

Impact on Agricultural Commodities of India

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ABSTRACT

India lives in villages – the statement of Mahatma Gandhiji still holds good. Even today the majority of the population lives in rural areas and the agriculture continue to be an important sector in spite of its declining share in the Gross Domestic Product over the years. Our economy has become the self-sufficient in food production thanks to the green revolution and there have been voices to go for second green revolution for the sustained contribution of the agriculture and feeding the teeming millions of the economy. India actively involves in the export of primary products to the foreign nations thereby earns foreign exchange reserves. The Tamil people had wide maritime contacts with countries at the farther places. Port acts as a place of trade contact with the other nations. It is an inlet and outlet for the products across the shore. When a country is in the process of development, it needs more capital goods along with the consumption goods. The tractors, implements, fertilizers and pesticides occupy a significant role in the development of farming sector. The ports as the connecting passages contribute for the inward and outward movement of goods. A healthy all weather port would further benefit the agricultural sector to get the much needed inputs at the least cost possible. Further for a country with the surplus agro-products it provides a way for obtaining the scarce foreign currency. Shipping and port together constitute the significant part in developing the agricultural sector on their own parts. This paper tries to analyze the contribution of the port and shipping sector.

Keywords: Agriculture, Port, Shipping, agricultural inputs,

1. INTRODUCTION

Shipping agriculture trade while income growth and trade liberalization around the world are generally believed to be key determinants in the expansion of global food and agricultural trade, advances in technology that lowered transportation and communication costs have also contributed to this expansion. One way of measuring the trade effects of distance is the distance elasticity, which describes the change in trade with respect to a change in distance. The expectation is the greater the distance, the more inhibiting effect it has on trade, all other variables constant. A larger elasticity implies that distance has a greater impact on the trade of a particular item than would be the case with a smaller elasticity. Declining distance elasticity over time implies that distance is having less impact on trade with the passage of time.

Most of the above results, however, were obtained from aggregated data, often total bilateral trade among trading countries, not based on specific commodities such as detailed food and agricultural products. Recent developments in transportation and communication technology may have played an important role in reducing shipping costs, particularly for perishable products and possibly for other food products. We believe it is, therefore, important to let the empirical analysis inform us about the impact that distance has had on specific agricultural goods.

A key distinguishing characteristic of many food and agricultural products is perishability, which requires refrigeration and prompt delivery to the consumer to assure quality. Marketing prime-quality perishable products abroad was either prohibitively expensive or simply not feasible until 30 years ago. The adoption of modern technologies has facilitated trade of many high-value agricultural products in recent years. Examples of such technologies include

- Improved communication systems allowing for better monitoring of quality, tracking of shipments, and coordinating of steps through the marketing chain of time-sensitive food products.
- Greater use of intermodal systems and the reefer box, a mobile refrigerated warehouse, from the point of production to the point of consumption combined with modern container terminals, allowing for quicker turnaround in ports and faster delivery of product over greater distances.
- Developments in refrigeration, controlled atmosphere (CA) and humidity control that reduce spoilage and allow the substitution of cheaper ocean shipping for air transport for some of the more perishable items.
- Packaging innovations, fruit and vegetable coatings, bioengineering, and other techniques that reduce deterioration of food products and help shippers extend the marketing reach of U.S. perishable products.
- Development of infrastructure linkages for making ocean shipping of perishable products not only technologically feasible but also profitable for all players. Providing sufficient crane capacity, adequate storage space, and ready access to highway and rail connections. Developing efficient inspection and customs services by government agencies, as well as port-to-market distribution systems, critical for fresh produce that often must arrive quickly on store shelves.

To assess the role of distance on the performance of exports of India food and agricultural products and evaluate how that role has changed over time with new transportation technologies and logistical systems, we use a simple gravity model to estimate distance elasticity's and their time trends for both aggregate categories and specific food and agricultural products, using pooled cross-section and time-series data for more than 100 destinations over 30 years. The results for the aggregate categories were similar to previous research. But we often found statistical evidence of a declining effect of distance when disaggregated data were used. Examples include most meats, eggs, and certain processed foods.

2. REVIEW OF LITERATURE

Elizabeth Ogard, and Althea Gatto. (2014) study highlighted export by container offers advantages for moving agribusiness products due to the availability of empty import containers that can be repositioned, making accessible inland “dry ports” more important in supply chains. This paper assesses the impact and challenges of increasing containerized movements of agricultural commodities from hinterland points to overseas markets, regarding both operations and governance. Products like soybeans have complex supply chains affected by weather, seasonality, price, equipment availability, congestion, modal delay, cargo ownership, and sustainability or product quality requirements. Our case study of soybeans exported from the US state of Illinois examines a number of major operational issues, actions, rules and policies affecting this containerized flow and its total landed cost. One factor, delays in barge links, is studied with a commodity flow model combining product movement with container repositioning.

Julie Cidell (2012) The mobilities turn has demonstrated the importance of the social, cultural and political implications of travel for a variety of modes, though largely focused on people and vehicles, not freight. The transport of goods by shipping container has become the predominant means of freight transport since the 1960s, shaping places from port cities to rural distribution centers. This paper uses two North American case studies to explore temporary immobilities or pauses in the flows of shipping containers, showing that the problems containers pose to the places they pass through are not a function of the objects themselves, but their state of mobility. Pauses are important as a category of mobility because of the consequences of regulations that attempt to eliminate or redirect them.

Srinivasan and Jha (2001) analyzed the effects of liberalizing food grain trade on domestic price stability using multi-market equilibrium model. This model helps in determining the direction of trade and world prices.

Mehta (2000) predicted the possible increase in the India's imports due to the removal of QRs of all items of imports in regard to WTO. The projections have been made to consider the total imports, import price of the commodity group, tariff rate and index of quantitative restrictions.

3. OBJECTIVES OF THE STUDY

- To consider the role of port in the development of Indian agriculture
- To study the quantum of inputs imported for the farming sector of India
- To provide the suggestions for the development of agriculture

4. DATA COLLECTION

The secondary data has been used for discussing the role of port and shipping in the development of agricultural sector of India.

5. STUDY PERIOD

The study period ranges from 2011 to 2015. This period provides the recent changes that have taken place in landing and shipping of Indian agricultural goods.

WTO AND INDIA WITH REGARD TO TRADE IN GOODS- AGRICULTURE

The WTO agreement consists of three broad categories of agricultural and trade policy, namely, market access, domestic support and export subsidies. The market access includes tariffication, tariff reduction and access opportunities provided by the concerned member countries. Special safeguard is provided for the imposition of additional duties for the benefit of the members. India maintained quantitative restrictions due to balance of payments reasons. It has undertaken a commitment to bind the primary products at 100%, processed food 150% and edible oils 300%. India provides market price support for the agricultural products. During 2001, the exporters of Indian agricultural commodities did not get any direct subsidy from the government. Further, it includes the cost of freight on export shipments of certain products like fruits, vegetables and floricultural products. The negotiations at the WTO are inclusive of

- The effects of reduction commitments on World Trade in Agriculture

- Non trade concerns, special and differential treatment and fair and market oriented agricultural trading system
- Identifying the further commitments required

The figure shows that the Indian agricultural exports have been on the rise even though intermittent slow down has been witnessed from 2008 to 2016. It was the highest in 2014. Indian agricultural imports have been on the rise over the period. After 2014 the import had increased and again declined in 2016. The imports and exports have been on the rise due to the economic reforms over the period of study.

TABLE- 1 IMPORT OF UREA TO INDIA

Year	Quantity of urea (Lakh MT)			Value (Million US \$)
	From OMIFCO	Through STE	Total	
2011-12	20.69	57.65	78.34	3,222.48
2012-13	18.33	62.11	80.44	3,009.49
2013-14	21.21	49.68	70.89	1,968.36
2014-15	10.80	62.22	73.02	2,098.61

Up to January, 2015

The share of OMIFCO has come down from 20.69 in 2011-12 to 10.80 in 2014-15. It has increased from 57.65 to 62.22 through STE. The value of US dollar was 3222.48 in 2011-12. The value has come down drastically to US Dollar 2098.61 in 2014-15.

TABLE- 2 IMPORT OF FERTILIZERS (IN LMT)

Year	DAP	NPK	MOP [#]
2011-12	69.05	36.73	39.86
2012-13	57.02	4.05	24.95
2013-14	32.61	3.62	31.80
2014-15	36.47	2.91	37.97

Up to January, 2015

[#] MOP includes both for use as direct application as well as NPK manufacture

The fertilizer is an important input for the normal growth of the plants and good harvest. This has put in more importance to the economy and the agricultural sector in particular. The import of DAP has come down from 69.05 in 2011-12 to 36.47 in 2014-15. There has been a heavy reduction in NPK from 36.73 LMT in 2011-12 to 2.91 LMT in 2014-15.

TABLE- 3 INDIA: AGRICULTURAL PRODUCTS BY VALUE

	2014	2015	2016	2017
Total exports	35.1	29.1	27.1	22.4
Total imports	22.2	22.3	23.3	23.7
Imports from the US	1.2	1.3	1.5	1.6

Source: <https://www.export.gov/article?id=India-Agricultural-Commodities>

The total exports have come down from 35.1 billion dollars in 2014 to 22.4 billion dollars in 2017. But the total imports have increased from 22.2 billion dollars in 2014 to 23.7 billion dollars in 2017.

TABLE- 4 EXPORT –PORT AND AGRICULTURE PRODUCTS (FRUITS & VEGETABLES SEEDS)

State	Port	Rs. Lacs
Tamil Nadu	Chennai Sea, Tuticorin Sea, Kattupalli Port/ Tiruvallur Sea	1,004.61
Maharashtra	Nhava Sheva Sea	4018.78
Gujarat	Mundra Sea, Pipavab(VICYOR) Sea	135.3
West Bengal	Kolkata Sea	223.65
Kerala	Cochin Sea	223.37

Source: DGCIS

Table 4 suggests that Tamil Nadu has the maximum value, Rs.1004.61 Lakhs with regard to the export of agricultural commodities followed by Maharashtra with Rs.4018.78 lakhs.

6. SUGGESTIONS

- Utilize the water transport and port facilities for the export and import of agricultural commodities
- Having multi-modal logistics for efficient use of existing network
- Government concessions may be extended for the import of agricultural inputs for the agricultural sector.

7. CONCLUSION

The agricultural sector remains one of the important sectors of development. The economy depends on it for its sustenance. The surplus products are exported and the needed products are imported through ports of India. This connotes that Indian agricultural sector is truly becoming an international market one.

8. REFERENCE

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