

IMPACT OF COVID-19 ON INDIAN AGRICULTURE

SITUATIONAL ASSESSMENT OF POTATO (*SOLANUM TUBEROSUM*)



This report was prepared in discussion with farmers, Traders, Cold Storage Owners, and other stakeholders engaged in Potato value chain along with review of secondary literature.

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Situational Assessment of Potato

The impact of COVID-19 on Indian Agriculture is widespread across various crops. This document analyses the effect on Potato, one of the most important food crops of India.

1. Importance of Potato in the Indian context

Potato is one of the most versatile and popular food crops of India. The country produces 51.3 million MT of Potato (2017-18) which is around 14% of the world's production and second only to China. Potato is not only a staple but a cash crop that provides significant income to farmers.

State	Percentage of total Production
Uttar Pradesh	30.4
West Bengal	26.1
Bihar	11.8
Gujarat	7.9
Madhya Pradesh	6.5
Punjab	5.3

The average Indian per capita consumption of Potato in normal circumstances is more than 2 kgs per month. This translates to around 11 kgs per month per family of five.

The states of Uttar Pradesh, West Bengal, Bihar, Gujarat, Madhya Pradesh, and Punjab are India's major production zones of Potato, constituting about 88% of India's production. The average yield of potato in India is 23.9 MT per hectare.

The annual demand of Potato has been on the rise over the past few years and in 2017-18 the demand was projected to be 47.4 million metric tonnes (including personal, bulk, and institutional consumption). The per capita consumption of the country under normal circumstances was 25.5 kgs per annum in 2017 (source: FAO) which is more than 2 kgs per month, highlighting the importance of the crop in the food basket of Indians.

India processes close to 2.7 million MT of potatoes which is around 5.2% of the total potatoes produced in the country.

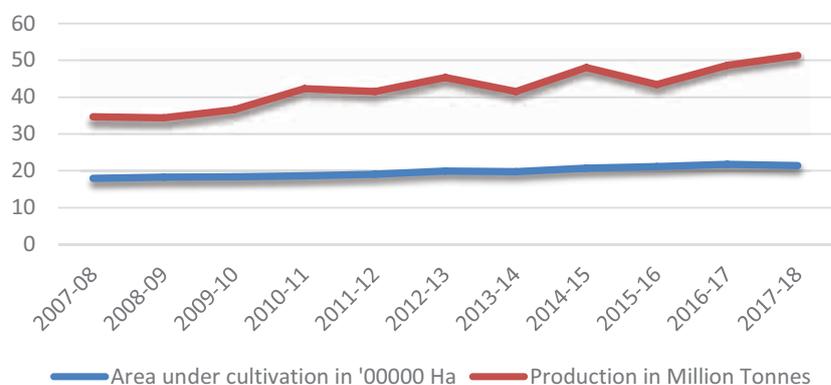
2. Seasonality and dynamics of Potato in India

About 80% of Potato in India is cultivated during the Rabi season starting in October and November. The crop is harvested in February and March. Some areas of Gujarat see a slightly late season where sowing is done in October and harvesting is completed by March. Moreover, certain areas in West Bengal, Maharashtra, and Karnataka etc. also have a second season of potato cultivation where sowing is done from May and harvesting is done in August and September. The hilly areas of Uttarakhand and Himachal Pradesh also see two seasons of Potato, sowing in August & January, and harvesting in December & May, respectively.

The Potato value chain in India operates on a large network of intermediaries and traders who on one hand provide monetary advances and agri inputs to farmers and on the other hand operate as a key link between the farmer and the market. Cold Storages perform an important role in the value chain of Potato. In spite of the fact that 68% of all the cold storages in India are meant for storing potatoes, a phenomenal share of 15.75 percent is lost as waste due to post-harvest mishandling, inconsistencies in storages and diseases (CPRI). The total storage capacity of India as promoted under various schemes, have been estimated to be around 35 million MT spread across 7645 cold stores across the country. While around 2300, the maximum number of cold storages are present in Uttar Pradesh, West Bengal has around 516. Peculiarly, the operation of cold storages in West Bengal are regulated by the state government. Decision on cold storage opening or closing dates along with the rates charged are fixed and regulated by the state government. Generally, the cold storages remain sealed during the period from March to September. This year, however, the cold storages have remained open due to the pandemic.

The country's decadal production depicts that the growth in area under cultivation of potato has remained steady across the last decade while the growth rate of production has dwindled regularly in alternate years. Incidentally, 2019-20 is a typical year when the production was 20-30% less than its previous year.

Area under cultivation and Production of Potato:
A decadal perspective



3. Impact of Covid-19 on Potato

The incidence of Covid-19 has occurred in a season when majority of the potato from Rabi season was already harvested. While the Rabi potato season had just completed with more than 90% of the harvesting completed by March 25th, the effect of COVID-19

“ This year the prices of potato were much better than we expected. I sold off majority of my produce after harvest at around Rs. 13/ kg, like many farmers in my peer group. Times were uncertain and we did not want to take risks in storing.”

Mohammad Mustafa, Potato Farmer,
Hooghly, West Bengal

on the harvesting functions was modest. The overall production this year in Uttar Pradesh was already reported to be 20-30% lesser than the last year due to unseasonal rains and hailstorms. The production in West Bengal was also reported to be around 10% lesser than the last year. Arrival of new potato in market was also expected to be late due to late sowing. The price received by farmers was in the range of Rs. 11-14 per kg which was a 50% gain over the average price received by farmers at harvest in previous years. Potatoes were still being loaded in the Cold storages when the nationwide lock down eventually brought all operations to a grinding halt.

Sale and marketing

Potato, an essential food item, saw an immediate surge in demand due to several restrictions necessitated by the lockdown. It is when consumers as well as traders started stocking and hoarding it. On the other hand, with disruptions in travel, finance availability, *hamal* (market level labour), market systems etc. the prices of potato soared initially. Major cities in the country had stopped the vegetable mandis (regulated markets run by APMCs) due to the pandemic. Fragmented smaller markets with no or little communication and coordination amongst themselves were promoted as alternatives. Agri-tech platforms and other retailers reported that potato received during the initial period of the lockdown was also of low quality.

“ Potato is supplied to Haldwani from Punjab, and Uttar Pradesh (largely from the districts of Moradabad and Farrukhabad) from November onwards. Prices of Potato have been almost double that of last year, as harvesting was delayed due to unseasonal rains, lesser area under cultivation and there has been an overall decline in production this year. Immediately after the lockdown, there was a surge in demand of Potato since consumers as well as retailers wanted to store for uncertain times ahead. After a month of the lockdown, the demand of potatoes has now come down.

The supply chain was disrupted due to restriction in transport and hamal and rate of potatoes went up from almost Rs 600-700 per packet of 50 kgs to almost Rs.1000 per packet. Haldwani Mandi, usually sees a supply of 9-10 truckloads of Potato everyday which has come down to 5-6 truckloads during the period of lockdown.”

Jivan Singh Karti, President of Potato Traders Association, Haldwani, Uttarakhand

However, in the later days of the Lockdown, restrictions on supply of potato eased and a slump in demand has been observed due to the sharp drop in institutional consumption of potato across food processing industries, restaurants, hotels, chips, and wafer industries etc.

The chip-grade potatoes with varieties like 'Chipsona' and "LR", extensively grown in parts of Kannauj and Farrukhabad in Uttar Pradesh, have seen a sharp decline in demand. It was reported that after the initial purchase from Chip manufacturing companies after the harvest season, no new demand has originated from April-May unlike previous years. As a result of this slump in demand, the wholesale rates have started coming down in Uttar Pradesh.

A concern highlighted by some market players were that the monetary risk is much higher this time due to uncertainty in the markets. On one hand, the amount of money invested by traders was high due to higher procurement price of potato and on the other hand, the uncertainty of sources of credit looms large due to the lockdown. Thus, rotating working capital may not be easy for the market players associated with the Potato value chain. Combined with plummeting demand of potato, the coming months may be troublesome for market players.

Global effect and Exports

In 2017-18, the amount of exports of Potato from India was around 0.395 million MT worth Rs. 4118.25 million¹ with the major exporting countries being Nepal, Srilanka, Oman, Mauritius, Indonesia, Malaysia etc.

¹ All data regarding Potato production, yield, area under cultivation, per capita consumption, demand, and exports is sourced from Horticulture Statistics Division, Ministry of Agriculture and Farmer Welfare, Govt. Of India



“ Prices of Potato in Uttar Pradesh (Kannauj, Agra, Farrukhabad, Unnao and Etawah districts) have now come down due to slump in demand. The initial rate of potatoes was around Rs. 850-900 per packet which is now being traded at Rs. 650 -700. Hotels, Dhabas, Samosa and snack stalls, etc. are all closed now which has predominantly caused this demand slump. The trader fraternity does not think that the demand is going to rise soon. Annu Shukla, Potato trader, Kannauj, Uttar Pradesh shares that traders of these markets used to supply large quantities of 'Chipsona' and 'LR' varieties to companies like PepsiCo which manufactures chips and require chip-grade potatoes in addition to their contract farming supply. Now this has completely stopped after the lockdown.”

“There is a fall in demand of potato now. At this time of the year, the average supply from our cold storage was around 1500 packets (50 kgs per packet) per day which has come down to 500 packets per day now. Looking at the low demand, the stock of potatoes is easily going to last till December this year. Unlike previous years, the cold storages in West Bengal will remain open beyond the stipulated months and may cater to state’s domestic demand. This may restrict inflow of potatoes in West Bengal from other states like Uttar Pradesh and Bihar that used to cater demand of the state after the cold storages ceased their operations in West Bengal.

Since the initial rate of purchase by traders was high this year, it will not be viable for them to sell the same stock when prices are low. But traders and big farmers who had stored their potatoes are also eager to sell of their stocks at the earliest possible opportunity, even at low profits. The finance required by traders this year was also more due to high prices during harvest and they could not rotate the amount due to the lock down. So perceived financial risk is also high for traders this year.”

Nandalal Mukherjee, Owner of Nilkantha Himghar (Cold Storage), Raina, West Bengal.

The Indian export market of Potato constitutes a small portion of the total production pie. The major exporting countries are neighbouring SAARC and other Asian countries. While exports are expected to be disrupted because of several restrictions, but the overall impact will be low on the larger Potato dynamics of India. The US, Canadian and European markets of Potato are largely based on low starch varieties which are primarily used for processing. With rapid disruption in these markets as well, there are reports of farmers in these countries moving out of production in the coming seasons due to sharp fall in demand of processed food as well as a huge clog in the existing supply chain. Although difficult to predict at this moment, this may open-up export opportunities for low starch variety of Potatoes for processing to these countries. This would require establishing new systems, but international trade dynamics may trigger such possibilities in the near future.

4. Institutional support to farmers during Covid-19

As a matter of fact, Potato is one of the very few Rabi season crops where farmers have been relatively less affected by COVID-19, till now. The reason for this may be attributed firstly, to the presence of a strong physical infrastructure where 68% of the country’s cold storages store Potato and secondly, to the spike in demand of potatoes from all across the country immediately after the initial lockdown which prevailed for almost a month. The network of marketers and cold storages makes potato a staple and essential food unlike other tubers and vegetables.