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Comparative Analysis of India's Food Imports and Exports with Global Food Trade

Channabasanagouda Palli[1], Sameer Bhavikatti[2]
Rani Channamma University, Belagavi, Karnataka, India

Abstract—**This study analyses the trends and dynamics of India's food import and export trade between 2018 and 2022, with a comparative assessment of global food trade over the same period. Food, as a basic human necessity, has become a central component of global economic and policy systems. India, while being a major agricultural exporter, also faces growing dependency on food imports to meet its domestic demands. Using secondary data from credible sources such as annual statistical reports from the Food and Agriculture Organization (FAO), Rome, this study adopts a descriptive and comparative approach to examine trade values in USD million and corresponding annual growth rates. The findings reveal that India's food imports grew from USD 18,094 million in 2018 to USD 32,214 million in 2022, registering a steep rise of 78%, while exports rose from USD 30,598 million to USD 46,100 million—an increase of 50.7%. Categories such as cereals, sugar, and marine products dominated exports, whereas imports were led by edible oils, fruits, dairy, and processed foods. Compared to global food trade growth (32.6% imports, 30.5% exports), India's trade performance was significantly higher and more volatile, particularly in 2021, reflecting the country's rapid response to post-pandemic market recovery. The study concludes that while India is emerging as a key player in the global food economy, its growing import reliance requires policy attention. Strategic interventions in domestic production, supply chain infrastructure, export diversification, and trade sustainability are essential to maintain growth momentum and food security. The research offers valuable insights for policymakers, economists, and agricultural planners navigating the complexities of India's food trade landscape.**

Index Terms—**USD million, FAO, Import, Export**

I. INTRODUCTION

Food is a fundamental human necessity, providing the essential nutrients required for survival and well-being—namely carbohydrates, proteins, fats, vitamins, and minerals (FAO, 2021). A nation's economic development is strongly linked to the productivity of its human resources, and for people to function efficiently, access to adequate and nutritious food is indispensable. Ensuring food security for all citizens is, therefore, a key responsibility of any government (World Bank, 2020).

Despite this, many countries are unable to meet the full nutritional demands of their populations solely through domestic food production. This is often due to constraints such as adverse climatic conditions, limited agricultural land, or technological underdevelopment. As a result, most countries participate in international food trade by importing and exporting essential food commodities (WTO, 2022).

India is both a significant exporter and importer in the global food trade. It is known for exporting cereals, fruits, vegetables, marine products, and meat preparations. At the same time, India imports various food items to meet the demands of its large and growing population. While domestic food production has historically been insufficient in proportion to population size, recent years have witnessed a substantial improvement. This progress is attributed to policy reforms, technological advancements, improved agricultural infrastructure, the Green Revolution, liberalization under the 1991 industrial policy, and shifts in consumer behavior (Chand, 2017; Gulati & Juneja, 2022).

According to the Third Advance Estimates of Food Grain Production (2025) released by the Ministry of Agriculture and Farmers Welfare, India's total food grain production is projected to reach 353 million tonnes (MoAFW, 2025). This demonstrates significant progress in the country's agricultural output, though continued efforts in technology and sustainability are vital to ensure long-term food security.

II. REVIEW OF LITERATURE

Food trade drama: a compulsory position for international food security, to bridge the gap between food-insecure and food-surplus zones. According to FAO 2021, international food trade has progressed steadily over the past several decades towards globalization, development of transport, and liberalization of policies. The current development has improved the ease of use and the convenience of food, especially in the advanced stage. Timmer stresses that international food trade contributes not only to better allocation of resources but also to the stabilization of monetary values and economic resilience during periods of internal agricultural crisis.

In the context of the Republic of India, a number of scholars have analysed the country's progress in the global food markets. The message from Gulati and Juneja 2020) is that India has emerged as a compulsory exporter of cereals, spices, and dairy products, taking advantage of its comparative advantage in agricultural production. However, they also suggest that Hindustan's growing dependence on imports for item enjoyment edible oil and high-value processed foods, driven by changing dietary tastes. The financial study of the Republic of India (2022), which highlights India's strong performance as a net food exporter, particularly during the COVID-19 pandemic, when iron supplies were interrupted worldwide, is helpful in this regard. The Indian diet, influenced mainly by urbanization and revenue growth, also influences the food trade.

Pingali and Popkin discuss the 'nutrition passage' in developing states where traditional diets based on cereals are gradually being replaced by a more varied diet rich in fruit, vegetables, dairy, and animal protein. That passage provides loans to increase imports of high-value foodstuffs and related diversification of exports to meet new retail demands. Moreover, it is not possible to underestimate the role of the backbone and the policy in shaping the food trade.

The Global Enterprise 2018 underlines the importance of productive organization, Cold sequence system, and trade facilitation to enable nations to benefit from India's optimization. Their export competitiveness. Kumar and Mathur (2019) add that by pointing out outdoors the government scheme and export incentives contribute significantly to the Republic of India's increase in food export, although infrastructural shortcomings continue to hamper exports of perishable goods. Ultimately, more attention is now being paid to sustainable longevity in the food trade.

Garnett 2011 and Vermeulen et al. (2012 CE) argue that when explaining trade procedures, it is necessary to keep in mind the natural consequences of food production and movement, such as GHG emissions, water use, and biodiversity loss. In order to ensure the long-term conservation of food and the environment, a growing consensus exists that trade methods should be compatible with eco-friendly evolution objectives.

Objectives

1. To critically analyse the trends in India’s food imports and exports during the period from 2018 to 2022.
2. To examine the growth rates of global and India’s food trade, both imports and exports, between the years 2018 and 2022.
3. To conduct a comparative assessment of India’s food trade patterns against global food trade developments over the five years from 2018 to 2022.

III. METHODOLOGY

In this study, the primary focus is placed on India's food imports and exports, which are critically compared with global food trade trends. This research is structured around a descriptive and comparative methodology, relying solely on secondary sources. The data have been drawn from scholarly articles, peer-reviewed journals, official annual publications, and annual statistical reports from the Food and Agriculture Organization (FAO), Rome. The study critically examines India’s food import and export performance, quantified in USD millions. Growth rate trends are analysed through percentage calculations and illustrated using graphical charts to convey patterns and insights with precision and clarity.

$$\textbf{Growth Rate\%} = \left(\frac{\textit{Current year value} - \textit{previous year value}}{\textit{previous year value}}\right) \times 100$$

Limitations

- This study exclusively analyses India's food imports and exports over the five years from 2018 to 2022.
- The accuracy of the data related to the study is based on the annual reports of the Food and Agriculture Organization (FAO), Rome.

IV. RESULTS AND DISCUSSION

Table 1: India's food imports (USD million)

Year	FOOD EXCLUDING AQUATIC ANIMAL FOODS								AQUATIC ANIMAL FOODS	ALL FOOD
	FRUIT AND VEGETABLES	CEREALS AND PREPARATIONS	MEAT AND MEAT PREPARATIONS	FATS AND OILS (EXCLUDING BUTTER)	BEVERAGES	DAIRY PRODUCTS AND EGGS	SUGAR AND HONEY	OTHER FOOD		
2018	5135	180	8	10064	469	31	686	1422	100(FISH)	18094
2019	4816	280	9	9750	518	34	410	1689	116(FISH)	17621
2020	4940	216	4	10546	331	36	756	1868	153(FISH)	18851
2021	5924	193	6	17347	489	28	317	2108	153(FISH)	26566
2022	6564	299	8	21519	830	34	382	2398	180	32214

Between 2018 and 2022, India's food imports witnessed a substantial increase, rising from USD 18,094 million to USD 32,214 million, indicating a growth of nearly 78% over five years. The most significant rise was seen in the fats and oils category, which more than doubled from USD 10,064 million in 2018 to USD 21,519 million in 2022, reflecting India's heavy dependence on edible oil imports, especially palm and soybean oil. Fruits and vegetables imports also saw a steady rise of about 28%, driven by changing dietary patterns and the growing demand for exotic produce. The cereal and cereal preparations category increased by over 66%, suggesting rising demand for processed or specialized grain products despite India's status as a cereal exporter. On the other hand, meat imports remained flat, showing India's self-sufficiency in this sector, likely due to domestic production and cultural preferences. Imports of beverages rose sharply by 77%, indicating a growing urban market for premium and international drink brands. Dairy products and eggs saw only a slight increase, reaffirming the strength of India's domestic dairy industry. Interestingly, sugar and honey imports declined by 44%, pointing to improved self-reliance in sugar production. The "other food" category, which includes processed and packaged foods, grew significantly, and aquatic animal food (fish) imports increased by 80%, showing rising demand for seafood varieties not locally produced.

To manage this growing dependency on imports, several policy measures are recommended. First, India should strengthen its domestic edible oil production by promoting oilseed farming through subsidies, research, and innovation. Second, investments in cold storage and efficient supply chains for horticultural produce can reduce wastage and support local fruit and vegetable markets. Expanding the food-processing sector, particularly for cereals and packaged foods, can help replace imports with domestic alternatives. Additionally, diversifying sources of imports will reduce risks from global supply disruptions. The aquaculture sector should also be supported to meet the increasing demand for seafood locally. Lastly, promoting consumer awareness about the quality and nutritional value of Indian products, alongside strict quality standards, can shift demand away from imports, especially in beverages and processed foods. Overall, a balanced mix of production enhancement, supply chain development, and smart trade strategies will be essential for ensuring food security while reducing overdependence on global markets.

Table 2: India's food imports (USD million)

Year	FOOD EXCLUDING AQUATIC ANIMAL FOODS								AQUATIC ANIMAL FOODS	ALL FOOD
	FRUIT AND VEGETABLES	CEREALS AND PREPARATIONS	MEAT AND MEAT PREPARATIONS	FATS AND OILS (EXCLUDING BUTTER)	BEVERAGES	DAIRY PRODUCTS AND EGGS	SUGAR AND HONEY	OTHER FOOD		
2018	3527	8393	3739	1064	240	380	1276	5171	6808(FISH)	30598
2019	3914	7756	3453	1136	238	345	2074	5030	6762(FISH)	30709
2020	4050	9422	3109	1388	222	236	2847	5295	5732(FISH)	32300
2021	4492	13225	3386	1618	266	362	4447	5877	7446(FISH)	41120
2022	4971	15165	3253	1715	275	482	6556	6058	7624	46100

India's total food exports have shown a strong and consistent upward trend between 2018 and 2022, rising from USD 30,598 million in 2018 to USD 46,100 million in 2022 — an impressive 50.7% increase over five years. The most prominent contributor to this growth has been the cereals and preparations category, which expanded from USD 8,393 million in 2018 to USD 15,165 million in 2022, nearly doubling. This reflects India's dominant global position in the export of rice (especially basmati and non-basmati), wheat, and other grains. Similarly, sugar and honey exports witnessed an explosive growth of over 414%, jumping from USD 1,276 million in 2018 to USD 6,556 million in 2022, indicating India's strong performance in sugar production and favourable international market conditions.

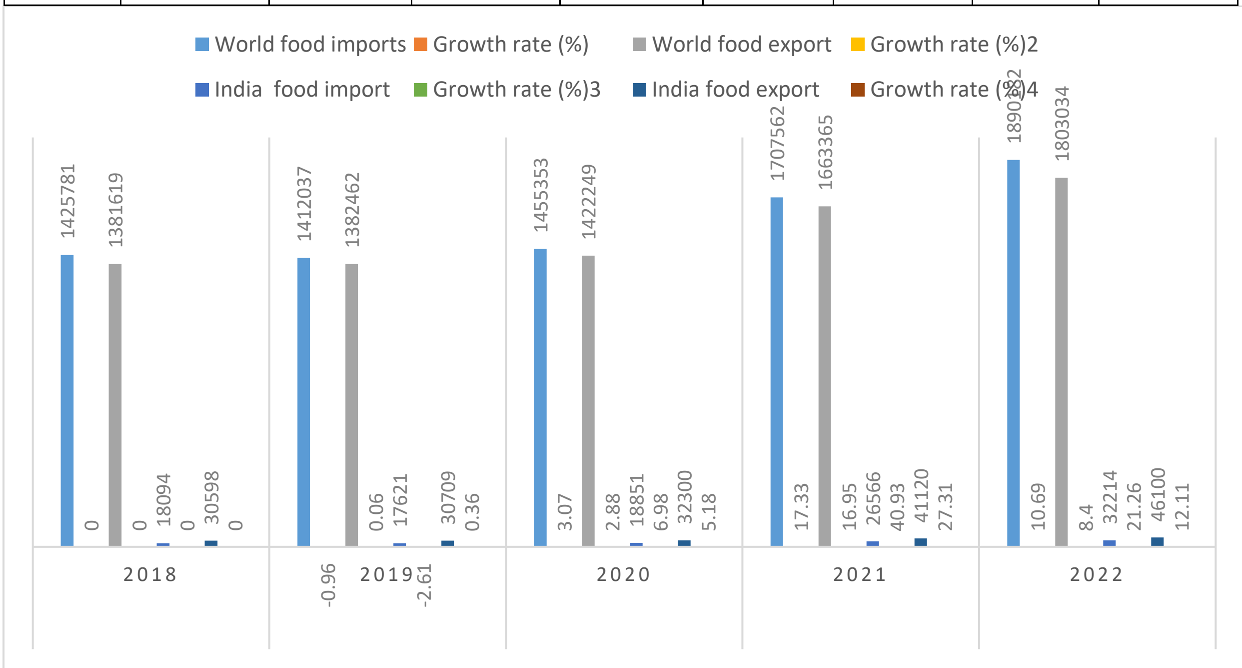
Exports of fruits and vegetables also increased steadily, from USD 3,527 million in 2018 to USD 4,971 million in 2022, supported by growing global demand for Indian mangoes, onions, and other products. Fats, oils, and other food products maintained a healthy upward trend, suggesting the rising value of processed and value-added products in India's export basket. Interestingly, dairy products and eggs also saw substantial growth, doubling from USD 240 million in 2018 to USD 482 million in 2022, highlighting the growing international market for Indian dairy, especially in neighbouring countries and the Middle East. However, meat and meat preparations showed a slight decline, falling from USD 3,739 million to USD 3,253 million, possibly due to export restrictions, global competition, or shifts in market preferences.

Another consistent and sizable component of India's food exports has been aquatic animal foods (mainly fish and seafood), which remained strong throughout the period, increasing from USD 6,808 million in 2018 to USD 7,624 million in 2022. This confirms India's place as a leading exporter of marine products, especially frozen shrimp and fish.

In conclusion, the export data reflects India's growing competitiveness and diversification in the global food trade. With cereals, sugar, and seafood leading the way, India is not only strengthening its agricultural economy but also creating value through processed and packaged food exports. Continued investment in food processing, logistics, and quality standards will help India sustain and expand this positive momentum in the years ahead.

Table 3: Comparative analysis of India and global food trade (USD millions**)**

Year	World food imports	Growth rate (%)	World food export	Growth rate (%)	India food import	Growth rate (%)	India food export	Growth rate (%)
2018	1425781	-	1381619	-	18094	-	30598	-
2019	1412037	-0.96	1382462	0.06	17621	-2.61	30709	0.36
2020	1455353	3.07	1422249	2.88	18851	6.98	32300	5.18
2021	1707562	17.33	1663365	16.95	26566	40.93	41120	27.31
2022	1890182	10.69	1803034	8.40	32214	21.26	46100	12.11



Between 2018 and 2022, global and Indian food trade expanded notably, but India's growth was much steeper and more responsive than the global average. Global food imports increased from 1,425,781 million USD in 2018 to 1,890,182 million USD in 2022, reflecting a total growth of 32.6% over five years, while global food exports rose from 1,381,619 million USD to 1,803,034 million USD, growing by 30.5%. In contrast, India's food imports surged from 18,094 million USD to 32,214 million USD, a much sharper increase of 78%, and India's food exports climbed from 30,598 million USD to 46,100 million USD, registering a growth of 50.7%. The most significant changes occurred in 2021, when the global economy was recovering from the COVID-19 pandemic. That year, world food imports grew by 17.33%, and exports by 16.95%, while India's food imports rose dramatically by 40.93%, and exports by 27.31%, reflecting India's strong responsiveness to global market demand and supply shifts.

Even in 2022, while global import and export growth slowed to 10.69% and 8.40% respectively, India maintained higher momentum, with imports growing by 21.26% and exports by 12.11%. This pattern shows that while the world food trade recovered steadily, India's trade performance was not only faster but also more volatile and aggressive—signalling its growing integration into global supply chains and increased dependency on international food markets. India's higher import growth indicates a rising domestic demand for essential and high-value foods, while its strong export performance highlights the global competitiveness of Indian agricultural products like rice, sugar, wheat, seafood, and spices. In summary, India's food trade is expanding at a faster rate than the world's, positioning it as both a rising exporter and a growing importer, with all the opportunities and challenges that such a dual role brings.

V. STUDY FINDINGS

1. Between 2018 and 2022, India experienced a sharp rise in food trade, with imports increasing by 78% and exports by over 50%, reflecting growing domestic demand and a stronger global trade presence.
2. Cereals emerged as the most dominant category in both imports and exports, showing substantial and consistent growth across the five years.
3. There was a noticeable increase in the trade of fruits, dairy products, and meat, indicating a gradual shift in consumer dietary preferences toward more nutritious food items.
4. Aquatic animal foods, particularly fish, saw steady growth in both imports and exports, suggesting increasing popularity and consumption.
5. Trade volumes for fats, oils, sugar, and beverages fluctuated due to factors such as price volatility, changing policies, and shifting consumer trends.
6. Throughout the study period, India consistently maintained a positive trade balance in food, highlighting its strong agricultural export performance.
7. India's food trade grew at a faster pace than global averages, showcasing its resilience and expanding role in international food markets.
8. The year 2021 marked a significant rebound in trade activity, with record growth in both imports and exports as the economy recovered from pandemic disruptions.

VI. RECOMMENDATIONS

1. India should focus on enhancing domestic production of key imports like edible oils and processed foods to reduce dependency on foreign markets.
2. Promoting value addition and branding in agricultural exports can help increase India's competitiveness in global food trade.
3. Developing cold chain and transport infrastructure is essential to support the efficient trade of perishable food products.
4. Encouraging crop diversification and innovation will enable farmers to tap into emerging global market demands and improve income.
5. Trade policies should be made more dynamic and category-specific to facilitate smoother export procedures and boost performance.
6. Expanding access to international markets through trade agreements can further strengthen India's food export growth.
7. To mitigate risks, India should diversify its import sources and avoid over-reliance on a limited number of suppliers.
8. Food trade strategies must align with national nutrition goals and sustainability principles to ensure long-term food security and environmental balance.

VII. CONCLUSION

From 2018 to 2022, India's food export and import patterns reveal notable shifts in the agri-food trade. During this period, India became a significant exporter of key food items such as cereals, dairy products, and seafood, while experiencing a substantial surge in food imports. This rise relates to changing consumer habits, production shortages, and dietary preferences. It underscores how complex India's food trade has become, balancing growth with the aim of self-sufficiency. Despite global challenges, especially during the pandemic, India's food trade remained resilient. After 2020, both exports and imports increased significantly, showing how the country is adapting and expanding its presence in international markets. India's food trade appears to be growing at a pace faster than global trends, highlighting its important role in the global food landscape. However, the increasing reliance on imports—particularly for edible oils and processed foods—suggests the need for policy adjustments. Moving forward, it is essential to enhance local production, promote exports of processed products, and improve logistics and cold storage infrastructure. Ensuring trade policies align with goals related to sustainability, nutrition, and food security remains crucial. India stands at a pivotal point where it must compete internationally while strengthening its domestic food system. Strategic innovation, sound policymaking, and effective adaptation will be key to sustaining India's food trade and securing its future food needs.

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