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A study on the impact of international trade on Indian Agriculture Revenue

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Abstract: *International trade has played a significant role in shaping the trajectory of Indian agriculture, influencing farmers' incomes, production patterns, and market opportunities. As India integrates more deeply with the global market, agricultural revenue has been impacted through changes in export potential, import competition, global price fluctuations, and policy reforms. While international trade has opened new avenues for growth, it has also brought challenges that affect the economic stability of farmers across the country. International trade has provided Indian farmers access to markets far beyond domestic boundaries. High-value crops such as spices, tea, coffee, rice, cotton, fruits, and vegetables have become major export items. This expansion has contributed to increased revenue for certain segments of farmers, particularly those cultivating export-oriented crops. For example, India is one of the world's leading exporters of basmati rice and spices, generating significant foreign exchange. The rising demand for organic and specialty agricultural products has further improved the income prospects for farmers able to cater to international quality standards. Agricultural revenue in India is closely tied to global price trends. When international prices rise, farmers producing export-friendly commodities benefit from higher returns. Conversely, a decline in world prices can reduce their earnings even if domestic production remains strong. This volatility exposes Indian farmers—many of whom already face risks from climate and market uncertainties—to income instability. The lack of effective hedging mechanisms or crop insurance for many farmers often worsens the impact of global price shifts.*

Keywords: *International, trade, Agriculture, Revenue*

I. Introduction

International trade is a double-edged sword for Indian agriculture, significantly influencing farmer income and national revenue. While the opening of global markets, catalyzed by economic liberalization in the 1990s, has provided substantial opportunities for growth and foreign exchange earnings, it has also introduced volatility, intense competition, and stringent quality challenges. The overall impact on agricultural revenue is a complex net result of these intertwined benefits and hurdles. (Robert, 2021)

International trade exposes Indian farmers to competition from imported agricultural goods. Cheaper imports of edible oils, pulses, and certain processed foods can reduce domestic prices and negatively affect farmers' income in these sectors. For instance, India's heavy dependence on imported edible oil has placed downward pressure on oilseed farmers' revenue. While imports help stabilize consumer prices, they often limit the profits available to domestic growers.

Participation in international trade has encouraged the adoption of modern agricultural practices, improved quality standards, and better post-harvest infrastructure. Export requirements have pushed Indian agriculture toward better grading, packaging, food safety checks, and sustainable farming methods. In the long run, these improvements enhance productivity and revenue potential, even for the domestic market. Farmers connected to export-oriented value chains often benefit from training, contract farming, and improved access to credit. (Ray, 2022)

Government policies—such as Minimum Support Prices (MSP), export bans, tariff revisions, and subsidies—strongly influence how international trade affects agricultural revenue. For instance, sudden export restrictions aimed at controlling domestic food inflation can reduce farmers' access to profitable foreign markets. On the other hand, incentives for agricultural exports, such as the Transport and Marketing Assistance (TMA) scheme, help farmers benefit from global trade. Thus, policy stability is crucial for ensuring predictable income from international markets.

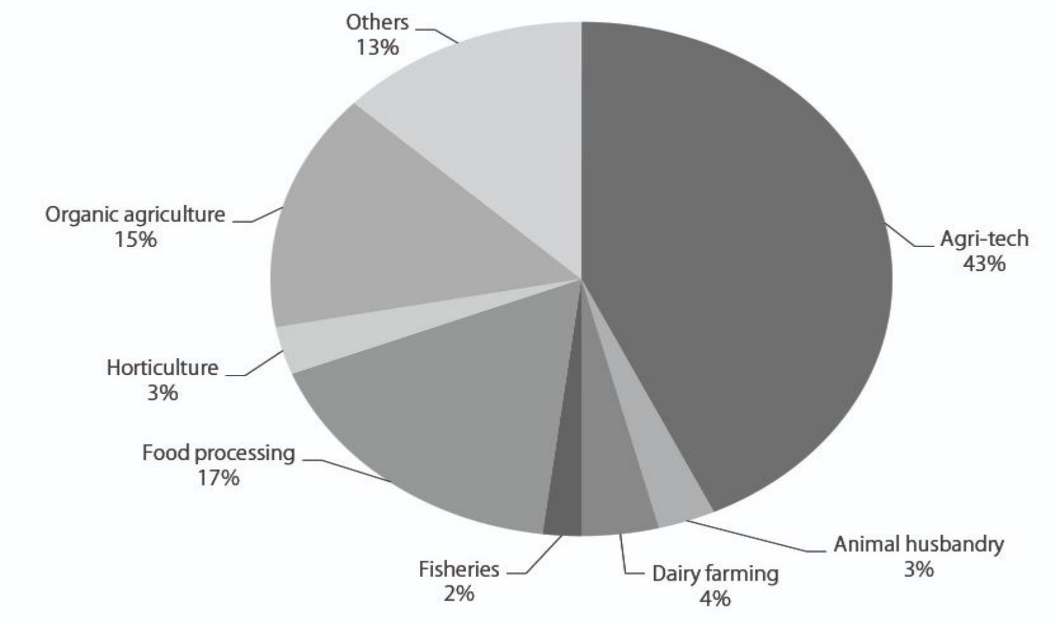

Figure 1: Indian Agricultural Sector Distribution
Source: researchgate.in

The impact of international trade is not uniform across India. States with better infrastructure, irrigation, and market access—such as Punjab, Haryana, Maharashtra, and Kerala—often benefit more from exporting crops like rice, sugar, cotton, and spices. Meanwhile, small and marginal farmers in rain-fed regions may struggle to meet export standards or cope with price volatility. As a result, international trade sometimes widens income disparities within the agricultural sector.

The most direct positive impact of international trade is the boost in revenue through agricultural exports. India has consistently maintained a positive agricultural trade balance (exports exceeding imports), which generates valuable foreign exchange and contributes significantly to the national GDP. (Banga, 2021)

Global demand for Indian commodities like Basmati rice, spices, tea, coffee, and marine products offers farmers higher price realizations than the domestic market, directly increasing their revenue and improving rural livelihoods. For instance, agricultural exports soared to approximately US$ 49.6 billion in 2021-22, demonstrating the immense scale of this revenue stream. Access to international markets encourages farmers to shift production towards high-value crops and non-traditional items like specific fruits, vegetables, and organic products that fetch premium prices abroad. This focus on comparative advantage can lead to greater efficiency and higher overall farm revenue. To meet rigorous global quality, packaging, and sanitary standards (like Sanitary and Phytosanitary or SPS measures), farmers and agribusinesses are incentivized to invest in modern technology and better post-harvest infrastructure, which enhances productivity and reduces losses. Despite the gains, the integration into global trade exposes the Indian agricultural sector to several significant challenges that can depress revenue for individual farmers and the sector as a whole.

Indian farmers are exposed to sudden fluctuations in global commodity prices driven by international production surpluses, geopolitical events, and changing market sentiments. A sharp fall in global prices for major exported commodities can wipe out profit margins for domestic producers. Developed nations often impose complex technical barriers to trade (TBT) and high standards on pesticide residue or quality. Failure to comply can lead to rejected consignments, costly production adjustments, and the loss of access to lucrative markets, directly impacting revenue. (Chand, 2021)

II. Literature Review

Singh et al. (2021): Indian farmers face stiff competition from highly mechanized producers in developed countries whose agricultural sectors receive heavy government subsidies. These subsidies lower the international price of competing products (like wheat or cotton), making it difficult for Indian produce to compete effectively on price, thereby capping the potential export revenue.

Pearson et al. (2022): While India exports a lot, it also imports essential items like edible oils and pulses to meet domestic demand. A surge in cheap agricultural imports can flood the domestic market, depressing local prices and adversely affecting the revenue of Indian farmers cultivating similar crops.

Ullamudaiyar et al. (2020): The government's role in navigating the complexities of international trade is crucial for sustaining agricultural revenue. Policies like the National Agricultural Export Policy (NAEP) aim to promote the export of processed and value-added agricultural goods (e.g., fruit juices, ready-to-eat meals) rather than just raw commodities, which yields higher per-unit revenue and invest in cold chains, testing laboratories, and port infrastructure to reduce post-harvest losses and meet global quality standards.

Moore et al. (2022): The future impact on agricultural revenue will largely depend on India's ability to diversify its export basket and destinations, improve farm-level efficiency, and negotiate favorable terms in global trade agreements to secure a level playing field against subsidized foreign competition. Balancing the need for export revenue with domestic food security and price stability remains the central policy challenge.

Impact of international trade on Indian Agriculture Revenue

International trade has increasingly shaped the trajectory of India's agricultural sector, offering farmers opportunities far beyond the limitations of domestic markets. As globalisation deepened over the past few decades, India's integration into world markets has allowed its agricultural producers to reach consumers across continents. This shift has had significant implications for farm incomes, production patterns, technological adoption, and rural livelihoods.

One of the most direct benefits of international trade is access to larger and more diversified markets. Indian farmers, once dependent solely on local mandis, can now sell products such as basmati rice, spices, tea, cotton, sugar, marine products, and fresh fruits and vegetables to countries across Asia, Europe, Africa, and the Americas. This expanded market access helps farmers secure better prices, especially for high-value or specialty crops. For example, the global demand for basmati rice or Indian spices often exceeds domestic demand, enabling farmers to fetch premium prices internationally.

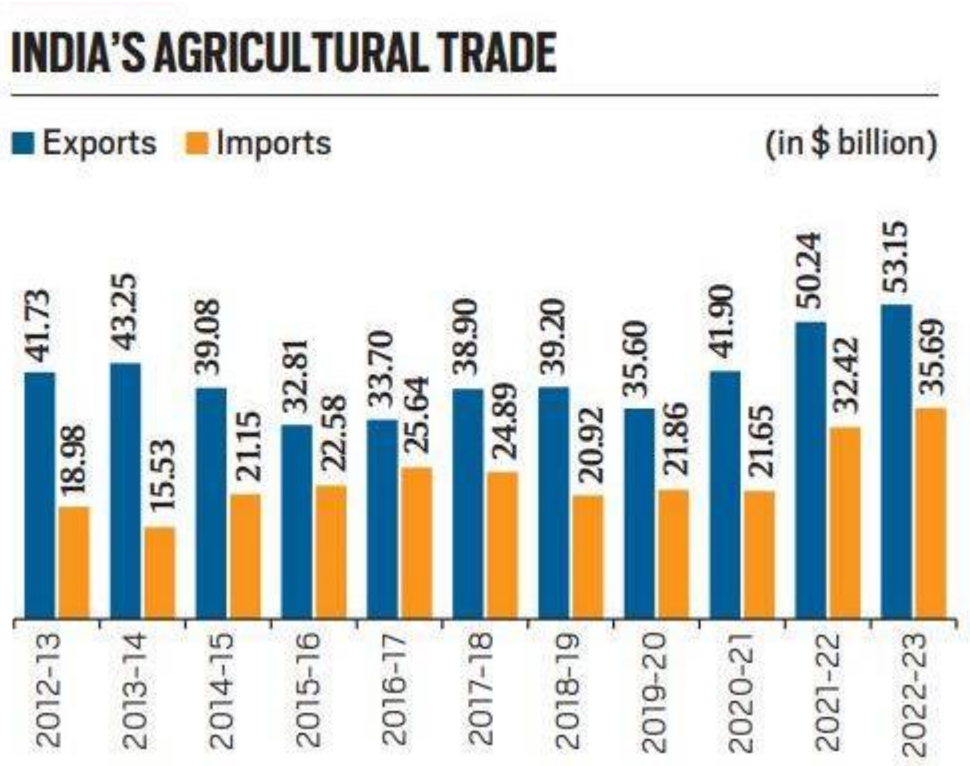

Figure 2: India's Agricultural Trade
Source: researchgate.in

International trade has also encouraged quality improvements and modern farming practices. To meet international standards related to quality, packaging, pesticide residue, and sustainability, Indian farmers and agribusinesses have adopted improved cultivation techniques, better storage facilities, and advanced processing technologies. Certifications such as Fair Trade, Organic, and GlobalGAP have motivated farmers to invest in safer and more sustainable agricultural methods. In this way, trade acts as a catalyst for technological and knowledge transfer in rural regions.

Here is a table summarising the available data for India's **agriculture trade balance** (exports, imports and trade balance) for 2018–2023.

Year (Fiscal / Period)	Agri-exports (US$)	Agri-imports (US$)	Agri Trade Balance (US$)
2018/19	**~ 39.0**	**~ 20.0**	**~ 19.0**
2019/20	**~ 34.0**	**~ 20.0**	**~ 14.0**
2020/21	**~ 42.0**	**~ 21.0**	**~ 21.0**
2021/22	**~ 50.0**	**~ 31.0**	**~ 19.0**
2022/23	**~ 53.0**	**~ 36.0**	**~ 17.0**

Another significant impact is diversification. With access to global markets, farmers are no longer restricted to producing traditional crops. They can diversify into horticulture, floriculture, organic farming, medicinal plants, and niche exports. This not only reduces their vulnerability to domestic price fluctuations but also aligns agricultural production with global consumption trends. For instance, the surge in global demand for organic products has encouraged many Indian farmers, especially in states like Sikkim, Uttarakhand, and Kerala, to adopt organic farming on a larger scale.

However, the advantages of international trade are not without challenges. Global markets are highly competitive and often volatile, with fluctuations in international prices, changes in trade policies, and stringent quality regulations. Small and marginal farmers, who form the majority of India's farming community, may struggle to meet export standards or bear the cost of certification and compliance. Additionally, global shocks—such as trade wars, pandemics, or import restrictions—can negatively impact farmers who depend heavily on exports.

To ensure that international trade benefits Indian farmers equitably, supportive government policies and infrastructure are crucial. Investments in cold chains, logistics, digital platforms, farmer-producer organisations (FPOs), and training programs can help bridge the gap between small farmers and global buyers. Initiatives like the Agricultural and Processed Food Products Export Development Authority (APEDA) and export promotion schemes have already contributed significantly to strengthening India's agricultural export ecosystem.

International trade has opened new horizons for Indian farmers by giving them access to markets beyond national boundaries. It has enhanced their income potential, encouraged modernization, and diversified production. With the right policies and infrastructure, India can continue to harness global trade as a powerful tool for transforming the agricultural sector and improving the lives of millions of farmers.

For commodities in which India is a significant exporter—such as basmati rice, spices, cotton, and buffalo meat—global prices directly influence domestic revenue. When international prices rise, Indian exporters gain higher margins, which often translates to better farm-gate prices. Conversely, a slump in global prices can depress domestic demand or reduce procurement prices, harming farmers' income. This interdependence is especially visible in cotton and sugar, where India's production levels are high enough to influence global supply but not large enough to escape global price pressures.

India is one of the world's largest importers of edible oils and pulses. Global prices of palm oil, soybean oil, and sunflower oil significantly affect the domestic inflation rate and farm revenues. When global edible oil prices surge, domestic prices rise as well, increasing consumer costs but potentially raising revenues for farmers growing oilseeds such as mustard or groundnut. In contrast, a fall in international prices can make imported oils cheaper, placing downward pressure on domestic oilseed prices and squeezing farm income.

Another channel linking India's agricultural revenue with global price trends is currency exchange rates. A weaker rupee generally boosts export competitiveness, raising the rupee earnings of farmers and exporters. Meanwhile, it raises the cost of imported commodities. Thus, fluctuations in global markets combined with exchange rates create complex dynamics that shape India's agricultural profitability.

While global prices exert strong influence, the Indian government uses policy instruments like Minimum Support Prices (MSP), export restrictions, import duties, and buffer stock operations to cushion farmers from extreme price volatility. However, these policies can only partially offset global forces. For instance, when global wheat or rice prices collapse, even MSP mechanisms may not fully prevent downward pressure on market prices. Conversely, high global prices often encourage the government to restrict exports to control domestic inflation—limiting farmers' ability to benefit from favorable international conditions.

Climate-induced disruptions—such as droughts in Latin America or heatwaves in Europe—impact global supply and prices, which in turn affect India. For example, El Niño patterns can raise global cereal prices, indirectly benefiting Indian exporters if domestic production remains stable. Similarly, geopolitical events, such as the Russia-Ukraine conflict, have shown how global price spikes for wheat, corn, and edible oils can have immediate revenue implications for Indian agriculture.

The increasing correlation between Indian agricultural revenue and global price trends underscores the need for better risk management tools. Futures markets, crop insurance, diversification into high-value crops, and improved value-chain integration can help farmers navigate global volatility. Moreover, investments in storage, processing, and market intelligence can empower farmers to make better decisions aligned with global demand patterns.

India's agricultural sector is characterized by small landholdings, limited mechanization, and high dependence on monsoon rainfall. These structural constraints make Indian farming comparatively less efficient and more costly than that of several developed nations. When agricultural products from abroad enter Indian markets—often produced at lower costs or supported by heavy government subsidies—domestic farmers struggle to compete. For example, countries like the United States and members of the European Union provide substantial subsidies to their farmers, reducing production costs and making their exports cheaper. As a result, imported items such as edible oils, pulses, and certain dairy products can flood Indian markets at prices Indian farmers cannot match.

This phenomenon can depress domestic prices for agricultural commodities. When cheaper imports become available, the market price for locally produced goods may fall, directly affecting farmers' incomes. Small and marginal farmers, who form the majority of India's agricultural workforce, are particularly vulnerable because they lack financial buffers and alternative livelihood options. Price crashes can push them into debt and deepen rural distress.

Moreover, international trade agreements sometimes limit India's ability to protect its farmers through tariffs or minimum support prices. While trade openness encourages efficiency and competitiveness, it also reduces the policy flexibility needed to safeguard vulnerable agricultural communities. Sudden surges in imports—called "import shocks"—can destabilize domestic markets, as seen in the past with edible oils and plantation crops like rubber and tea.

However, exposure to international competition is not entirely negative. It encourages Indian agriculture to modernize, become more efficient, and diversify. With appropriate government support—such as investment in infrastructure, research, irrigation, and market reforms—Indian farmers can improve productivity and compete more effectively on the global stage. Strategies like promoting high-value crops, expanding agro-processing, and enhancing export readiness can transform challenges into opportunities.

Nevertheless, the transition must be managed carefully. Farmers need strong safety nets, including better price stabilization mechanisms, crop insurance, and timely trade safeguards to counter import surges. India must also negotiate trade agreements that balance global integration with the protection of its agricultural livelihoods.

III. Conclusion

International trade has had a mixed but significant impact on Indian agriculture revenue. While it offers opportunities for higher income, diversification, and modernization, it also exposes farmers to global competition and price volatility. The ultimate effect depends on how effectively India manages its trade policies, supports its farmers, and equips them to compete in the global marketplace. With the right interventions, international trade can become a powerful driver of growth and improved livelihoods in India's agricultural sector. While international trade offers avenues for growth and modernization, it undeniably exposes Indian farmers to competition from cheaper imported agricultural goods. Addressing this challenge requires a nuanced approach—one that combines openness to global markets with robust domestic support systems. Only then can India ensure that its farmers benefit from globalization rather than be overwhelmed by it.

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