

CHANGING PATTERN OF AGRICULTURAL EXPORTS: EVIDENCE FROM INDIA

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Abstract

The main objective of this paper is to evaluate the changing India's agricultural export baskets. Firstly, this paper critically evaluates the major product exported from India, present export destinations, potential products having export market & potential export destinations and tariff and non-tariff issues. Further, this paper evaluates the diversification of agricultural exports and necessary strategies to improve exports. Overall results of the paper suggest that India agriculture export requires diversification in terms of products and markets. Time has come to become globally competitive and focused more on exporting high value processed foods. The strong growth in cashew exports across export destinations will continue to drive economic growth and employment generation in India.

Kew words: India, Agriculture, Export, Policy, Competitive.

Introduction :

The new agricultural export policy brings transformative changes in agriculture export. India's agricultural export is diversifying that has involved non-traditional products i.e., processed foods. India is facing tough competition in the global export market therefore systematic review of India's agri export is imperative. The Indian agricultural economy is shifting from primary to secondary agriculture where focus is more on developing various processed foods. The Indian food processing industry is coming as a major segment promising high economic growth. However, the exporters of processed food confront difficulties and non-tariff measures imposed by other countries on Indian exports. Agricultural exports are an essential component of India's economy. India is one of the world's largest producers and exporters of agricultural commodities. Agriculture contributes significantly to the Indian economy, with about 50% of the country's workforce engaged in agricultural activities. The country's agricultural exports include spices, tea, coffee, cotton, fruits, and vegetables. Despite being a significant player in the global agricultural market, India's agricultural exports face several challenges. Next section deals with current situation aims to explore the current situation of Indian agricultural exports and suggest possible ways to change it.

Current Situation:

India's agricultural exports have been growing steadily over the past few decades. In the financial year 2020-21, India's agricultural exports were valued at around US\$41.25 billion, which is a significant increase from the previous year's US\$35.09 billion. The major agricultural exports from India include rice, spices, oilseeds, tea, and fruits and vegetables. However, India's agricultural exports face several challenges such as quality issues, lack of infrastructure, and insufficient market access.

One of the significant challenges that India's agricultural exports face is quality issues. Indian farmers often use outdated farming techniques, resulting in low-quality produce. In addition, the lack of proper storage facilities results in a high percentage of the produce being lost before it reaches the market. As a result, Indian agricultural exports face quality-related rejections from importing countries, affecting the country's reputation in the global market.

Another significant challenge is the lack of infrastructure. India's agricultural sector faces issues related to transportation, warehousing, and packaging. These factors increase the cost of production, which affects the competitiveness of Indian agricultural products in the global market. Additionally,

inadequate cold storage facilities result in a high percentage of perishable produce being wasted. Finally, Indian agricultural exports face market access issues. Many countries impose trade barriers, making it difficult for Indian agricultural products to enter their markets. In addition, many countries have stringent phytosanitary requirements that Indian agricultural products fail to meet. In this context the paper aims to explore the changing agricultural exports and provides the better policy suggestions to increase its competitiveness in the global market.

A brief review of literature

Past studies with regard to agriculture policies have the primary goal of ensuring food security, and agro-trade policies support this goal. K G Chay et al. (2019) found that India is a major player in the global mango economy. India is the world's largest producer of mangoes, accounting for nearly 50% of the world's total mango production. In addition, India is a significant processor and exporter of mangoes. Mango is one of the crucial fruits for India's rural economy, and it serves as a significant source of income for millions of mango farmers in the country. The existing literature suggests that India's agricultural exports face tough competition in the global market. For instance, Sharma et al. (2012) found that India faces stiff competition in the grape export market from countries like Chile, South Africa, and Israel, which produce quality grapes. Similarly, Nagoor (2009) noted that India's tea exports have declined due to competition, low productivity, and the loss of traditional markets. Sandhu (1982) also observed that India's cashew exports have reduced due to competition in production technology and processing. However, the literature also indicates that India has significant potential for agricultural exports, especially in rice, spices, pomegranates, and mangoes (Paramsivan et al., 2011; Kumar, 2016; Chay et al., 2019). India's rural sector can provide high-quality raw materials to the agro-based industry, which can be exported worldwide (Paramsivan et al., 2017). Hoda and Gulati (2013) suggest several measures for sustained agricultural development in India, such as promoting irrigation, regenerating groundwater, and implementing nutrient-based fertilizer subsidies. They also recommend the creation of agro-credit through institutional sources, reducing the pressure of population, and developing early warning systems for forecasting. Despite these insights, no empirical studies have examined India's changing agricultural export baskets. Hence, there is a gap in the literature that needs to be filled. An empirical study would provide valuable insights into the dynamics of India's agricultural exports and help policymakers identify the key factors driving changes in the country's agricultural export baskets.

Data, Variables and Methodology

The empirically examine India's changing agricultural exports from 2016 to 2021 focusing of production; export, cultivation, consumptions, government initiatives, changing India's agricultural exports baskets, diversification of agricultural exports, multilateral and bilateral trade agreements. These data are collected from the website of the APEDA, India Trade Portal, WTO, Directorate General of Commercial Intelligence and Statistics, Ministry of Commerce and Industry. To the best of our knowledge, this data is used for the first time for research purposes.

Changing India's Agricultural Exports Baskets

The Indian government has been encouraging their agricultural exports to meet an ambitious target of \$60 billion of exports by 2022 and thereafter to \$100 billion. The Ministry of Food Processing and Industries shows that 11 % is the contribution of agricultural and processed food products in India's total exports with the majority share of primary processed agricultural commodities. India's export earnings will increase by focusing more on value-added processed food products rather than the primary processed agricultural commodities (Siraj Hussain, 2021). In the last five years (2015-16 to 2019-20) agricultural and processed food value have significantly increased from \$17.8 billion to \$20.65 billion. The Indian agricultural economy is shifting from primary to secondary agriculture where focus is more on developing various processed foods. The Indian food processing industry is coming as a major segment promising high economic growth. In the world food economy, India is increasing its contribution substantially every year. This sector has emerged as a high-growth and high-profit sector due to its immense potential for value addition.

Table 1. Major product exported from India.

Country	Major Product Exported from India
Vietnam	Buffalo Meat, Animal Casings, Groundnuts, Maize, Fresh Onions
Iran	Basmati Rice, Non-Basmati Rice, Buffalo Meat, Processed Fruits, Juices & Nuts, Groundnuts
Saudi Arab	Basmati Rice, Buffalo Meat, Non-Basmati Rice, Processed Fruits, Juices & Nuts, Mango Pulp
UAE	Basmati Rice, Non-Basmati Rice, Buffalo Meat, Alcoholic Beverages, Sheep/Goat Meat
U S A	Guargum, Basmati Rice, Miscellaneous Preparations, Cereal Preparations, Natural Honey
Indonesia	Buffalo Meat, Groundnuts, Non-Basmati Rice, Miscellaneous Preparations, Cocoa Products
Nepal	Non-Basmati Rice, Maize, Cereal Preparations, Other Fresh Vegetables, Wheat
Bangladesh	Non-Basmati Rice, Fresh Onions, Maize, Other Fresh Fruits, Cereal Preparations
Malaysia	Buffalo Meat, Fresh Onions, Miscellaneous Preparations, Groundnuts, Basmati Rice
Iraq	Basmati Rice, Buffalo Meat, Non-Basmati Rice, Pulses, Other Fresh Fruits

Source: APEDA

Table 2. Top 10 products of present exports (2020-21)

Product	Quantity	Value (US\$ Million)
Non-Basmati Rice	13095130.2	4799.91
Basmati Rice	4630463.14	4018.71
Buffalo Meat	1085619.93	3171.19
Miscellaneous Preparations	624257.36	793.08
Groundnuts	638582.92	727.4
Cereal Preparations	403267.68	635.75
Maize	2879202.93	634.85
Wheat	2088487.66	549.7
Processed Vegetables	403355.38	501.61
Processed Fruits, Juices & Nuts	306990.51	428.39
Cashew Kernels	70087.59	420.43

Source: APEDA

Table 3. Top 10 present export destinations (2020-21)

Country	Quantity	Value (US\$ Million)
Saudi Arab	1542276.22	1436.27
Bangladesh	4672698.64	1401.48
U A E	1472561.08	1238.51
U S A	711027.64	1119.73
Hong Kong	320585.14	940.57
Nepal	3040239.07	938.32
Malaysia	1208781.25	883.36
Vietnam Soc Rep	1159445.03	855.44
Iraq	1048760	829.94
Iran	856206.7	705.71
Indonesia	684894.22	692.06

Source: APEDA

Table 4. Potential 20 product having export market.

Products	Value USD Million	Products	Value USD Million
Banana	54	Pig meat	2
Potato	66	Poultry	86
Fresh Flower	40	Dairy Products	185
Dried Flower	38	Moringa	----
Vegetable Seeds	104	Millet & Millet Products	75
Juices & concentrated	51	Makhana	----
Jaggery	15	Potato Flakes/Powder	8
RTE (Ethnic Food)	191	Biscuits	205.2
IQF	35	Wine	9
Cereal Preparations	552	Organic Products	515

Source: APEDA

Table 5. Potential 20 export destinations

Countries	Value (USD Million)	Countries	Value (USD Million)
Argentina	15	Mexico	11
Australia	144	Nepal	661
Bangladesh	1011	New Zealand	31
China	72	Oman	300
France	76	Qatar	275
Germany	165	Russia	228
Indonesia	414	Singapore	159

Italy	72	Sri Lanka	393
Japan	49	Uzbekistan	3
Kazakhstan	2	Vietnam	2445

Source: APEDA

Table 1, 2, & 3 & reveals the Major product exported from India, Top 10 products of present exports and export destinations. As far as processed food exports are concerned Juices & Concentrated, Jaggery, RTE (Ethnic Food), IQF, Cereal, Preparations, Pig meat, Poultry, Dairy Products, Moringa, Millet & Millet Products, Makhana, Potato Flakes/Powder, Biscuits, Wine, Organic Products, Mango Pulp, Dehydrate Onion, Gherkin, Ground nut, Buffalo meat, Basmati and non-basmati rice, these are the product where India needs to focused on its processing and marketing which has been identified by APEDA (Table 4)

As far as export destinations are concerned UAE, Kuwait, Iran, Indonesia, USA, Saudi, Arabia, Egypt, Malaysia, UK, Canada, Argentina, Australia, Bangladesh, China, France, Germany, Indonesia, Italy, Japan, Kazakhstan, Mexico, Nepal, New, Zealand, Oman, Qatar, Russia, Singapore, Sri Lanka, Uzbekistan, Vietnam, these are the countries where trade negotiators need to push for greater market access (Table 5)

Changing Export Basket

India's agricultural export basket is changing from traditional commodities to the non-traditional processed foods.

Table 6. India's export of rice

Yea	Basmati Rice		Non-Basmati Rice	
	Quantity	USD BILLION	Quantity	USD BILLION
2016-17	3985195.6	3.22	6770804.28	2.53
2017-18	4056758.62	4.17	8648488.58	3.56
2018-19	4414584.16	4.72	7599674.1	3.05
2019-2020	4454656.69	4.33	5040707.72	2.01
2020-2021	4630463.14	4.02	13095130.21	4.8

Source APEDA

Traditionally, Basmati rice is India's one of the top export commodities. However, there has been change in the picture, there is an unusual spike in the export of non-basmati rice, which earned more foreign exchange than basmati rice (Table 6). In 2020-21, India exported 13.09 million tonnes of non-basmati rice (\$4.8 billion), up from an average 6.9 million tonnes (\$2.7 billion) in the previous five years. And in 2020-21 non-basmati rice export value will increase by 0.78 USD as compared to basmati rice. The non-basmati rice like iron rich 'red rice' is grown in the Brahmaputra valley of Assam, without the use of any chemical fertiliser, helping to increase India's non-basmati rice exports. However, as per agricultural economist Ashok Gulati there is a huge environmental cost in the terms of over use of groundwater and its quality, it is an implied export of water when rice and sugar are exported from India.

Buffalo Meat

Indian buffalo meat is witnessing strong demand in international markets due to its lean character and near organic nature as well as local demand is surpassing.

Table 7. India's export of buffalo meat

Year	Quantity	Value US\$ Bill
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2016-17	13,23,576.11	3.91
2017-18	13,50,563.49	4.04
2018-19	12,36,638.40	3.61
2019-2020	11,52,547.31	3.18
2020-2021	10,85,619.93	3.17

The export potential of buffalo meat is tremendous especially in countries like Vietnam, HongKong, Indonesia. However, India's buffalo meat export has declined in the last five years continuously from USD 3.91- USD 3.7 (2016-2021) (Table 7). China has imposed restrictionson import from Vietnam and Hong Kong is the main reason for decline in export because Vietnam and Hong Kong were India's major exporter of buffalo meat. India allows free importof palm oil from Indonesia through the private sector but on the other hand Indonesian government fixed a quota for its import of buffalo meat from India. Therefore, trade negotiatorsneed to push for greater market access to Indonesia.

Table 8. India's processed foods exports (USD Billion)

Processed foods	2016	2021
Basmati rice	3.22	4.02
Non-basmati rice	2.53	4.8
Processed fruits, Juices and Nuts	0.37	0.43
Buffalo meat	3.91	3.17
Processed Vegetables	0.34	0.5
Cashew Kernels	0.79	0.42
Mango pulp	0.14	0.22
Dairy Products	0.14	0.2
Alcoholic Beverages	0.3	0.32
Cucumber and Gherkins (Prepd. & Presvd)	0.14	0.22
Sheep/Goat Meat	0.13	0.04
Poultry products	0.08	0.06
Groundnuts	0.81	0.73
Guargum	0.46	0.26
Jaggery & Confectionery	0.22	0.36
Cocoa products	0.16	0.15
Cereal Preparations	0.53	0.64
Milled Products	0.12	0.2

Source: Agricultural & Processed Food Products Export Development Authority (APEDA)

In 2020-21, the exports of poultry, sheep and goat meat, cashew kernels, groundnuts, guar gum, Cocoa products have also gone down in terms of value and total quantity (Table 8). The export of processed food products has not been growing fast enough because India lacks comparative advantage in many items. This may imply that the domestic prices of processed food products have been much higher as compared to the world reference prices.

Strategic planning

The main objective of the new Agriculture Export Policy 2018 is diversifying and expanding the export basket so that instead of primary products, the export of higher value items, including perishables and processed food, be increased. Growing global market demand for organic processed foods is also one of the sectors new opportunities for food export is coming into. The exporters of processed food confront difficulties and non-tariff measures imposed by other countries on Indian exports (Siraj Hussain, 2021). Some of these include:

- Mandatory pre-shipment examination by the Export Inspection Agency is lengthy and costly.
- Compulsory spice board certification is needed even in the ready to eat products which contain spices in small quantities.
- Lack of strategic plan of exports by most of the state governments.
- Lack of predictable and consistent agricultural policy discouraging investments by the private sector.
- Prohibition of import of meat and dairy based products in most of the developed countries.
- Withdrawal of Generalised System of Preference (GSP) by the US for import of processed food from India.
- Export shipments to the US require an additional health certificate.
- Absence of equivalency agreement with developed countries for organic produce.

Diversification of agricultural exports is the way forward.

Exporting is significantly important for any given economy because it provides the opportunity to expand production, boost employment, reduce unit costs, and increase incomes. It also enables a country to better exploit its comparative advantage to generate higher incomes, which can pay for the investments in skills, capital, and technology to enhance competitiveness over time. In this large perspective being an agricultural dominated economy the Indian government has been encouraging their agricultural exports to meet an ambitious target of \$60 billion of exports by 2022 and thereafter to \$100 billion. As the Narendra Modi government has set out an ambitious target of \$60 billion agriculture exports by 2022, in this context, if we evaluate agriculture export performance of FY 2021-22 which is \$50 billion, these exports fall much short of the target of \$60 billion. However, positively there is recording a growth of 21 per cent over the previous year. It has made an impact on improved domestic farm prices at some extent. Now the challenge is how to maintain the present export growth.

In India's total agricultural export baskets, rice ranks first with 17.7 million tones valued at \$8.8 billion, marine products (\$6 billion), spices (\$4 billion), bovine (buffalo) meat (\$3.2 billion) and sugar (\$2.8 billion), cashew kernels (\$ 0.79 billion), groundnut (\$ 0.73 billion), cereal preparations (\$ 0.64 billion), tea and coffee (\$1.5 billion), fresh fruits and vegetables (\$1.4 billion), and cotton (\$1 billion). Rice and sugar exports alone contribute (\$ 10.5 billion) in India's total exports and in terms of percentage roughly contribute 26 per cent in the total value of agri-exports. This demands a thorough review of India's agricultural exports basket because rice and sugar which is covering a significant portion of our export and they are having environmental sustainability concerns which needs to be addressed.

Ashok Gulati and Ritika Juneja also gave emphasis on re-examination of India's agricultural exports to achieve sustainable agricultural export growth. There are huge subsidies available on rice and sugar exports, while other crops with huge export potential have been ignored. Farmers may be incentivised and rewarded to save water, switch from paddy and sugar to other less water intensive crops like pulses and oil seeds etc. Time has come to offer incentives to the export of high-value agri-produce such as fruits and vegetables, spices, tea and coffee and cotton. Rice and sugar are high water intensive crops and it has been heavily subsidised through power for irrigation and fertilisers. Further, the export subsidy given by the government on sugar has led many other sugar-exporting

countries like Australia, Brazil and Thailand to register a case against India at the WTO. Ashok Gulati mentions in his research that a kg of sugar has a virtual water intake of about 2,000 litres and for rice needs around 3,000 to 5,000 litres of water for irrigating a kg. In 2020-21, India exported 7.5 million tonnes of sugar and

17.7 million tonnes of rice. One could imagine the amount of water we are exporting in the form of sugar and rice export. Further rice cultivation generates ghg emission. Rice cultivation practices need to be changed with focusing on lower GHG emission such as alternate wetting drying (AWD), direct-seeded rice (DSR) and micro-irrigation.

Also, there is a need to give very serious thought on to promote the cultivation of sugar beet, instead of sugarcane, to increase farmers' income by reducing the cost of cultivation and increasing yield and it is less water intensive.

In the FY 2013-14 agri-trade (exports plus imports) was 20 percent of the agri-GDP as compared to 13.5 percent by FY2020-21, it is indicating India is becoming less globally competitive in agricultural exports, in spite of the fact that the government of India is taking various initiatives to boost the agricultural exports. Therefore, we need to review current agri-trade policies and take measures to improve the agricultural export competitiveness.

Tariff Analysis of Mango, Grapes, Gherkins & Pomegranate

India has tariff disadvantages in mango, grapes and pomegranate explained in table 9, 10, 11 & 12.

Table 9. Tariff disadvantages in Indonesia market for India in Mango Exports

India's Competitor	Applicable Import Duty	Extra duty paid by India over competitors.
India	5%	
China	0%	+5%

Source: Calculated by Author based on WTO Tariff database.

China is the competitor for mango export in the Indonesia market however, China gets nil duty access, whereas, India has been charged 5% import duty (Table 9).

Table 10. Tariff disadvantages in UK market for India in Grapes Exports

India's Competitor	Applicable Import Duty	Extra duty paid by India over competitors.
India	8%	
Chile	0%	+8%
Peru	0%	+8%
South Africa	0%	+8%
Italy	0%	+8%
Turkey	0%	+8%
Mexico	0%	+8%
Spain	0%	+8%

Source: Calculated by Author based on WTO Tariff database.

Europe is one of the major export destinations for Indian grape export. The European Union has Bilateral Trade Agreement with Chile, Peru, Turkey, South Africa and Mexico under which they get zero duty access in the UK market. Whereas India has been charged 8 % import duty (Table 10).

Table 11. Tariff disadvantages in EU market for India in Pomegranate Exports

India's Competitors	Applicable Import Duty	Extra duty paid by India over competitors.
India	10%	
Spain	0%	+10 %
Tunisia	0%	+10 %

Morocco	0%	+10 %
Greece	0%	+10 %
France	0%	+10 %

Source: Calculated by Author based on WTO Tariff database.

France and Spain have Free-trade duty rates agreement with the EU under which France and Spain get duty free access in the EU market. Under the FTA for Arab Mediterranean Countries(Accord Agadir) Morocco and Tunisia get free trade duty access. Whereas India has been charged 10 % import duty (Table11).

Table 12. Tariff disadvantages in EU market for India in Gherkins Exports

India's Competitors	Applicable Import Duty	Extra duty paid by India over competitors.
India	10%	NA
Spain	0%	+10 %
Tunisia	0%	+10 %
Morocco	0%	+10 %
Greece	0%	+10 %
France	0%	+10 %

Source: Calculated by Author based on WTO Tariff database.

France and Spain have Free-trade duty rates agreement with the EU under which France and Spain get duty free access in the EU market. Under the FTA for Arab Mediterranean Countries(Accord Agadir) Morocco and Tunisia get free trade duty access. Whereas India has been charged 10 % import duty (Table 12).

Conclusion and Policy Recommendations

India shall be careful while expanding and diversifying its agri export basket, it shall include processed, high value products and organic products. The central government policy should be in the direction of nurturing food processing companies, low cost of production, and global food quality standards and creating a supportive environment to promote export of processed food. Developed countries have fixed higher standards for import of food items. It is advisable to encourage Indian reputed brands for the export of processed foods globally as they can comply with the global standard of codex. Indian companies shall focus on cost competitiveness, global food quality standards, technology and tap the global processed food export market. India has competitive advantages in various agricultural commodities which can be passed on into processed foods. India has all potential to become a global leader in the food processing sector. In order to utilize the full export potential of processed foods India may need sector specific strategies for export promotion worldwide. As a majority of the country's 1.37 billion population are dependent on agriculture for a living, the sector must attain self-reliance. A specific long-term strategy is needed with diversification of agricultural production and agricultural exports that factor in comparative advantages, available market, production, productivity, consumption, subsidies and incentives, conserving scarce resources of water and energy, and reducing the carbon footprint, promote better diversification of our agri-systems, lesser GHG emissions, investments in agri R&D, improve farming practices for minimizing carbon emissions, minimize logistics costs, better infrastructure. Also need to focus more on value-added processed food products rather than the primary processed agricultural commodities for exports.

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