

# IMPACT OF COVID-19 ON INDIAN AGRICULTURE

## Situational Analysis of Spices Sector

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

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Covid-19 is likely to have widespread impact on agriculture and other sectors. While many agriculture crops and allied activities are expected to be impacted by this pandemic, spice crops particularly seed spices which are being harvested during the Rabi season are witnessing a major impact of ongoing lockdown at their harvesting, post harvesting and marketing stages.

## IMPORTANCE OF THE SPICES IN THE INDIAN CONTEXT

India is the **largest producer, consumer, and exporter of spices in the world** and accounts for half of the global trading in spices. In the year 2017-18, a total area of 39.6 lakh hectares of land in India was under cultivation of different spices<sup>1</sup>. While the domestic consumption for spices in India during the year 2016-17 was 53.8 lakh tons, India exported \$2.7 billion worth of spices to different global markets during the same year<sup>2</sup>. **About 98 per cent of the spice production in India is done by small-scale farmers, who typically farm less than two hectares** and seasonally rotate spices cultivation alongside other crops<sup>3</sup>. Along with food industry, spices are widely used in the industries such as indigenous alternative medicine (AYUSH) & pharmaceuticals, cosmetics and natural colour and resin industries. Any disruptions in global and domestic supply chain will not only have adverse impact on the production and supply of vital industries listed above but it will also have larger impact on the livelihoods and well-being of the millions of small and marginal farmers and workers involved in production and processing of spices.

## SEASONALITY OF MAJOR SPICES IN INDIA

The top 5 spices produced in India as per land area are: Chilli, Cumin, Coriander, Garlic and Turmeric. These 5 spices accounts for 70% of the total cultivation area for spices in India.

As India produces a large number of seed and plantation spices, their harvesting goes around the year. However, period between January-March is the peak harvesting season for a large number of both seed and plantation spices. There are also variations in harvesting season for the spices between the Indian states e.g. Coriander in Gujarat is harvested by the month of February last week while in MP it is harvested by March first week and in Rajasthan it goes up to the end of March, thus impact of Covid-19 on farmers finds a correlation with the seasonality of the spice crops. The table below illustrates the harvesting, post harvesting and marketing season for major Rabi spices in India.

<sup>1</sup>Website of Spices Board India: <https://www.indianspices.com>

<sup>2</sup>Website of Spices Board India: <https://www.indianspices.com>

<sup>3</sup><http://www.fnbnews.com/Spices>

Name of Spice	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec
Chilli	Harvesting	Harvesting	Harvesting	Post-harvest						Sale	Sale	Sale
Cumin		Harvesting	Harvesting	Post-harvest	Post-harvest	Post-harvest	Post-harvest					
Coriander		Harvesting	Harvesting	Post-harvest	Post-harvest	Post-harvest						
Garlic		Harvesting	Harvesting	Harvesting	Post-harvest	Post-harvest	Post-harvest					
Turmeric	Harvesting	Harvesting	Harvesting	Post-harvest	Post-harvest	Post-harvest	Post-harvest					

Source: Spices Board India; <https://www.indianspices.com/spices-development/harvest-calendar.html> accessed on May 3 2020

## EMERGING CHALLENGES IN SPICES SECTOR DUE TO COVID-19

### A. Harvest and Post-Harvest

As indicated in the above table harvesting of major spices in India happens during the months of January till April. Based on the discussion with spice sector players and farmers, it was learnt that while large portions of spices like chilli, coriander, cumin, turmeric were harvested before the announcement of lockdown on 25th of March but the last picking of the harvest could not be completed. However, during the lockdown period, postharvest operations were carried out for a majority of the spices mentioned-above.

Importantly in spices, proper post-harvest operations such as cleaning, drying, and packaging are extremely critical to maintain the quality of harvested produce and keep it contamination free and within Maximum Residue Limit (MRL) for export markets. Non availability of proper space for drying<sup>4</sup>, shortage of labour, non-availability of Agri equipment like thresher for post-harvest operations and shortage of fresh and cleaned gunny bags have largely impacted the post-harvest operations for crops like chilli, cumin, and coriander. This has largely affected the quality of produce in terms of its colour, texture, and moisture levels which have resulted in poor quality of produces and lesser price realization to the farmers.

- In Guntur area of AP and Khammam region of Telangana, which are the major production hubs for chilli, almost 50% harvesting of chilli was completed before the 25<sup>th</sup> March while rest of the harvesting was done after that. Farmers who harvested after the lockdown period have suffered losses due to shortage of labour for harvesting and post-harvest operations.
- In Barmer region of Rajasthan, which is a major production hub for cumin, most of the harvesting was done post the announcement of lockdown. Farmers in the region have reported issues in finding the thresher for timely threshing the crop and gunny bags for storing the crop.

“Majority of the farmers in Kota and surrounding regions have suffered losses in coriander crop due to shortage of proper space and gunny bags for drying and storing, respectively. The resultant poor quality of produce may lead to 30-40% lesser price realization in market.”

Mr. Dinesh Malik, Azad Agro

<sup>4</sup>Drying of coriander requires closed shed to maintain its colour which is generally done by processor and traders as they have large space for drying.

- A large quantum of coriander (especially green varieties) grown in the Kota and surrounding regions which is the largest production belt of coriander in Rajasthan along with production belts in Madhya Pradesh (MP) was harvested during the last fortnight of March. Due to unavailability of proper covered space for drying & storage and shortage of gunny bags to fill the harvested produce, farmers could not maintain the desired colour (green) of harvested coriander.
- While large farmers, traders and processors could arrange better storage facilities like cold storage and godowns, the loss has amplified at the small and marginal farmers level especially in the states of Rajasthan and MP where post-harvest infrastructure is far from adequate.
- In absence of any other facility, coriander farmers in Rajasthan either stored their crops in the open field or filled it in used gunny bags and empty fertilizer bags. This had a huge impact on the quality of their produce along and increased the possibility of chemical contamination.

“Right now, cold storages for Chilli in Guntur (AP) are running at almost full capacity while last year they were operating only at 40-50% capacity. Both farmers and processors have stocked their produces as there is no transit and processing of chilli.”

Mr. Anil, Procurement Manager, Chilli, OLAM

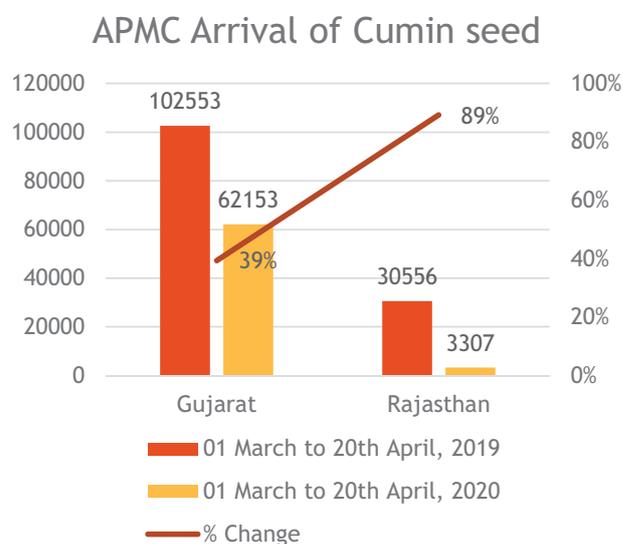
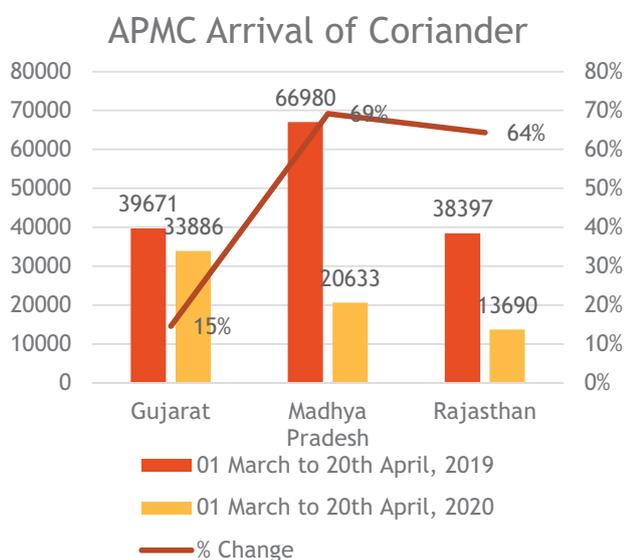
## B. Sale and Marketing

Majority of the spices produced in India are traded through the regulated markets run by Agricultural Produce Marketing Committee (APMC) popularly known as 'mandi'. However, some spices are also directly procured from the farmers by the spice processors and exporters through their own backward integration (BI) programs or agents located in major spice producing regions. As major APMC markets were closed during the period 22<sup>nd</sup> March till 20<sup>th</sup> April and local traders and agents were not coming in the villages due to restrictions on movement of vehicles and humans, a major portion of spices remained unsold with the farmers.

- According to a leading player in chilli, around 50% of the chilli crop was harvested and sold before the announcement of lockdown while rest of the 50% is in process of harvesting since the announcement of lockdown. 60-70% of the harvested chilli is stored in the cold storages by the farmers & traders and 15-20% has been sold through various channels such as processors, BI program etc., rest 15-20% is still with the farmers. As processors were not allowed to procure from the farmers, trade of chilli happened only at the cold storages. It has been also reported that farmers are expecting a rise in the prices of their commodities thus they are preferring to store their produce instead of settling for distress sale.
- Majority of the coriander farmers in Rajasthan could not sell their crop as major APMC markets for coriander in the region (Ramganj Mandi, Bhawani Mandi and Kota Mandi) were closed during the peak harvest and trade season. It is estimated that around 70-75% harvested produce is still with the farmers<sup>5</sup> in Rajasthan however in Gujarat these quantities are lower due to early harvesting and subsequent sale in the markets. The chart below illustrates that cumulative arrival of coriander in all the APMCs of MP and Rajasthan was lower by 69% and 64% respectively during the period 01<sup>st</sup> March to 20<sup>th</sup> April 2020 compared to same period in 2019. Similar APMC arrival trends are seen for cumin cop in Rajasthan.

<sup>5</sup>Based on a discussion with leading coriander processor in the region.

- Since all the regulated APMC markets were closed during the period of lockdown, there was no proper price discovery mechanism for both farmers and traders. Trading has largely happened either on the prices before the lockdown or on the prices at spot market (NCDEX and MCX). In some cases, farmers have sold the crops at the prices quoted by local traders as there neither was any way to get actual market prices nor they could search for alternative trade channels.



## C. Processing

Processing like grinding of whole spices and extraction of oleoresins plays a significant role in the entire value chain of spices and unfortunately this function was adversely impacted.

- Most of the spice processors could not operate their processing units during the lockdown period due to restriction imposed by the authorities and limited logistic operations. This has led to piling up of unused stock in their factories and warehouses and resulted in reduced demand for the next season. Limited availability of processed spices may have an adverse impact on industries (food, pharmaceutical, cosmetics) that use these spices.
- Processors have also been adversely impacted due to limited demand in both domestic and export markets.

## D. Export

According to some spice exporters, disruptions caused by Covid-19 both in India and at export destinations (USA, European countries and others) is going to have big adverse impact on export of Indian spices.

- Export of Indian spices has almost closed during the period of lockdown as neither the domestic nor international logistic systems were working properly.
- With USA and EU countries are in complete lockdown, trade to these countries is almost

“India provides approximately 20% of the entire supply of spices to the U.S. The entire supply market in India is at a standstill, as no new product is entering the market, therefore no product is leaving India for U.S. export.”

American Spice Trade Association (ASTA)



negligible. Export to middle east and other countries is also limited either because of the adverse conditions created by pandemic in these countries or due to limited logistics operations in India.

- Closure of testing laboratories for testing MRL, limited custom operations and closure of international commercial air cargo are some of the other factors which have adversely impacted export of spices.
- Some of the stakeholders are of the opinion that there may be increased demand for Indian spices in American and European markets once things returned to normal after the Covid-19. One of the major reasons is increased trust for India and a trust deficit for China, post Covid-19.

## E. Institutional Support to Spice Sector

- BI programs run by spice processors & exporters have provided the much needed support to their enrolled farmers by procuring the spices. The custodians and implementors of BI programs e.g. Azad Enterprises based in Kota, Rajasthan has managed to procure around 500 MT of coriander from around 1000 farmers at its processing unit located in Kota district. Similarly, Jayanti Foods have procured cumin from farmers in Barmer region of Rajasthan under its BI program.
- As per the notifications issued by the Spice board of India, it has temporarily exempted the mandatory testing for consignments related to spices and spice products to the importing countries which do not need spice board's analytical report.
- Start-ups like AgNext have developed rapid testing kits to measure the pesticide contamination in the field. In the absence of labs, few exporters and processors have resorted to the use of such kits during procurement.

## F. Future directions for spice sector as per experts in the Industry

- **Focus on safe and sustainably produced spices:** Food safety experts in the spice sector are of the opinion that post pandemic large number of consumers both in global and domestic market may shift towards safe spices. This may boost the demand for sustainably produced MRL compliant spices.
- **Stringent testing protocols:** It is also expected that testing standards may go up in the coming times to ensure (i) MRL compliance and (ii) check adulteration. This may lead to the introduction of new technologies and practices such as rapid testing at field level, and testing facilities in marketplaces including APMC markets etc.
- **Traceability and Modernization of Markets:** While international buyers would require IT based traceability systems to ensure sustainable practices across the spices supply chain, modernization of APMC markets (as they are major trading hubs for spices), would be important to ensure safety and quality of spices.
- **Different Course of Action:** Post the current pandemic, companies would reimagine better crisis management protocols for greater preparedness to deal with any such crisis.