



IMPACT OF COVID-19 ON INDIAN AGRICULTURE

SITUATIONAL ASSESSMENT OF MANGO (*MANGIFERA INDICA*)



This report was prepared in discussion with farmers, FPOs and other stakeholders engaged in Mango value chain along with review of secondary literature.

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IMPACT OF COVID-19 ON INDIAN AGRICULTURE: Situational Assessment of Mango

The impact of COVID-19 on Indian Agriculture is widespread across various crops. Mango season coincides with the pandemic period and has far reaching consequences as well.

1. Importance of Mango in Indian context

Mango is the National fruit of India, imbibed deeply in Indian culture and traditions. India is the largest producer of Mangoes in the world and produces around 21.8 million metric tonnes of Mango (2017-18) which is more than 40% of the global production. Current processing levels are only 2% of the total production and India witnesses 9.16% wastage (CIPHET:2015) in harvesting and post-harvest handling of Mangoes.

State	Share in national production (2017-18) ¹	Peak Harvest season
Uttar Pradesh	21 %	June
Andhra Pradesh	20 %	April – May
Telangana	5 %	April – May
Karnataka	8 %	April – June
Bihar	11 %	June – July
Gujarat	5 %	May
Maharashtra	3 %	April – May
Tamil Nadu	5 %	April – May
West Bengal	4 %	June – July

2. Seasonality and dynamics of Mango in India

Harvesting period for the king of fruits in India is staggered across the major production pockets in Uttar Pradesh, Andhra Pradesh and Telangana, Bihar, Karnataka etc. While the southern states supply mango to the domestic markets from March end, the northern and eastern states of Uttar Pradesh, Bihar and West Bengal see peak harvest from June onwards.

Extended monsoon, cyclone and general change in weather pattern during second half of 2019 has adversely impacted production of Alphonso and other mango varieties in the Konkan region of Maharashtra². Flowering was delayed by 30 days or more in Andhra

¹Horticulture Statistics division, Ministry of Agriculture and Farmer Welfare, Govt. of India

²<https://india.mongabay.com/2020/01/arrival-of-alphonso-mangoes-this-year-impacted-by-unexpected-weather/>

Pradesh and Telangana. As a result, mango production in this region was expected to be around 30 to 40 percent less compared to previous years and market arrivals were likely to be delayed till end of April or mid-May instead of mid-March arrivals. Production in Gujarat was expected to be better this year with high percentage of flowering³, but cooler climate after Diwali has resulted in a late harvest. Thus, Mango arrivals in 2020 is delayed in major parts of the country.

3. Potential Impact of Covid-19 on Mango

Emergence of Covid-19 in India has occurred during the mango harvesting period in Andhra Pradesh, Telangana, Maharashtra, and Karnataka. The nationwide lock down has brought all operations to a grinding halt. While Mango cultivators in these areas were already expecting low productions due to untimely rains and hailstorms, they are now likely to be severely impacted due to lack of access to markets. Covid-19 is adversely impacting the entire mango value chain affecting cultivation and distribution functions as indicated below:

A. Crop Maintenance and Harvesting

Timely & appropriate harvesting along with timely arrival of mango is vital to Mango, characterized by its seasonality and perishable nature. Labour shortage during March & April has affected harvesting, sorting, grading, packing functions in the states of Andhra Pradesh, Telangana, and Karnataka. In northern and eastern states, orchard maintenance including plant protection has been severely affected. Labour shortage is expected to worsen in the coming months thus may affect harvesting functions. This indicates reduced production, higher post-harvest losses and low quality of mangoes.

“Almost 50% of our production this year has been reduced due to the lockdown where agri-inputs shops were closed, and we could not get access to pesticides in time. Marketing of the produce is also a concern this year since traders who come from Mumbai, Delhi, Maharashtra and other places have not turned up due to the pandemic.”

Om Shankar Dwivedi, Mango Farmer,
Malihabagh, Uttar Pradesh

B. Availability of Finance

Mango orchard owners and farmers usually receive monetary advance from traders who seek an assured supply of mango. Traders and farmers across the country say that such advances have largely not been extended this year due to uncertainties arising out of Covid-19. This has resulted in severe cash crunch at the end of the farmer resulting in an unprecedented insecurity. Wherever such advances had been made prior to the lockdown, the risk of losing the advances are high due to operational problems faced during the lockdown⁴. While it was reported that in some cases, advance of around

³<https://timesofindia.indiatimes.com/city/surat/mango-farmers-expect-bumper-crop-this-year/articleshow/73944774.cms#>

⁴<https://economictimes.indiatimes.com/news/economy/agriculture/traders-concerned-over-advance-payments-made-to-farmers/articleshow/74947878.cms?from=mdr>



10% was provided by traders to large farmers in Uttar Pradesh, these traders have not arranged to lift the produce from the farmers. Therefore, farmers are stuck with unsold produce and traders stare at monetary losses and business stagnation. It will be difficult for both parties to make good the losses.

C. Sale and marketing

The Mango value chain in India operates on a large network of market intermediaries Who act as a key link between the farmers and the market including processors. The lockdown has disrupted the supply chain of Mango from farm to consumer because of

“**Mangoes from South India generally have major demand in North India because of early harvest in South India. While the season this year is already late due to weather vagaries, the demand has dropped significantly due to the pandemic. Apart from labour and transportation issues faced by farmers, consumption of mangoes this year has reduced drastically since people are not coming out of their houses to buy mangoes. Markets are closed and traders are not buying. Alternate channels like FPOs hasn't been able to fully bridge this huge gap yet.**”

Naveen Kumar V, Founder and MD, Napanta.

the restrictions on transport and travel, finance, *hamal* (market level labour) and disrupted the market systems. While the entire supply chain is reeling under pressure, it is market intermediaries and farmers who are bearing the brunt of such disruptions and are staring at huge losses. Due to the pandemic, operations in APMC run markets (mandi) across the country have been stopped. As an alternative, authorities in cities like Nagpur and Mumbai have promoted smaller and sporadic markets but they are inefficient and largely ineffective due to high fragmentation having little communication and coordination amongst themselves. Crippling of carton and packing material industry is also affecting product from to the market because mango being a sensitive and perishable fruit require adequate precautions during handling. Currently, farmers across Karnataka and Andhra Pradesh

are struggling to sell their already harvested produce even at meagre rates. Coordination between stakeholders like transporters, insurance providers, waybill issuing authorities, labourers engaged in packing and loading mangoes etc. was missing which resulted in problems in goods movement. Sealing of state borders made matters worse especially for perishable products like Mango.

D. Processing and Exports

India is a major exporter of mango pulp, shipping 1.05 Lakh MT of mango pulp during 2018-19. India's export of fresh and dried mangoes constituted around 49180 MT during 2017-18⁵. Middle eastern countries, US, UK, Australia, and Singapore are the major importers of Indian mango. This is expected to be disrupted largely because of the pandemic and the lockdown.

Almost 250 Mango processing units in Navsari and Surat in Gujarat are facing up to 70% reduction in mango supply as traders from Uttar Pradesh are not able to supply mangoes this year. The bulk of mango export happens during May. However, fear of restrictions on export has led to reduced demand from exporters and processors. This may cause export grade fruits to be channelized in the domestic markets and will require adequate strategies to handle the excess supply.

“Mango orchards in Andhra Pradesh's Mango cluster in Krishna and nearby districts is spread across 1.25 lakh hectares. 60-70% of the mango here is going to be harvested in May with little marketing support. The major markets of Mango are in urban India, particularly in metros cities like Mumbai, Kolkata, Delhi, Hyderabad, Bangalore etc. All these locations are in 'Red zone' now with major packaging, transporting, sorting, grading hubs, terminal markets of Mango closed.. Additionally, important services facilitating marketing of Mangoes like insurance, waybill and challans issuing authorities, state permits etc. are all non-functional or disoriented now.”

Srinivas Chekkuri, Gramodaya Trust,
Andhra Pradesh



⁵ APEDA

4. Institutional support for Mango supply chain during Covid-19

Organizations like Central Institute of Sub Tropical Horticulture has initiated digital communication with farmers to disseminate critical extension related information. However, using such information for crop management remained an unsurmountable problem for the farmers in absence of inputs and labour.

Some Agri-marketing boards like Maharashtra State Agriculture Marketing Board has initiated special online services for consumers to purchase Mangoes from farmers directly. Karnataka has also taken similar initiatives to supply mangoes. While reach of such initiatives is limited. it has been able to benefit some producers and consumers.

In Ratnagiri district (one of the production hubs of alphonso mangoes) of Maharashtra, farmers have started door to door service for selling mangoes. There are also few instances from South India wherein FPOs are facilitating communication using digital platforms to connect farmers with consumers for direct marketing of mango, including facilitation by Agri-tech start-ups. Few FPOs have started direct marketing of mangoes including some corporate supplies. However, majority of the FPOs reported shortage of funds, inability to mobilize large number of farmers and inadequate market linkages preventing them to launch direct marketing of mango.

