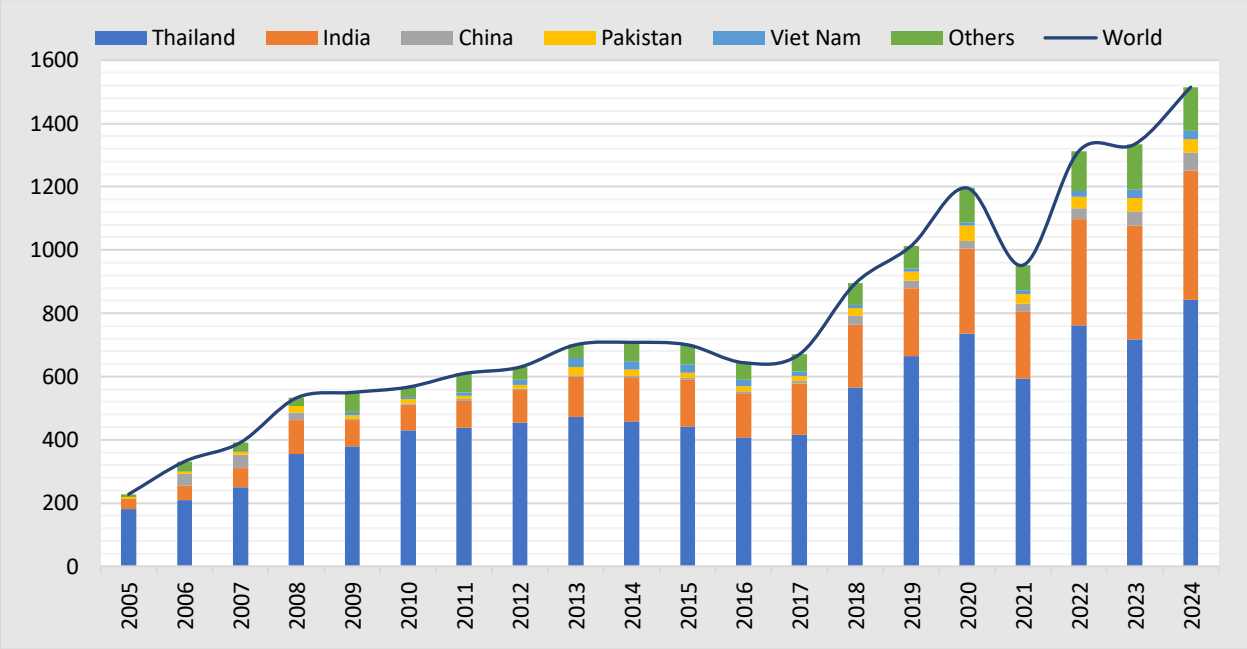
	Imports ($ million)	Share in US imports (%)	Unit value ($/tonne)	CAGR (2005-2024, %)	Ranking of partner countries in world exports	Share in global exports (%)	Tariff applied by US (%)
World	1515	100	1149	8.0	--	100	--
Thailand	843	55.7	1072	6.6	2	18	0.6
India	409	27	1359	11.9	1	35.8	0.6
China	57	3.7	663	10.6	8	1.6	6.2
Pakistan	42	2.8	1675	9.6	4	10.4	0.6
Viet Nam	26	1.7	994	25.6	3	12	6.2

Source: Based on INTRACEN database.

2.2.2 Trends in Exports

Imports of semi-milled rice in the United States increased steadily from 2005 to 2017 and witnessed accelerated growth thereafter. This way the import increased from $227 million in 2015 to 1.51 billion in 2024 (Figure 7). Thailand has consistently dominated as the primary supplier, contributing the largest share. India has emerged as a formidable player, steadily increasing its share since 2010 and becoming the second-largest exporter to the US by 2024 with exports crossing $400 million. Viet Nam also gained a stronger foothold, particularly after 2020, while Pakistan maintained a small presence, mostly through its basmati exports. China, on the other hand, remained a minor player throughout the period.

Figure 7. Imports of semi-milled rice in US (million $)



Source: Based on INTRACEN database.

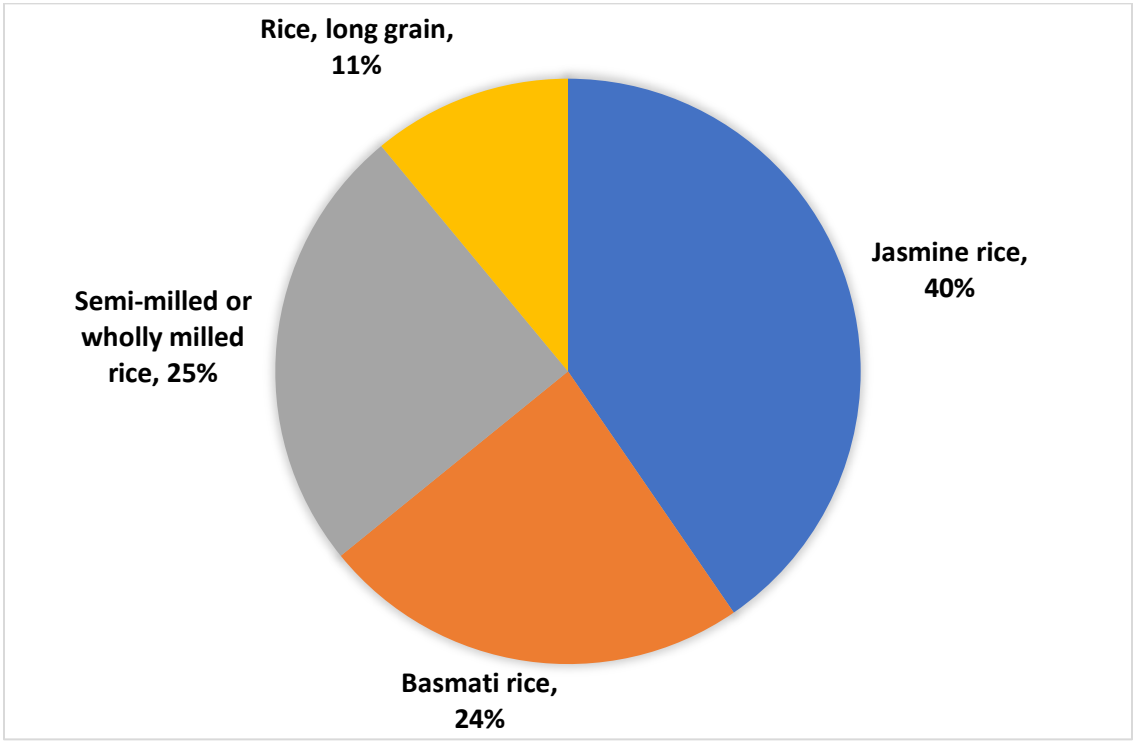
2.2.3 Composition

Rice imports to USA are classified into four major categories. Share of each of these is depicted in Figure 8. Jasmine rice holds the dominant position, accounting for 40% of the total imports. This reflects its popularity, particularly among Southeast Asian cuisines. Thailand is the principal exporter of Jasmine rice, reinforcing its lead in the US rice market. Thailand sells it at a competitive price due to its cultivation advantages (Figure 9 b). The country sells Basmati rice, known for its long grains and unique aroma, constitutes 24% of the total and fetches premium price (Figure 9a). Its significant share underlines strong consumer demand in ethnic and gourmet markets. India is the key supplier of Basmati rice in the US.

Semi-milled or wholly milled rice (whether polished or not) makes up 25% of the total share, indicating a consistent demand for more processed rice options. This category is likely supplied by multiple countries, including India, China, and Viet Nam, and reflects a broader preference for ready-to-cook formats in institutional and retail segments.

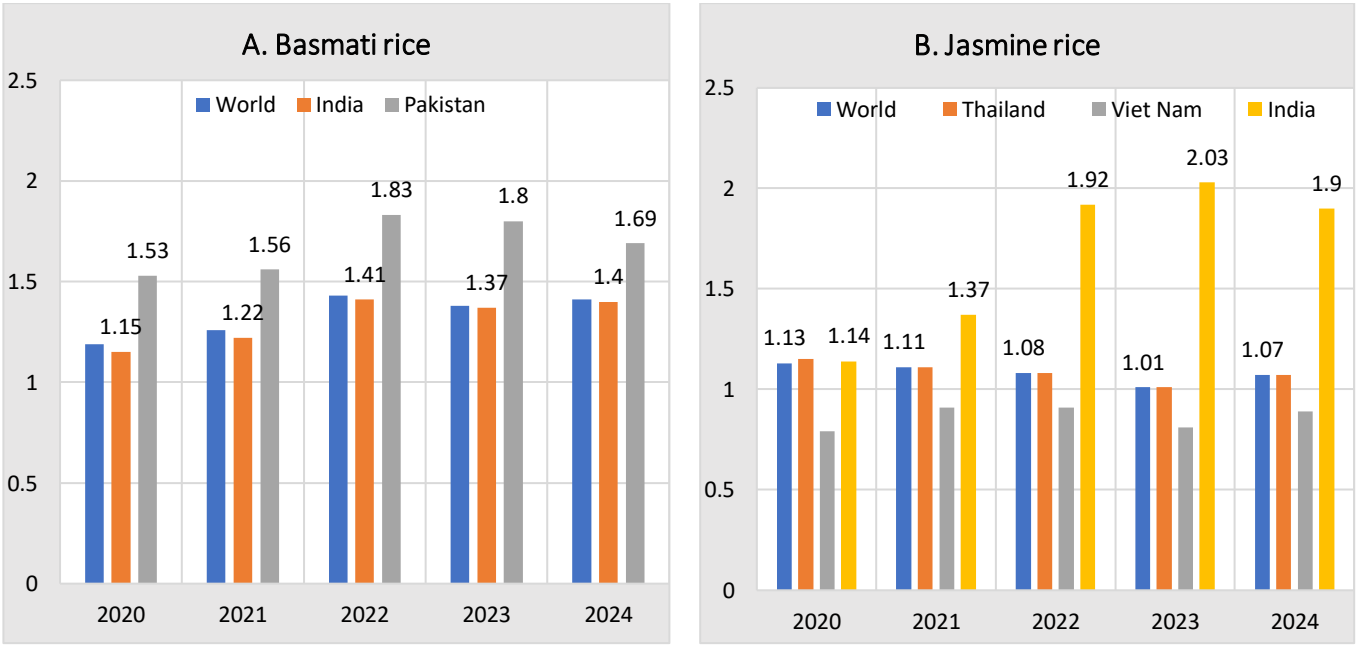
Long grain rice makes up the remaining 11%, showing more modest demand, possibly due to competition from the more aromatic Jasmine and Basmati varieties. The distribution of shares highlights how consumer preferences, culinary diversity, and origin-based branding shape the structure of rice imports in the US market.

Figure 8. Share of various rice variants in US imports



Source: Based on INTRACEN database.

Figure 9. Price realized for Basmati and Jasmine rice in US market ($/kg)



Source: Based on INTRACEN database.

2.2.4 Competitiveness Effects

India has strengthened its position as the global leader, increasing its share from 33.8% in 2014 to 35.8% in 2024. More striking is its rising share in the US market — from 19.8% to 27% — reflecting a robust competitiveness effect of 3.60, indicating superior gains relative to global trends (Table 9). Thailand, traditionally a major player, has seen a decline in both global and US shares. Its global share dropped from 21.8% to 18%, and its US share shrank from 64.6% to 55.7%, indicating dilution in global market presence and much higher in the United States. Pakistan's share reveals small loss in US market.

Table 9. Competitiveness effects in US market for semi-milled rice

Country	Global share (%)		Share in US (%)		Competitiveness effect (ratio)
	2014	2024	2014	2024	
Thailand	21.8	18	64.6	55.7	NA
India	33.8	35.8	19.8	27.0	3.60
China	0.8	1.6	0.6	3.7	3.88
Pakistan	8.5	10.4	2.9	2.8	-0.05
Viet Nam	12.8	12	3.8	1.7	2.63

Source: Computed by authors based on INTRACEN database.

China, while still a small player globally (rising from 0.8% to 1.6%), has made significant inroads into the US market, increasing its share from 0.6% to 3.7%. Its competitiveness effect of 3.88, the highest among all, suggests strategic market targeting.

2.2.5 Tariffs

The tariff structure of semi-milled rice for US imports is provided in Table 10. Thailand remains the dominant supplier with a 55.7% share in US imports and now faces a new tariff of 36%, a sharp increase from the earlier 0.6%, despite offering one of the lowest unit values ($1,072/tonne). India, the second-largest supplier with 27% share, is subject to a 26% tariff, also up from 0.6%, while exporting at a higher unit value ($1,359/tonne) due to its premium varieties.

Smaller players like China, Pakistan, and Viet Nam are also affected, though differently. China and Viet Nam, previously taxed at 6.2%, now face 34% and 46% tariffs, respectively, which could further marginalize their competitiveness given their modest market shares (3.7% and 1.7%) and low unit values ($663/tonne and $994/tonne).

The imposition of a 26% tariff on India's semi-milled rice exports to the US—up from just 0.6%—poses a moderate yet strategic challenge. As the second-largest supplier with a 27% share, India still retains a tariff advantage over Thailand, which faces a higher 36% rate despite dominating the US market. The revised tariff regime appears to penalize all exporters. For India, the lower tariff relative to Thailand could present a strategic window to consolidate or expand market share. However, the overall increase in tariff burden across the board may also suppress import demand or drive a shift toward tariff-exempt origins under preferential trade arrangements.

Table 10. Tariff structure for major exporters to US for semi-milled rice

Country	Share in US imports (%)	Tariffs (2024)	New tariffs (%)	Unit value ($/tonne)
Thailand	55.7	0.6	36	1072
India	27.0	0.6	26	1359
China	3.7	6.2	34	663
Pakistan	2.8	0.6	29	1675
Viet Nam	1.7	6.2	46	994

Source: Same as Table 5.

The tariff hike also increases the urgency for India to pursue bilateral trade negotiations or leverage regional trade agreements to seek preferential access. Domestically, the policy shift may put pressure on exporters to streamline costs, improve logistics, and upgrade processing standards to remain competitive in a tightening US rice market.

2.2.6 Non-tariff Barriers

During the period 2020–24, India experienced a significantly higher import refusals and diversity of charges by regulatory authorities compared to Thailand. A total of 321 refusals were recorded for India, with 95.9% attributed to the presence of pesticide chemical residues, indicating a persistent issue with agrochemical compliance (Table 11). Additional violations, though far less frequent, included misbranding (e.g., incorrect or misleading labeling, non-English labels), undeclared nutrition information, and one case involving decomposed material. In contrast, Thailand recorded only 4 refusal cases over the same period (Table 12). These were due to the presence of filthy or decomposed material, and FSVP violation. The absence of pesticide residue-related refusals suggests better compliance with chemical residue standards compared to India.

Table 11. Refusal charges for India, 2020-24

Refusal charges	Frequency	%	Import Refusal Violation Labels
"241"	308	95.9%	"Bear/contain a pesticide chemical residue"
"241", "256", "321", "482"	3	0.9%	"Bear/contain a pesticide chemical residue", "appears to be misbranded", "appears to be misbranded, the label fails to bear accurate statement of quantity of the food", "labeling fails to bear the required nutrition information"
"260"	2	0.6%	"Appears to be misbranded, in that the meaning of labeling is false or misleading"
"324", "482"	2	0.6%	"Appears to be misbranded, any word/statement/other information required appear on the label is not in English", "labeling fails to bear the required nutrition information"
"241", "482"	2	0.6%	"Bear/contain a pesticide chemical residue", "labeling fails to bear the required nutrition information"
"249"	1	0.3%	"Product appears to consist of filthy/ putrid/decomposed material"
"3886"	1	0.3%	"Foreign Supplier Verification Program violation"
"241","256", "482"	1	0.3%	"Bear/contain a pesticide chemical residue", "appears to be misbranded", "labeling fails to bear the required nutrition information"
"320", "482"	1	0.3%	"Appears to be misbranded, food is in package form and the label fails to bear the name and place of business of the manufacturer, packer/distributor", "appears to be misbranded", "labeling fails to bear the required nutrition information"

Data source: USFDA (2025)

Table 12. Refusal charges for Thailand, 2020-24

Refusal charges	Frequency	Rate	Import Refusal Violation Labels
"249"	3	75%	"Product appears to consist of filthy/ putrid/decomposed material"
"3886"	1	25%	"Foreign Supplier Verification Program (FSVP) violation"

Data source: USFDA (2025)

2.3 Natural Honey

2.3.1 Market Structure

Natural honey is one of the important commodities being imported by the US. In 2024, the United States imported natural honey worth $650.2 million, reflecting a growth of 7.6% per annum during 2005 to 2024 (Table 13). India emerged as the largest supplier to the US, accounting for 23% of the total imports with export of $161.1 million. Notably, India's honey exports to the US grew at an impressive 13.3% per annum during this period, indicating rapid market expansion. With a relatively low realized unit value of $1983 per tonne, India has positioned itself as a cost-competitive supplier, which has helped it capture a significant share in the price-sensitive segment of the US market. Ranked third globally in honey exports with a 7.9% share, India's performance contrasts with that of Argentina and Brazil, which offer honey at higher prices and have experienced slower growth. These two nations have positioned themselves as a high-quality honey supplier. Premium suppliers like New Zealand, realize as high as $22665 per tonne, cater to niche segments such as manuka honey. Importantly, the US applies minimal or zero tariffs on honey imports from all major suppliers, creating a level playing field.

Table 13. Profiling of major exporters of natural honey in US market (2024)

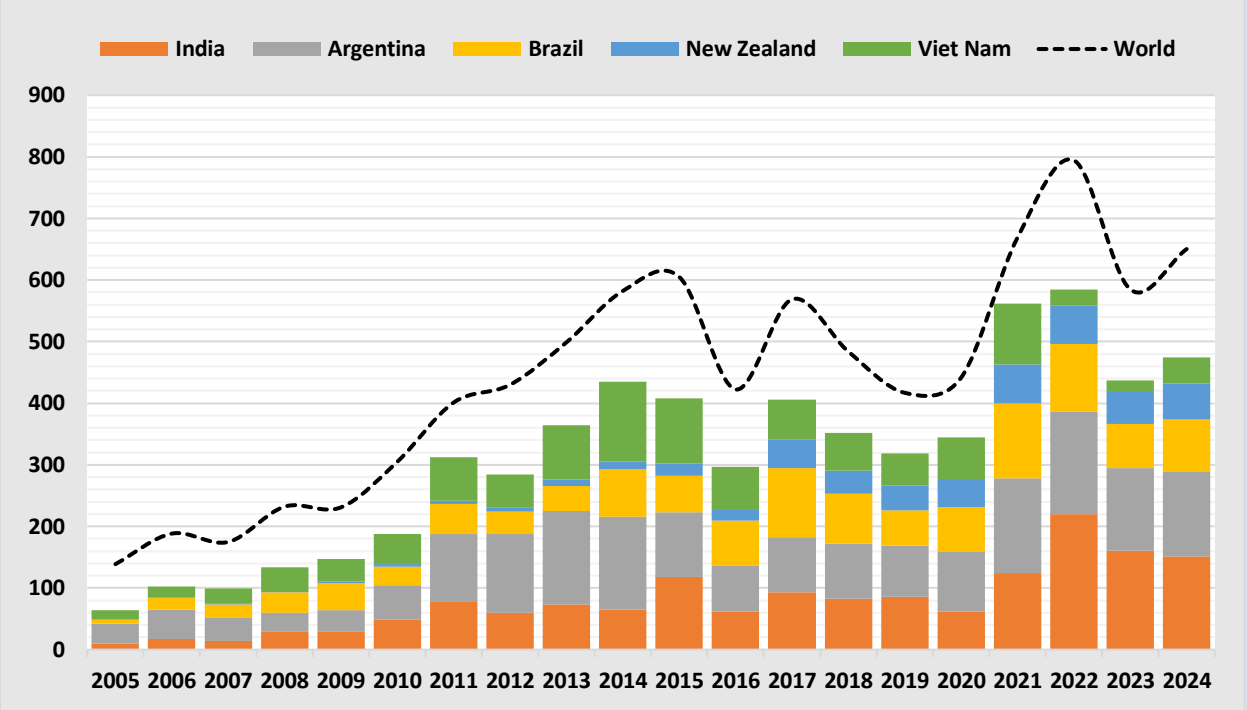
Country	Imports by USA ($ million)	Share in US imports (%)	Unit value ($/tonne)	CAGR (2005-2024, %)	Ranking in global exports	Share in global exports (%)	Tariffs applied by US (%)
World	650.2	100	2551	7.6		100	
India	151.2	23.3	1983	13.3	3	7.9	0.5
Argentina	137.9	21.2	2405	7.6	4	7.4	0.5
Brazil	84.1	12.9	2737	10.9	8	4.3	0.5
New Zealand	58.3	9.0	22665	28.0	2	10.8	0.5
Viet Nam	43.1	6.6	1329	3.1	11	3.0	0.5

Source: Based on INTRACEN database.

2.3.2 Trends in Exports to US

The trends in honey exports to the USA from 2005 to 2024 reflect a steady and significant rise in international demand, marked by periodic fluctuations (Figure 10). Total exports witnessed an increasing trend after 2010, peaking notably in 2021 at over $800 million, before moderating slightly. The global demand upsurged significantly after the onset of Covid-19 pandemic. This growth trend underlines the expanding consumption of honey as both a food product and a natural health supplement in key markets like the United States and Europe.

Figure 10. Trends in exports of natural honey to US (million $)



Source: Based on INTRACEN database.

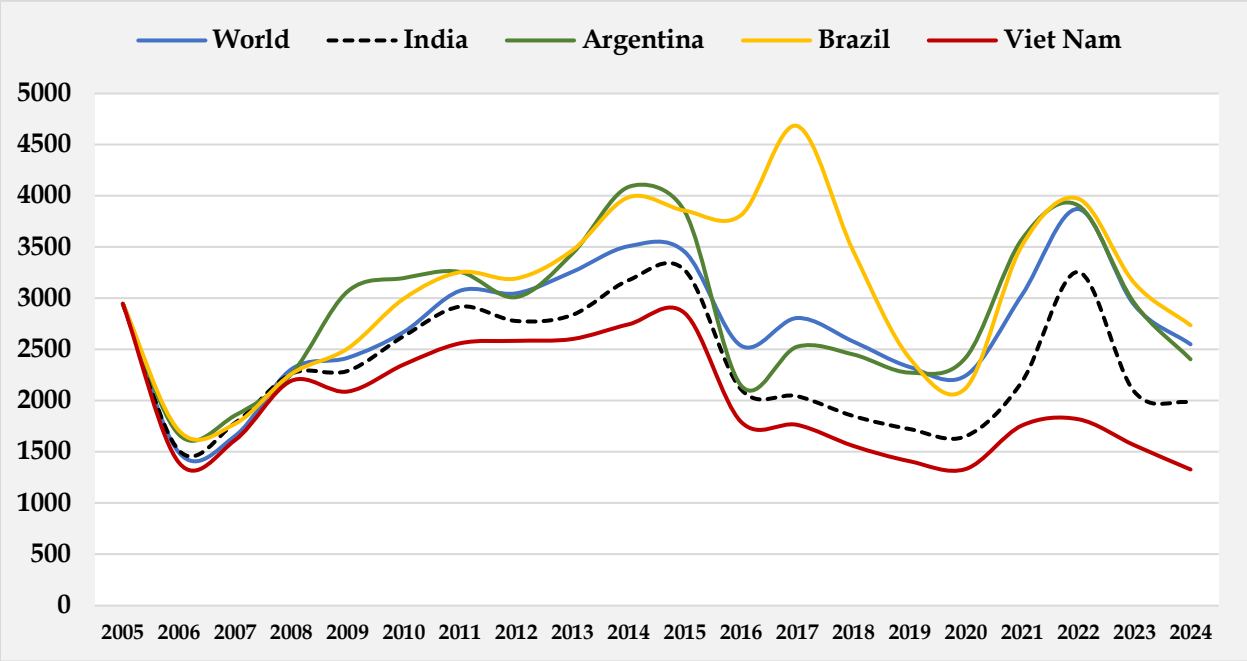
India's export performance stands out particularly from 2020 onwards making it the leading exporter. India's growth has been underpinned by its competitive pricing, expanded production capacity, and relatively liberal access to the US market. Argentina and Brazil have also maintained a strong presence, but their growth has been more modest. Meanwhile, Viet Nam and New Zealand, though smaller contributors in terms of volume, play an important role in catering to niche and premium segments, with New Zealand especially known for its high-value manuka honey.

Argentina, one of the leading suppliers of natural honey to the United States, has maintained a strong position in the global honey export market because of its high-quality (purity, light color, and mild flavor). Argentina has robust traceability systems, sanitary controls, and quality assurance mechanisms ensuring compliance with international food safety standards. While China remains the largest global exporter of honey, its access to the US market is limited by legal, economic, and safety barriers

Figure 11 presents the trends in unit value realization (UVR) from 2005 to 2024 for key agri-exporting countries. Brazil and Argentina consistently recorded higher UVRs indicating their ability to command premium prices in global markets. India's UVR showed a gradual rise until 2014, before the marked decline post-2015, with brief recovery in 2021–22. Viet Nam exhibited a steady decline in UVR after 2015. India may

emphasize on a value-led export strategy focusing on quality improvement and product diversification to sustainably enhance UVR.

Figure 11. Unit value realized ($/tonne) for natural honey in US market



Source: Based on INTRACEN database.

2.3.3 Tariffs

India, the top exporter to the US with a 23.3% market share, now faces a steep 26% tariff, up from just 0.5%, threatening its competitive position (Table 14). In contrast, Argentina (21.2% share) and Brazil (12.9%) retain a favorable position with only 10% tariffs. New Zealand, with a 9% share, commands a premium segment with the highest unit value of $22,665/tonne, likely reflecting specialty product lines. Its ability to retain a low 10% tariff enhances its niche positioning. India's tariff hike to 26%—while less severe than Viet Nam's—raises concerns about margin pressure and potential loss of price-sensitive buyers in the US market. India may experience market share erosion unless it undertakes cost absorption, repositions through quality differentiation, or diversifies to less price-restrictive markets.

Table 14. Tariff structure for major exporters to US for natural honey

	Share in US imports (%)	Tariffs (%, 2024)	New tariffs (%)	Unit value ($/tonne)
India	23.3	0.5	26	1983
Argentina	21.2	0.5	10	2405
Brazil	12.9	0.5	10	2737
New Zealand	9.0	0.5	10	22665
Viet Nam	6.6	0.5	46	1329

Source: Same as Table 5.

2.3.4 Competitiveness Effects

The US market for natural honey has seen significant shifts in supplier competitiveness. India has demonstrated a marked improvement in competitiveness, increasing its share in the US honey market from 11.1% in 2014 to 23.3% in 2024, while its global share rose from 3.3% to 7.9% (Table 15). With a competitiveness ratio of 2.65, India has doubled its relative advantage, highlighting successful market penetration and growing consumer preference or trade access in the US.

Table 15. Competitiveness effects in US market for natural honey

Country	Share in US market (%)		Global shares (%)		Competitiveness effect (ratio)
	2014	2024	2014	2024	
China	0	0	11.1	11.4	0.00
New Zealand	2.2	9.0	7.2	10.8	1.89
India	11.1	23.3	3.3	7.9	2.65
Argentina	25.9	21.2	8.7	7.4	NA
Brazil	13.2	12.9	4.2	4.3	-3.00
Viet Nam	22.2	6.6	5.7	3.0	NA

Source: Computed by authors based on INTRACEN database.

New Zealand also improved its market share significantly in the US (from 2.2% to 9%) alongside a rise in its global share. The resulting competitiveness effect of 1.89 indicates a solid improvement in its positioning, likely driven by niche branding and premium product perception. Argentina observed a decline in both global share (from 8.7% to 7.4%) and US market share (from 25.9% to 21.2%). Brazil witnessed a negative competitiveness effect due decline in US market share. China, despite being a significant global exporter (maintaining over 11% global share), has had no market access or presence in the US throughout the period, yielding a competitiveness effect of “0” reflecting continued non-tariff barriers or regulatory restrictions.

3

MAJOR IMPORTS FROM THE US

The data reveals a clear dominance of the United States in supplying certain high-value horticultural products to India, particularly nuts and fresh fruits. In 2024, India's imports from the US were significantly concentrated in almonds, pistachios, and walnuts, reflecting both the volume of trade and tariff sensitivities (Table 16). Fresh or dried almonds in shell represented the largest share, with India importing $ 1.02 billion worth—accounting for 92% of its total almond imports. The unit value for almonds traded between India and the US was competitive at $3,771 per tonne, close to the global average. Pistachios, both in-shell and shelled, also constituted a major share of India's imports from the US, although at higher applied tariffs—30%. US exports of fresh apples ('080810) to India faced a 50% tariff, one of the highest among listed products. This led to relatively modest imports of $ 37.9 million, representing 9% of India's total apple imports.

Table 16. Composition of major edible fruits imported from US

HS Code	Product	India's imports ($ million)			Unit value ($/tonne)		USA to World unit value ratio	Tariff applied by India for US (%)
		World	USA	Share of USA (%)	World	USA		
'**080211**	Fresh or dried almonds in shell	1017.9	939.2	92.3	3777	3771	1.00	7
'**080251**	Fresh or dried pistachios, in shell	185.2	102.8	55.5	5965	6495	1.09	30
'**080810**	Fresh apples	424.1	37.9	8.9	816	1013	1.24	50
'**080231**	Fresh or dried walnuts, in shell	86.0	24.5	28.5	1565	1479	0.95	30
'**080212**	Fresh or dried almonds, shelled	85.3	5.1	6.0	6456	4974	0.77	9
'**080252**	Fresh or dried pistachios, shelled	85.4	2.1	2.5	9383	7120	0.76	30

Source: Based on INTRACEN database.

4

CONCLUSIONS AND SUGGESTIONS

India has maintained surplus in agriculture trade with the USA and the same has increased over time. However, the relative importance of agriculture in the bilateral trade is diminishing. Food demand and supply projections for India indicate sizeable increase in agri-food surplus in the coming years. This will require higher fraction of domestic production to be sold in overseas markets either in raw form or in processed form. USA is expected to remain a big market for export of surplus food from India. Therefore, all efforts need to be made to keep favorable environment for export to USA. This should include strategic opening for US imports into India to achieve larger gains in exports. The ongoing negotiations between the two countries for bilateral trade accord seem to be the best option for resetting long term trade relationship.

Export basket should emphasize both, traditional products like fishery and rice sold in large volume and a large number of high value products, differentiated products, ethnic products, attribute-based products, health foods, processed food etc. which are individually small but cumulatively quite large.

To effectively navigate the challenges unleashed by President Trump's unilateral tariff hikes, India needs a carefully balanced strategy that blends immediate strategic responses with long-term structural reforms. Given that the US is India's largest trading partner and a key destination for Indian agri-exports, India must prepare a strategic response that protects domestic producers and promote overall domestic interests without escalating trade conflicts. This will require action in a number of areas.

Building Structural Competitiveness

Alongside strategic trade management, India must undertake medium-term structural reforms to improve the global competitiveness of its farm sector. This includes bridging the productivity gap with developed nations by embracing appropriate technologies, nudging states to undertake long pending reforms, liberalize private sector participation, improvement in logistics and development of competitive value chains. For illustration, India's average soybean yield stands around 1 tonne/ha for a long time compared to 3.4 tonnes/ha in the US, and maize yield is 3.5 tonnes/ha versus 11.1 tonnes/ha in the US—these gaps highlight clear scope for improvement.

Strategic Import Substitution

India is the largest importer of edible oil in the world and US has huge export surplus of soybean which is GM. India can offer some concession to US in import of soybean oil to meet US demands to reduce trade imbalance, without harming domestic production. We should also explore the option of importing soybean seed and use it for extracting oil in the coastal areas and take oil into domestic market and export meal for which there is adequate overseas demand. This will avoid GM feed into Indian market. Such

options avoid competition with Indian farmers while accommodating US interests within the $18 billion edible oil import window. This move alone can fetch lot of benefits like:

(i) bridge the trade gap with USA in agriculture,

(ii) negate the case for reciprocal tariffs and

(iii) open further window for export to USA.

Similarly, corn may be imported for ethanol blending and its by-product, like Distiller's Dried Grains with Solubles (DDGS), can be entirely exported to avoid GM feed in the country. US corn is cheaper and can be used to meet India's biofuel targets without disrupting local food and feed markets.

Protection of Sensitive Sectors through Non-Tariff Measures

Sensitive products like dairy and poultry can be protected in bilateral trade arrangements. Poultry in US is sensitive to frequent disease outbreaks (e.g., avian flu). This opens the option for non-tariff barriers while enforcing SPS norms. There is also strong possibility of improving global competitiveness of Indian dairy and raise export of quality dairy products to USA as seen in the case of recent marketing of Amul milk in USA.

Marketing Reforms and Export Facilitation

Studies show that India is not inefficient producer but it is inefficient supplier of many agri products because of poor logistics. Investments are needed in post-harvest infrastructure, cold chains, warehousing, and rural logistics to cut wastage, extend shelf life, and enable farmers to tap distant export markets. Reforms in the domestic marketing ecosystem—such as liberalizing APMC laws, enabling direct procurement, and promoting agro-processing clusters—can further support export-oriented production. Strengthening the export ecosystem through targeted incentives, market intelligence cells to monitor global price trends and import risks, and price stabilization or hedging mechanisms for farmers will help build resilience.

Tariff adjustments

Indian producers already enjoy supply advantage in commodities like rice and pepper. High tariff on such products by India, which are regularly exported by the country, can be easily lowered or even removed in the bilateral trade accord. Such tariffs are not relevant for trade with countries like USA. Similarly, India can consider lower tariff on agricultural commodities where either domestic production is small or import does not compete with domestic production because of different quality grades and seasons. For example, US apples sell at a premium price in Indian retail markets due to different quality, long shelf life, and off-season availability; adjusting tariffs moderately on such

products may not cause adverse effect on domestic produce. Similarly, since India meets most of its almonds and pistachios demand from imports, calibrated concessions can be extended on such items.

Reciprocal Market Access

India should negotiate more access to the US market for high-performing exports like shrimp, fish, spices, rice, tea, coffee, rubber. India earns approximately $5.75 billion annually from agri-exports to the US. Expanding this through duty waivers or TRQs should be part of trade talks.

Risk Management and Monitoring

To enhance India's resilience in the global agricultural market, it is essential to establish an Agri Trade Intelligence Cell that systematically monitors global supply situation, global trade trends, import surges, and price volatility. This dedicated unit would serve as an early warning system enabling timely policy responses to international market dynamics. Complementing this, the government should introduce price hedging schemes to protect farmers from the adverse effects of global price shocks, particularly those arising from sudden changes in tariffs or international demand-supply imbalances. These measures would not only stabilize farm incomes but also strengthen India’s strategic positioning in agri-trade.

India must pursue a pragmatic mix of tariff adjustments, strategic import liberalization, and long-term competitiveness to safeguard its farm sector while preserving strong trade ties with the United States. With calibrated give-and-take, India can prevent large-scale disruption, avoid trade conflict, and emerge as a more competitive and resilient agri-export economy. By turning current challenges into reform opportunities, India can position itself as a global food power in the coming decades.

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सत्यमेव जयते

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