



## Impact of COVID-19 Pandemic on Pomegranate Market in India

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**Abstract:** The paper seeks to explore the impact of the COVID-19 pandemic on the Indian pomegranate market. Significant changes happened in the Indian pomegranate market during the lockdown phase. The arrival and attack of the Covid-19 pandemic in India from the first week of March 2020 have a lot of negative impacts on the postharvest supply chain, transportation, retail marketing, and trade of pomegranate. But in the long-term, we can take the lessons and strengthen the production, marketing management, and postharvest management practices for the benefit of the pomegranate farmers of India.

From secondary data analysis and literature review, it is found that India, as a highly growing market, has the potential for large quantity consumption and export of pomegranate fruit. Furthermore, as the pandemic is changing the food consumption habits globally, the export of fresh pomegranates is an opportunity for farmers to gain a high return on investment. In addition, the pomegranate market has the potential to create new job opportunities and uplift the lifestyle of pomegranate producers.

**Keywords** - Pomegranate, Covid-19 impact, supply chain disruption, export opportunities, market changes in lockdown phase.

### I. INTRODUCTION

India grows various fruits and vegetables and has massive production of both fruits and vegetables. The country is the world's second-largest producer of fruits and vegetables after China. The details of the area and production of horticulture fruits in India are given in Table 1. The data shows that the top 10 majorly produced horticulture fruits in India in 2017-18 are banana, mango, citrus fruits, papaya, guava, grapes, pomegranate, watermelon, apple, and jackfruit. In contrast, pomegranate has ranked 7th on this list. The pomegranate production in India was 2,613 Thousand Metric Ton (MT) in 2016-17 and is estimated to reach 2,865 thousand MT in 2018-19, with a compound annual growth rate (CAGR) of approx. 3% from 2016-17 to 2018-19. Also, the area under India's pomegranate production is estimated to grow with a CAGR of approx. 4% during the last three years. The major export destinations for Indian pomegranate are the Middle East and European countries.

Table 1 Area (In Thousand Hectare) And Production (In Thousand MT) of Horticulture Fruits in India, From Year 2016-17 to 2018-19

Fruits	2016-17 (Final)		2017-18 (Final)		2018-19 (Advanced Estimation)	
	Area	Production	Area	Production	Area	Production
Almond	12	7	11	14	10	11
Aonla/Gooseberry	93	1,075	93	1,075	94	1,098
Apple	305	2,265	301	2,327	307	2,371
Banana	860	30,477	884	30,808	874	30,006
Ber	50	545	50	513	50	633
Citrus Fruits (Lime/Lemon, Mandarin, Sweet Orange (Mosambi) and others)	985	11,419	1,003	12,546	973	12,253
Custardapple	44	383	46	401	38	320
Grapes	137	2,922	139	2,920	137	2,951
Guava	260	3,826	265	4,054	270	4,107
Jackfruit	150	1,694	185	1,830	187	1,857

Kiwi	4	12	4	12	4	12
Litchi	93	568	92	686	93	711
Mango	2,212	19,506	2,258	21,822	2,313	22,353
Muskmelon	50	1,097	54	1,231	54	1,145
Papaya	134	5,940	138	5,989	139	5,831
Passion Fruit	13	72	14	82	14	85
Peach	18	106	19	114	18	123
Pear	44	346	44	318	42	304
Picanut	1	0	1	0	1	0
Pineapple	111	1,861	103	1,706	106	1,810
Plum	24	81	23	89	23	89
Pomegranate	216	2,613	234	2,845	246	2,865
Sapota	99	1,236	97	1,176	101	1,200
Strawberry	1	4	1	5	1	5
Walnut	112	287	109	300	108	301
Watermelon	91	2,182	101	2,520	89	2,299
Others	252	2,392	238	1,977	237	2,015
Total Fruits	6,373	92,918	6,506	97,358	6,530	96,754

Source: National Horticulture Board of India

## II. RESEARCH QUESTIONS

1. How has the Indian pomegranate market been impacted due to the outbreak of the COVID-19 pandemic?
2. What significant changes happened in the Indian pomegranate market during the lockdown phase?

## III. RESEARCH METHODOLOGY

The present research paper is based on secondary data analysis majorly focused on studying the Indian pomegranate market with pre-and post-pandemic scenarios. The researcher has collected secondary data from the Agricultural and Processed Food Products Export Development Authority (APEDA), The Economic Times, the Indian Council of Agricultural Research (ICAR), and Google Scholar, among other secondary sources.

## IV. SCOPE OF STUDY

The scope of the study is limited to understanding the pre-and post-pandemic scenario of the pomegranate market in India. The secondary data used for the purpose is from 2016 to 2019. To understand the impact of COVID-19 on the pomegranate market in India, the secondary data is considered from February 2020 to March 2021.

## V. DATA ANALYSIS AND DISCUSSION

The outbreak of COVID-19 can affect the global economy in three main ways:

- Directly affecting production and demand
- Creating supply chain and market disruption
- Financial impact on firms and financial markets

The arrival and attack of the COVID-19 pandemic in India from the first week of March 2020, significantly impacted the postharvest supply chain, transportation, retail marketing, and trade of pomegranate. The significant impact factors of the pandemic are as follows:

- Due to mobility restrictions, there was about a drop in pomegranate arrival at market centers leading to a rise in the average retail price of the fruits for domestic consumers and a decrease in price realization for farmers. In addition, this might result in farmers planting fewer pomegranates, leading to higher prices during the rainy season and winters for consumers and retailers.
- There was also a considerable reduction in price realization for pomegranate producers due to lack of access to proper storage facilities for their perishables, shortage of transportation options to reach Mandis by themselves, and uncertainty in consumer demand for the future. As a result, pomegranate producers frequently opted to sell their produce directly to the middlemen at much lower prices.
- A reduction in bulk pomegranate demand from the shutdown of hospitality businesses such as hotels, airlines, and restaurants has impacted pomegranate farmers and vendors due to supply disruptions.

In addition to these impacts, pomegranate producers faced significant challenges during the lockdown due to the extensive spread of COVID-19. As a result, they required mobility guidelines imposed by the regulatory bodies in India. These challenges include disruption in the supply chain of pomegranate, market labor shortage, minimum functioning Mandis, price fluctuations, lack of postharvest infrastructure facilities, and disturbing foreign export activities. These factors are explained below.

### **1. Disruptions In The Supply Chain Of Pomegranate**

The supply chain in India is diverse, widespread, highly scattered, and disorganized. The supply chain is the lifeline of horticulture crops being perishable; the product's shelf-life is very short. Due to the COVID-19 lockdown guidelines, the transportation between inter-states and intra-state got disrupted in the first quarter of 2020. Though the government exempted essential commodities, bottlenecks in the supply chain continued to be the burning issue. With more halts between pomegranate transportation, there was a delay in reaching destination mandies. Due to these bottlenecks, the fruit in the onboard stage was getting rotten without unloading. Transporting the fruit under uncontrolled conditions occurred due to the pandemic. If we see the percentage of freight transport in India, roadways dominate, accounting for 59%, railways 35%, waterways 6%, and airways 1%.

### **2. Shortage Of Labor In The Market**

The International Labour Organization (ILO) predicted that about 400 million workers would be poverty-stricken due to the pandemic and lockdown. Most migrants in the state originate from Uttar Pradesh and Bihar, followed by Rajasthan and Madhya Pradesh. The cities of Mumbai and Delhi attract the highest number of migrants.

Reverse migration made a massive hit to the horticulture sector starting from the end of March. It is the pick period for harvesting rabi crops, and the demand for horticulture crops is enormous in this period. Skilled labor is required for harvesting. Because of a labor shortage, most crops were ripened in orchards without harvesting, resulting in quality deterioration. According to GoI data, around 263 million people are involved in the agriculture sector, and more than half of them are agriculture laborers. Because of a lack of labor availability, farmers were throwing their produce on roads and dumping it in compost pits.

### **3. Minimum functioning Mandis**

In the initial lockdown stage, i.e., the first quarter of 2020, there was a minimum function of Mandis across India. Even after liberalizing the rules, markets are not functioning up to the mark compared to the pre-COVID situation; the situation at the ground level was different, and there were only 50% operations. Active hours of Mandis were reduced to only 4 to 6 hours/day, and in hotspot regions of the pandemic, the government allowed only 2-3 days a week. Wholesalers and vendors had been facing an immense labor shortage, though they were opening the markets; there was no labor to unload and produce strewn in and around markets.

### **4. Price Fluctuations**

There was a panic about the bulk purchase at the beginning of the pandemic. Sellers utilized the situation and hiked prices up to 30-40%. As the demand increased, the price changed instantly. But the scenario was the opposite for long perishable crops. After a few days, there was no demand for pomegranates; prices fell to 15-20% due to the shutting down of hotels, restaurants, and catering. Demand was destructed instead of B2B; the demand for B2C was increased, so the prices fell because of the few engagements of intermediaries. Because of low harvesting, the supply decreased, and demand increased again, leading to an increase in price.

### **5. Lack of post-harvest infrastructure facilities**

The non-availability of farm-level postharvest infrastructure in the country is a significant drawback, and the problem was an eye-opener for the government. Farm-level collection centers are mostly absent; sorting, grading, washing, packaging, and other crop-specific postharvest activities are virtually absent at the proximate farm level. The presence of integrated cold chain infrastructure is low for horticulture products. There is very minimal use of refrigerated trucks, even for highly perishable fruits. Due to these reasons, farmers could not store their pomegranate production at the right time in the right place; in normal circumstances, 25-30% of the fruits were wasted for various reasons.

### **6. Disturbed foreign export activities**

According to data provided by APEDA, during the financial year 2019-20 (April-December), India exported fresh pomegranates of 80,547.74 MT worth Rs 68,752.37 lakhs. The primary destinations for Indian pomegranate are UAE, Bangladesh, Netherland, Saudi Arabia, Nepal, Qatar, Onam, Nepal, Thailand, Sri Lanka, and the UK. India is the largest producer of pomegranates in the world, but it has only a 7% share of total world exports.

According to data provided by The Economics Times in May 2020, freight rates on air, ocean, road, and rail have all shown a significant spike; as per industry estimates, the international freights via air to Europe and the US have gone up by 200-300% and were up 50-100% as far as ocean tariffs are concerned. In May 2020, APEDA officials stated that from an average of 400,000 tonnes/month in the previous year (i.e., 2019), the export of Indian fruits and vegetables was down to 120,000 tonnes/month by then. The lockdown led to a 70% drop in the fruit and vegetable business.

As India ranked 2nd in horticulture globally, a recent marginal shift in cultivating horticulture from other crops is an estimated high output. However, because of the shutdown in trading, there will be a significant impact on farmers and the country's economy.

### 6.1 Export of Indian fruits, vegetables, and other horticultural commodities from March 2020 to mid-May 2020 during the pandemic:

Every crisis gives opportunities to convert opportunities to critical driver matters. Tables 2 provide the idea about the export of fruits and vegetables during the country's first two months of the lockdown. The table shows that there is demand opportunities from the Middle East, European, and Asian countries for the fruits such as fresh banana, pomegranate, and grapes.

Table 2 Country-wise export of perishable agri-products during lockdown period

Country	Quantity Exported in MT
UAE	625
Kuwait	160
Oman	81
Saudi Arabia	17
UK	29
Singapore	126
Myanmar	2
Hong Kong	8
Sri Lanka	12
Maldives	34
Germany	27

Source: APEDA 2020

According to APEDA's report titled "COVID -19 Global coverage", the recent pomegranate season ended in India with lower volumes. However, for the next season, which starts in June, an excellent yield (+30%) is expected thanks to the monsoon. The primary market for pomegranate seeds is Western Europe. In addition, due to the coronavirus, Indians expect a greater demand for pomegranate seeds since they are rich in antioxidants.

According to data from The Economics Times in September 2020, Kempegowda International Airport in Bengaluru has processed 180,745 Kg of pomegranates from April to August 2020, emerging as the leading airport for pomegranate exports from India. The airport also accounted for 99% of the total pomegranate exports from Karnataka, according to the data available from the Agricultural and Processed Food Products Export Development Authority (APEDA) and the Directorate General of Commercial Intelligence and Statistics (DGCIS). In addition, the fruit was exported to 12 international destinations by nine global freight carriers – Air France, British Airways, Cathay Pacific, Emirates Airlines, Etihad Airways, KLM Royal Dutch Airlines, Qatar Airways, Singapore Airlines, and Turkish Airlines, as per a press release from the airport authority stated.

## VI. SUGGESTIVE MEASURES FOR FUTURE MARKET GROWTH IN THE PANDEMIC

The lockdown has created an unprecedented crisis for pomegranate while the central government was making arrangements to ease transportation and market operations in the country. The shutdown of all-scale businesses in the hospitality sector resulted in a fall in demand for pomegranates. So there is a need to prepare an action plan like Green Revolution and a completely new model for supply-demand management. There is a need to change in supply channel model and direct marketing channel from pomegranate producers to the consumer for immediate benefit. Some suggestive measures are as under:

- Formation of month-wise clusters of pomegranate production for the continuous market supply of the fruit
- Producers directly selling their produce to various e-commerce platforms
- Digital marketing at the village and block-level
- Market intelligence and information centers at Taluka/district level to educate pomegranate farmers
- Market- and export-oriented production planning to gain a high return on investment
- Cold storage and postharvest infrastructure management
- Cooperative transportation facilities
- On-farm primary processing center

## IV. RESULTS AND DISCUSSION

India is a leading in the world in pomegranate production after Iran. High-value pomegranate production requires less area with high output, requires low inputs with high returns, and should be highly nutritious and safe for health. This kind of pomegranate production has a high potential for foreign exchange earnings, provides higher employment opportunities, and is highly lucrative for replacing subsistence farming that can alleviate the poverty level of ecosystem stakeholders of the pomegranates market.

Due to the COVID-19 outbreak, the global change in eating habits is shifting towards fresh fruit and vegetable consumption; this is a good sign for India's pomegranate market to increase export-quality production. Every crisis gives opportunities; the pomegranate business would grow by converting these crisis opportunities into key growth drivers. The government and cooperative businesses should act proactively and come forward strategically to mitigate the loss that occurred to transportation and marketing issues during the pandemic. Establishing new infrastructure, improving rural facilities, increasing and sustainable use of natural resources, and



providing inputs and financial support will help pomegranate farmers enhance the quality of pomegranate production, even in the pandemic scenario.

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