



# AN ADVERSE EFFECT OF THE COVID-19 PANDEMIC ON AGRICULTURE MARKETS IN INDIA

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## -----ABSTRACT-----

*The ongoing pandemic had an adverse effect on the agriculture markets in India. During these challenging times, farmers were unable to take their produce to the Mandis (wholesale markets) and Haats (weekly markets), traders were unable to go to villages to buy the product and thus the farmers were forced to sell their produce within the villages at low prices. There are many official reports of the closing down of Mandis because several mandis have been identified as spreaders of Corona Virus which has become a major cause of disruptions in the sale of products and thereby disruption in the supply chain. The present article deals with problems related to agricultural production, marketing, and various problems that the COVID-19 pandemic has created in India. It also discusses the mitigation measures and declarations that have been made by the government so far to ensure less damage in the agriculture sector. Empirical evidence has been shown to disclose the pre and post-lockdown fluctuations in prices and arrivals of the major Foodgrains of India.*

**KEYWORDS:** COVID-19, Agricultural Production, Wholesale Markets.-----

## INTRODUCTION

The COVID-19 pandemic has impacted India's agriculture sector and economy in many ways. The imposition of the lockdown was too sudden that has resulted in a disruption in the functioning of the agricultural markets as the farmers were unable to take their produce to the mandis (wholesale markets) and haats (weekly markets), traders were unable to go to villages to buy the product and thus producers were forced to sell their produce within the villages at lower prices. Agricultural mandis are the major food suppliers and it has to function for ensuring the supply of agro goods. Thus the government exempted agricultural mandis from the lockdown restrictions soon after three days of lockdown but there was no availability of labor and safe transportation facilities for the farmers to sell their produce to the wholesale markets.

Further, according to various reports, several wholesale markets have been identified as spreaders of Coronavirus infection. Thus, a large number of agricultural mandis were shut down and as a result, the total market arrivals of food grains in 2020 were comparatively less than the previous year 2019. The fewer arrivals of produce in mandis have caused the disruptions in sale of produce thereby causing high prices to the ultimate consumers.

In all, the pandemic had hardly hit the economy of India. Thus it was crucial for the government to pay attention to the agriculture sector and to remove supply chain interruptions. However, the government had initiated different measures to minimize the impacts of the COVID-19 pandemic lockdown on the Agriculture Sector and the livelihoods of people which are listed below:

- i. Exemption of all farming and related industries from the lockdown restrictions.
- ii. Provision of farming supplies such as machinery, fertilizers, seeds, etc for farming.
- iii. Transportation services for agro goods within the state and inter-state are open.
- iv. Functioning of MSP (Minimum support price) operations including the food grain procurement.
- v. Resumption of MNREGA projects and raised the wage rate for workers.
- vi. Release of INR 2000 to bank accounts of farmers as income support under the PM-KISAN scheme



- vii. RBI relief measures: Agricultural term and crop loans have been granted a suspension of three months by banking institutions with a 3 percent concession on the interest rate of crop loans up to INR 300,000 for borrowers.
- viii. Pradhan Mantri Garib Kalyan Yojana: special scheme to take care of the vulnerable population
- ix. PM-CARES: Cash and food assistance to mostly the migrant laborers.

## **REVIEW OF LITERATURE**

The agriculture sector is known as the spine of the Indian economy which has been hit by the externalities of the Covid-19 explosion. The COVID-19 crisis has brought everything to a halt along with the agriculture sector. The harvest of the rabi crops has been delayed due to the non-availability of labor, transportation facilities, and restrictions on movements (Bhavani, 2020). The arrangement of both the Kharif and Rabi crops has been delayed which might cause a significant halt in the agrarian seasons in the future. Farmers of perishable commodities like fruits, vegetables, and flowers in particular have faced losses. According to the study of Chishti (2020), a large number of farmers from all over India have reported a yield loss and this was because of lockdown-related issues such as low market prices and inability to access their land due to travel restrictions. The farmers have also reported storing their crops instead of selling them due to the lockdown. As per the reports from various sources, the lockdown has impacted 56% of farmer's ability to prepare for the sowing season, 50% of farmers were not able to afford inputs like seeds and fertilizer and 38% have complained about labor shortages. A study by Arumugam et al. (2020) claimed that the poor segments of society are always the hardest hit in any disaster or pandemic circumstance.

The Corona pandemic has affected the agribusiness item store network which is a web of producers, transporter, distributor, retailer lastly the customer. Thus, there is a disruption in supply chains which has affected retail and wholesale prices of the goods (Mukul, 2020). During the pandemic period, agricultural goods were not moving which formed an excess of stocks. Wholesale prices depend on the movements of agricultural products from the production points to the consumption points. Thus, wholesale price trends depend on the movement of the Agri-goods. According to the data, during the pandemic period, prices of essential commodities raised more than double the rise from the previous year's level. Thus, volatility in prices has affected consumers due to the irregular release of supplies. (Rawal & Verma, 2020) have presented quantitative evidence from 1331 mandis which shows that over the first three weeks of the COVID-19 lockdown, a large number of agricultural markets were not operational and arrivals of main agricultural commodities fell very sharply and due to which only 6 percent of the wheat was sold during the 21 days of the first phase of the lockdown as compared with the same period last year. The arrivals of several crops were higher than last year in the pre-lockdown period but slowed down very sharply after the lockdown was imposed. Further, (Rawal et al., 2020) have discussed how the agriculture and rural economy of India have been impacted by the COVID-19 lockdown and analyzed daily data on market arrivals and prices for commodities like wheat, chickpea, mustard, potato, onion, tomato, and cauliflower, and found that the arrivals of these commodities are less than the previous year and for these crops, prices were considerably below MSP in all the mandis and the situation has been much worse for some of the perishable commodities as there is no MSP for these crops.

## **OBJECTIVES**

The present article deals with problems related to agricultural production, marketing, and various problems that the COVID-19 pandemic has created in India. It also discusses the mitigation measures initiated by the government so far to ensure less damage in the agriculture sector. And lastly, empirical evidence has been shown to disclose the pre and post-lockdown fluctuations in prices and arrivals of the major Food grains of India.

## **METHODOLOGY**

The present paper uses data on daily arrivals and prices of three important Foodgrains (Rice, Wheat, and Gram) which cover several mandis of major growing states like West Bengal, Uttar Pradesh, and Madhya Pradesh. Data on these crops have been compiled for January 1-June 30 of the year 2019 and 2020. The collected data have been analyzed using descriptive statistical tools.

## **RESULTS AND DISCUSSION**

(1) Rice: India is the world's second-largest producer of Rice. West Bengal is one of the major rice-growing states in India. Different mandis from West Bengal have been selected based on the availability of data.



**Table 1: Price (Rs/quintal) and Arrival (Thousand Tones) of Rice in West Bengal**

Rice: Price and Arrival from West Bengal (Jan-June, 2019-2020)				
Month	Avg. Arrival (2019)	Avg. Arrival (2020)	Avg. Price (2019)	Avg. Price (2020)
Jan	68.66	26.15	2887.22	2936.31
Feb	58.89	34.24	2894.24	2946.19
March	54.46	30.01	2943.75	2853.22
April	47.22	24.98	2878.21	2938.38
May	32.41	22.36	2955.87	3012.21
June	51.09	25.05	2862.60	2885.00

Source: Computed using the data on the website of Agmarknet (<https://agmarknet.gov.in/>)

Table 1 provides information on prices and arrivals of rice from the mandis of West Bengal. Data has been taken from 2019 and 2020 for the same period i.e. January-June.

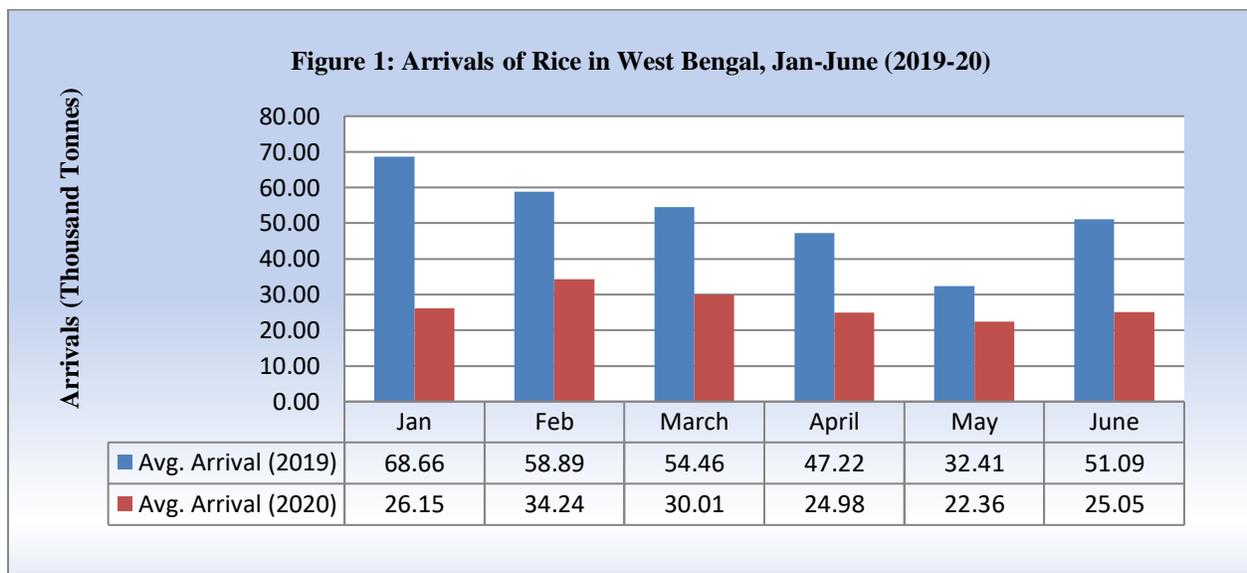


Figure 1 shows arrivals of rice in mandis of West Bengal for the same period i.e. Jan-June in the year 2019 and 2020 and it is found that the average arrivals in 2019 were comparatively higher than in 2020. The percentage decline in the number of arrivals in January, February, March, April, May, and June between 2019 and 2020 is 61%, 41%, 44%, 47%, 31%, and 50% respectively. Thus in comparison with last year, the arrival of rice fell sharply and this might be because not all mandis were functional during the period of the lockdown. The overall percentage decline between 2019 and 2020 in the arrivals of rice in West Bengal is 47%.

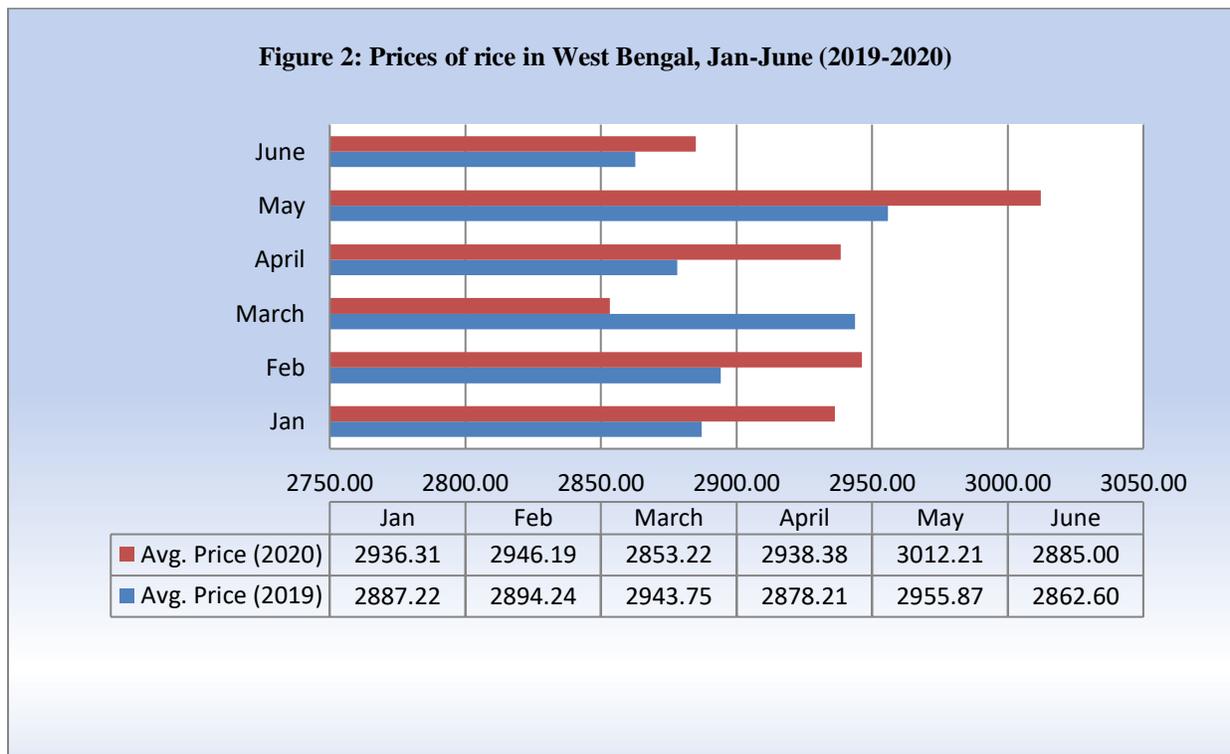


Figure 2 shows that as a result of the decline in the number of arrivals, except in March, there is an increase in the prices of rice in mandis of West Bengal. The prices of rice increased in January, February, April, May, and June by 1.7%, 1.79%, 2%, 1.9%, and 2.8% respectively between the years 2019 and 2020. Thus in comparison with last year, the prices of rice rose slightly. The overall percentage incline between 2019 and 2020 in the prices of rice in West Bengal is 0.86%.

(2) Wheat: India is the world's second-largest producer of Wheat. Uttar Pradesh is one of the major wheat-growing states in India. Different mandis from Uttar Pradesh have been selected based on the availability of data.

**Table 2: Price (Rs/quintal) and Arrival (Thousand Tones) of Wheat in Uttar Pradesh**

Wheat: Price and Arrival from Uttar Pradesh (Jan-June, 2019-20)				
Month	Avg. Arrival (2019)	Avg. Arrival (2020)	Avg. Price (2019)	Avg. Price (2020)
Jan	42.82	44.85	1842.67	1987.54
Feb	43.56	44.33	1888.14	2020.03
March	36.73	29.36	1904.91	1990.05
April	43.73	38.25	1872.94	2038.90
May	246.47	254.16	1823.40	1920.20
June	193.42	152.41	1834.29	1916.16

Source: Computed using the data on the website of Agmarknet (<https://agmarknet.gov.in/>)

Table 2 provides information on prices and arrivals of wheat from the mandis of Uttar Pradesh. Data has been taken from 2019 and 2020 for the same period i.e. January-June.

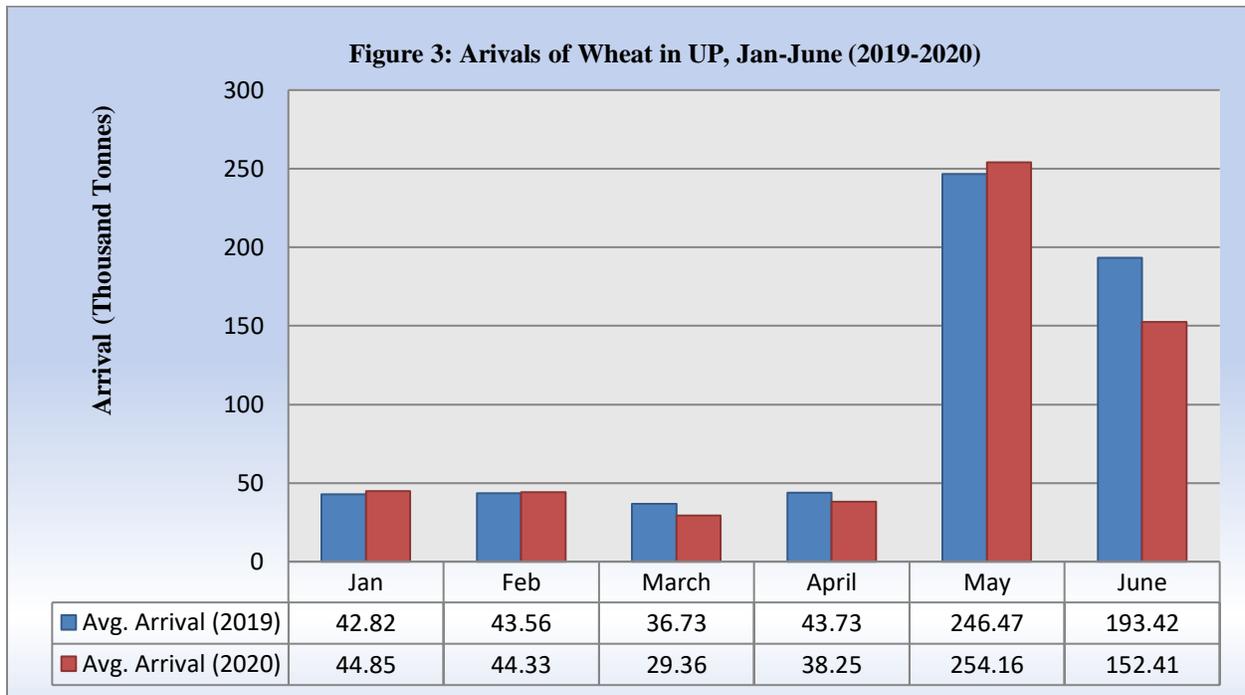


Figure 3 shows that in the mandis of Uttar Pradesh, arrivals of wheat for January and February 2020 are higher than in 2019. However, from March onwards, the percentage of arrivals has decreased. This is because the lockdown was announced in March and many mandis were closed during the lockdown period. The percentage decline in the number of arrivals in March, April, and June between 2019 and 2020 is 20%, 12%, and 21% respectively. Thus in comparison with last year, the arrival of wheat fell by 7%.

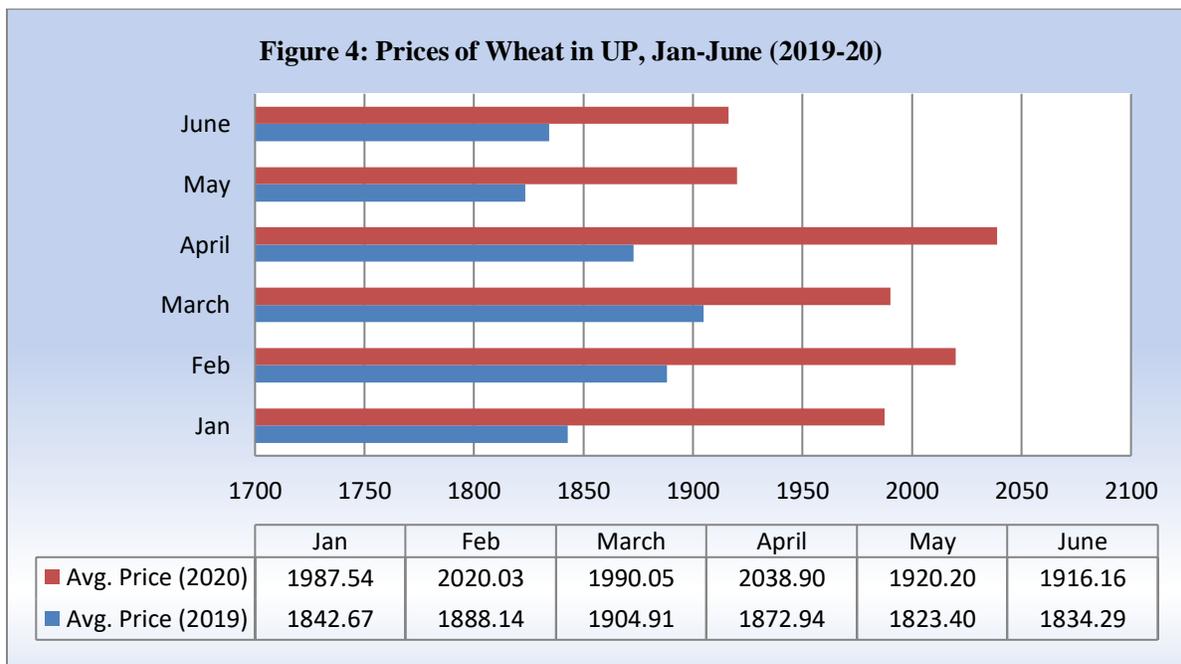


Figure 4 shows that as a result of the decline in the number of arrivals, there is an increase in the prices of wheat in the mandis of Uttar Pradesh. This might be because of disruptions in the supply chain due to a shortage of labor,



restrictions on transportation services, and closed mandis after a sudden lockdown. The prices of rice have increased by January, February, March, April, May, and June by 7%, 6%, 4%, 8%, 5%, and 4% respectively between the years 2019 and 2020. The overall percentage incline between 2019 and 2020 in the prices of rice in West Bengal is 6.4%.

(3) Gram: India is the world's first largest producer of Pulses and Gram is one of the most produced pulses in India. Madhya Pradesh is one of the major Gram growing states in India. Different mandis from Madhya Pradesh have been selected on the availability of data.

**Table 3: Price (Rs/quintal) and Arrival (Thousand Tonnes) of Gram in Madhya Pradesh**

Gram: Price and Arrival from Madhya Pradesh (Jan-June, 2019-20)				
Month	Total Arrival (2019)	Total Arrival (2020)	Price (2019)	Price (2020)
Jan	8.6	5.9	4100	4052
Feb	1359.4	11.5	4091	3691
March	236.6	0	3712	0
April	0	0	0	0
May	110.37	1.5	3720	4875
June	148.6	93.4	3950	4875

Source: Computed using the data on the website of Agmarknet (<https://agmarknet.gov.in/>)

Table 3 provides information on prices and arrivals of Gram from the mandis of Madhya Pradesh. Data has been taken from 2019 and 2020 for the same period i.e. January-June.

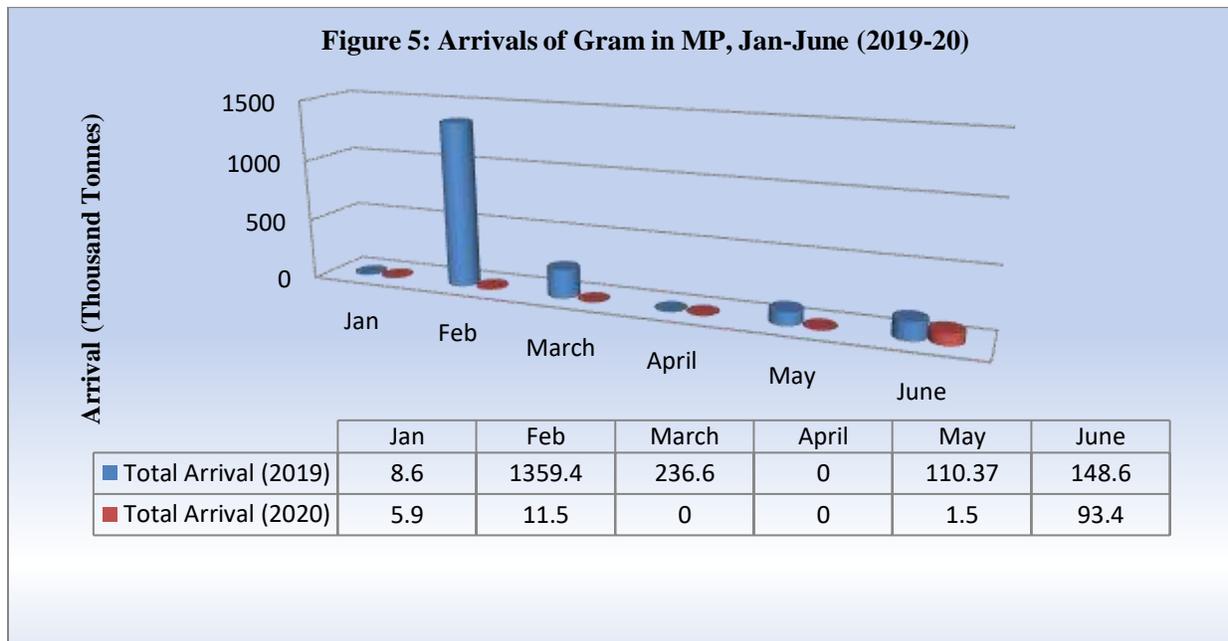


Figure 5 shows total arrivals of Gram in mandis of Madhya Pradesh is nil during March and April 2020. The imposition of lockdown is the main reason behind it. In the year 2020, the arrivals of grams both in the pre and post-lockdown are lower than last year. The percentage decline in the number of arrivals in January, February, March, May, and June between 2019 and 2020 is 31%, 99%, 100%, 98%, and 37% respectively. Thus in comparison with last year, the arrival of grams fell sharply by 93%.

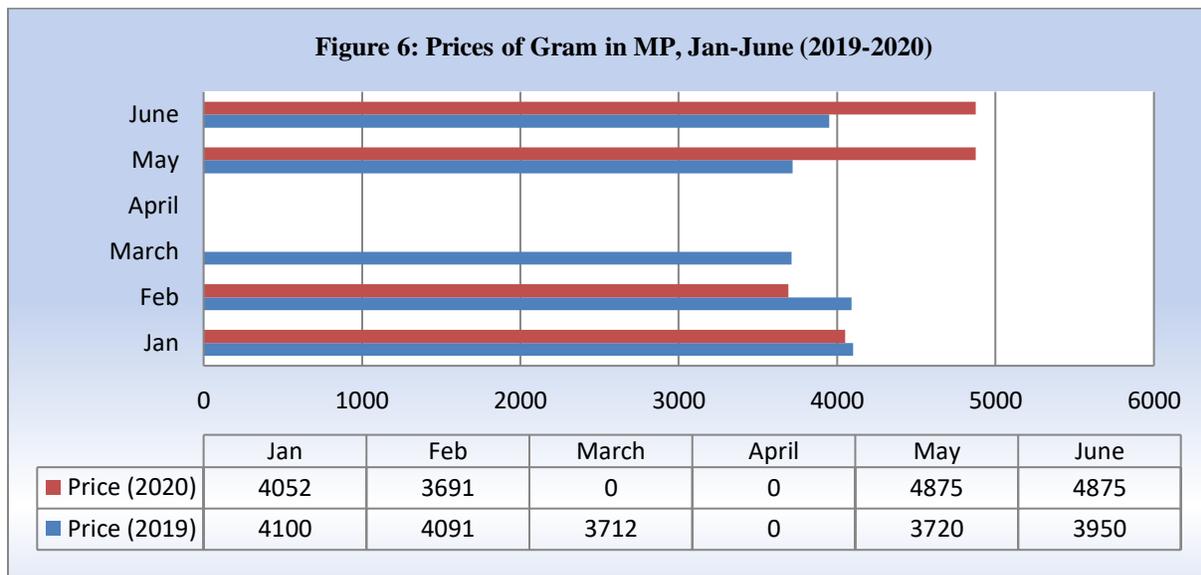


Figure 6 shows an increase in the volatility of prices of Gram during the period of post-lockdown. In January - February (2020), the prices of Gram were less than last year but after the imposition of lockdown i.e. from March, the arrivals have been stopped and thus the prices also went up. The prices of grams increased in May and June by 31 % and 23% respectively between the years 2019 and 2020. The overall percentage incline between 2019 and 2020 in the prices of grams in Madhya Pradesh is 10.7%.

### CONCLUSION

The nationwide lockdown due to the COVID-19 pandemic has harmed the agriculture marketing sector in India as it restricted the movement of goods and thus impacted the supply chain of agricultural produce which has led to huge losses across India. In the present study, the comparison is made between the same months of the year 2019 and 2020. A clear picture is seen in the arrivals of all three Foodgrains during the pre and post-lockdown period in the current year. The overall percentage decline between 2019 and 2020 in the arrivals of rice in West Bengal is 47%, wheat in Uttar Pradesh is 7%, and Gram in Madhya Pradesh is 93%. The degree of the decline in arrivals varied across Foodgrains. It is noteworthy that arrivals of wheat were higher than last year in the pre-lockdown period, the arrivals slowed down very sharply after the lockdown was imposed. There was a 3% increase in the arrivals of wheat during pre lockdown period while an 8% drop in the arrivals of wheat in post lockdown period. This is because India has large stocks of wheat. However, for all the Foodgrains covered in this study, there is a distinct fall in arrivals after the lockdown was imposed.

As a result of the decline in the number of arrivals, there is an increase in volatility of the prices of Foodgrains in mandis of the selected states. The overall percentage incline between 2019 and 2020 in the prices of rice in West Bengal is 0.86%, wheat in Uttar Pradesh is 6.4%, and Gram in Madhya Pradesh is 10.7%. This is because of the disruptions in the supply chain caused by a shortage of labor, restrictions on transportation services, and closed mandis during the lockdown period. There are disruptions in the working of agricultural markets and the poor sections of society are always the victims of any disaster or pandemic situation. Hence the Government should focus on these sections and it is therefore required to formulate suitable policies to first restore the functioning of agricultural markets and improve them.

### POLICY SUGGESTIONS

For pandemics like this, the government should be more prepared with cold storage facilities, foodgrains banks, and subsidized agriculture inputs to prevent food crises in the future. All the farmers and traders should be encouraged to utilize eNAM (online trading) to avoid physical presence at the mandis. The government needs to plan policies to expand procurement to cover more crops. There should be fewer restrictions of the APMC act so that the farmers are



free to sell their produce directly to consumers anywhere in the state without any license during the lockdown period to ease the burdens.

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