



Effect of COVID-19 Pandemic on the Market Price of Jute in India

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Abstract

Jute is an important natural fiber crop cultivated in about 4 million hectares in India. Jute has the major export potential contributing to Rs. 1, 000 to 1,200 crores annually. During the on-going pandemic COVID-19, the procurement is still lesser than the usual amount. As a result of the increase in demand for jute bags, there was an increase in the price of jute bags. But, the effect of COVID-19 on the prices of raw jute in the markets was not explored as most of the concerns are directed towards the jute industry and workers. Therefore, the study was carried out to assess the effect of COVID-19 pandemic on the market price of jute. The secondary data of market price and market arrival of jute before COVID-19 pandemic and during COVID-19 pandemic were collected from the official website of the Directorate of Marketing & Inspection (DMI), Ministry of Agriculture and Farmers Welfare, Government of India for Champadanga (Hooghly), Jiaganj (Murshidabad), Katwa (Burdwan) markets in West Bengal and the data were analyzed using descriptive and inferential statistics. Despite the price decrease during the pandemic, there was no significant difference in the price of jute before and during the COVID-19 pandemic. There were many variations in the market price of jute during the COVID-19 pandemic since the lockdown was enforced in five stages with strict restrictions in transport and other activities in the initial stages followed by relaxation in transport and other activities subsequently. There was a significant difference in the market arrivals of jute before and during the COVID-19 pandemic. The arrival of jute in the market increased during COVID-19 compared to before COVID-19 because of the demand created for jute bags during lockdown due to closure of jute mills. There was a significant relationship between market price and market arrival during the COVID-19 pandemic. As the quantity of jute arrival increases the price of jute decreases in the market. Farmers did not bear the brunt of COVID-19 as much as the workers in the jute mills, it is, perhaps, because of the schedule of sowing and harvesting. As of now, the MSP for jute is less than the market price. Therefore, it is recommended that the MSP for jute should be increased to safeguard the interests of the jute farmers.



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Introduction

The pandemic COVID-19 has slapped all the sections of life. The hardiness of the agricultural sector has been tested by the COVID-19 outbreak. The farmers, who continued to suffer, worked hard to feed the society (Nicola, 2020). Till now, the disruptions in the food supply chain are less. During this pandemic, transport restrictions affected market access; shortage of labor disrupted production; closure of food outlets resulted in low market demand (FAO, 2020b). This is common for all enterprises and production in agriculture including fiber crops.

In India, the issues generated by the COVID-19 pandemic are add-ons to the farm sector that is already threatened by low and erratic rainfall, price fluctuations, and increasing debts of farmers. The lockdown due to the COVID-19 pandemic created huge shortages in labor requirements as migrant laborers moved to their native rural villages. Therefore, farmers could not harvest the crop in time and some have abandoned it. The supply chains have been affected due to restrictions in the movement of transport vehicles and closure of markets. At the beginning of the lockdown, the prices of agricultural commodities increased due to panic buying. But, as the lockdown progressed, the prices of fruits, vegetables, and other agricultural produces crashed due to less demand as the restaurants were closed (Ananth, 2020; Khan, 2020; Maggo, 2020; Nieuwsbericht, 2020). The Ministry of Railways, Gol, reported that the volume of cargo declined to 3,400 racks from 10,000 a day (Khan, 2020). These things forced the farmer to sell the produce at throw-away prices offered by the traders.

Jute is natural fiber mainly a rainfed annual crop that can be cultivated in smallholdings with relatively small quantities of inputs, such as fertilizer and pesticides. The world's jute production was 3633550 tonnes in 2018 (FAO, 2020a). Jute production is a labor-intensive cultivation. Because of these, jute production is predominant in Bangladesh, India, China, and Thailand, which from 1998-2000, together accounted for more than 95 percent of world production, compared to a share of 90 percent in the early 1970s. (FAO, 2010). About 4 million hectares in India is occupied with Jute. West Bengal is the leading exporter & producer of jute, grown in the regions of the delta of Ganges, Brahmaputra &

Megna River in the north & east regions of Bengal. Jute is the Bengal's leading commercial crop and used to make ropes, bags, sacks, carpets, Boot linings, tarpaulins, etc. Jute has the major export potential contributing to ₹1,000 to 1,200 crores annually. It is also considered as "Golden fiber" among other fibers. The total production of raw jute in the country is about 10.58 million bales of 180 kg each.

Statement of Problem

Several lakhs of people are dependent on the jute industry for their livelihood (Sinha, 2020). The livelihood of workers and farmers of the golden fiber is at stake because the jute sector has incurred an estimated loss of ₹1,250 crores in the wake of the lockdown (PTI, 2020a) and putting lakhs of its workers out of jobs and income (Singh, 2020). This sector contributes ₹6,500 crores to the West Bengal's GDP and 40 lakh farmers and three lakh workers at the jute mills are associated with the industry (PTI, 2020a).

May is the peak time for these mills as jute bag packaging is mandatory for food grains. Also, up to 20 percent of sugar packaging has to be done in jute bags (Acharya, 2020). With the harvest season nearing, the states as well as the Food Corporation of India are now looking up to Bengal for jute sacks. The Central Government and other states have asked the West Bengal Government to allow jute mills to resume work (Thakur and Bhattacharya, 2020).

Food Corporation of India and state procurement agencies require jute bags urgently given the arrival of food grains for RMS (Rabi marketing season) 2020-21. The Indian Jute Mills Association has sought exemption from the Centre to resume their operations during the 21-day nationwide lockdown imposed to contain the coronavirus outbreak, saying that shortage of jute bags could lead to a disruption of food grain supply (PTI, 2020b).

It was estimated that 1.5 lakh tonne of jute goods production with a value of ₹1,250 crores has already been lost. As a result of this, about 3 lakh bales of jute bag orders have been diverted to the plastic industry and this may affect the jute industry since it has to pay a larger cost in the future (Thakur and

Bhattacharya, 2020). Prices of raw jute have come down as most mills remained closed. The jute fiber price for TDN3 grade has fallen below the minimum support price of ₹4,225 per quintal. The carry-over raw jute is now expected to be over 22 lakh bales

by the end of the 2019-20 crop year (PTI, 2020a). The Bengal government on April 15 allowed the jute industry to operate with 15 percent of its regular workforce from April 20 (Thakur and Bhattacharya, 2020).

Table 1: Total Production of Jute in India

Year	Area Million hectares	Production Million tonnes	Yield Kg/ hectare
2000-2001	1.02	10.56	1868
2001-2002	1.05	11.68	2007
2002-2003	1.04	11.28	1960
2003-2004	1.00	11.17	2008
2004-2005	0.92	10.27	2019
2005-2006	0.90	10.84	2173
2006-2007	0.94	11.27	2170
2007-2008	0.96	11.21	2101
2008-2009	0.90	10.37	2071
2009-2010	0.91	11.82	2349
2010-2011	0.87	10.62	2197
2011-2012	0.90	11.40	2280
2012-2013	0.86	10.93	2281
2013-2014	0.84	11.68	2512
2014-2015	0.81	11.13	2473
2015-2016	0.78	10.52	2421
2016-2017	0.76	10.96	2585
2017-2018	0.74	10.14	2481

Source: Gol (2018)

Table 2: Domestic consumption of Jute Goods: (Quantity in 000' M.T)

S.No	(April/March)	Hessain	Sacking	CBC	Others	Total
1.	2018-2019	130.5	900.0	0	82.7	1113.2
2.	2017-2018	141.9	894.2	0	76.5	1112.6
3.	2016-2017	140.9	855.9	0	78.9	1075.7
4.	2015-2016	164.2	890.2	0	90.2	1144.6
5.	2014-2015	171.7	873.3	0	111.4	1156.3
6.	2013-2014	157.6	1043.1	0.4	126.4	1327.5
7.	2012-2013	165.8	1118.7	0.8	113.9	1399.0
8.	2011-2012	184.2	1079.7	0.9	117.1	1381.9
9.	2010-2011	182.3	1034.4	10.9	133.4	1351.5
10.	2009-2010	182.6	879.8	1.2	141.9	1205.5
11.	2008-2009	249.8	1043.0	0.3	142.5	1435.6

Source: MoT (2019)

Table 3: Jute Processing units in India (April 2018 –March 2019) (Qty.in 000'M.T)

State	Hessain	Sacking	Others	Total	No. of Operational Mills submits Returns
AP	0.0	30.0	4.4	34.4	7
UP	2.8	1.7	1.1	5.6	1
Bihar	0.0	0.0	0.0	0.0	1
Odisha	0.0	5.6	5.0	10.6	2
Assam	0.1	10.3	0.0	10.4	2
Chattisgarh	0.0	11.8	0.0	11.8	1
Tripura	0.0	0.3	0.0	0.0	1
West Bengal	144.7	852.9	90.8	1088.4	60
Total	147.6	912.6	101.3	1161.2	75

While jute mills have been tasked with supplying bags worth about ₹1,500 crores to different states ahead of Rabi harvesting, the West Bengal government's relaxation to allow them to operate with 15 percent workforce, will enable them to meet just 15-20 percent of total demand. The mills have a pending order book of processing close to 600,000 bales of jute. This apart, jute mills are also getting several export enquires, but are unable to meet the demand. Apart from domestic demand, over the years, demand for finished jute products has increased in the overseas markets, particularly the US. India also exports jute bags to several coffee-producing countries. Exports have grown from 30 million in 2013-14 to 56 million in FY19 (Thakur and Bhattacharya, 2020).

During the on-going COVID-19 pandemic, the procurement is still lesser than the usual amount. As a result of an increase in demand for jute bags, there was an increase in the price of jute bags. But, the effect of COVID-19 on the prices of raw jute in the markets was not explored as most of the concerns are directed towards the jute industry and workers. Therefore, the study was carried out to assess the effect of COVID-19 pandemic on the market price of jute.

Methods

The article is substantiated with information from secondary sources. The data regarding market price and market arrival of jute before COVID-19 pandemic (from 01 December 2019 to 25 March 2020) and during COVID-19 pandemic (26 March to 01 June

2020) was collected from the official website of the Directorate of Marketing & Inspection (DMI), Ministry of Agriculture and Farmers Welfare, Government of India (<https://agmarknet.gov.in/>) for Champadanga (Hooghly), Jiaganj (Murshidabad), Katwa (Burdwan) markets in West Bengal and the data were analyzed using descriptive and inferential statistics.

Null Hypothesis 1 - H_0 : There was no significant difference in the prices of jute before and during the COVID-19 pandemic.

Null Hypothesis 2 - H_0 : There was no significant difference in the market arrivals of jute before and during the COVID-19 pandemic.

Null Hypothesis 3 - H_0 : There was no significant difference between the market arrival and price of jute.

Results and Discussion

The results of the secondary data analysis are presented in this section.

The Market Price of Jute Before COVID-19 Pandemic

The mean market price of jute before the COVID-19 pandemic was ₹4175.9615 with a standard deviation of 37.28711. It is inferred that there were not many variations in the market price of Jute before the COVID-19 pandemic.

The market price of Jute during COVID-19 Pandemic The mean market price of jute during the COVID-19 pandemic was ₹4161.2308 with a standard

deviation of 196.02700. It is inferred that there was much variation in the market price of jute during the COVID-19 pandemic since the lockdown was enforced in five stages with strict restrictions in

transport and other activities in the initial stages followed by relaxation in transport and other activities subsequently.

Table 4: The market price of Jute before COVID-19 Pandemic

Range	Minimum	Maximum	Mean	Std. Deviation
250.00	4000.00	4250.00	4175.9615	37.28711

Source: Analysed by the researchers (2020)

Table 5: The market price of Jute during COVID-19 Pandemic

Range	Minimum	Maximum	Mean	Std. Deviation
540.00	3860.00	4400.00	4161.2308	196.02700

Source: Analysed by the researchers (2020)

Market Price before and during COVID-19 Pandemic

Further, it is revealed that there was not much difference in the mean market price of jute before and during the COVID-19 pandemic (₹4175.9615 and ₹4161.2308 before and during respectively) even though the decrease in price was noticed during a pandemic. The 't' test result shows that the p-value is >0.05 and therefore, there was no significant

difference in the price of jute before and during the COVID-19 pandemic. Hence, the null hypothesis was accepted. This finding is in line with the report of PTI (2020) that prices of raw jute have come down as most mills were closed. Despite the price decrease, the difference was statistically non-significant. The jute fiber price for TDN3 grade has fallen below the minimum support price of Rs 4,225 per quintal.

Table 6: The market price of Jute before and during COVID-19 Pandemic

	Mean	Std. Deviation	N	't' value	'p' value
MPBCOVID	4175.9615	37.28711	104	.000	1.00NS
MPDCOVID	4161.2308	196.02700	65		

Source: Analysed by the researchers (2020)

NS-Non-significant

Market arrival of Jute before COVID-19 Pandemic

The mean market arrival of jute before the COVID-19 pandemic was 10.0962 quintals with a standard

deviation of 6.38493. It is inferred that there was not much variation in the market price of jute before the COVID-19 pandemic.

Table 7: Market arrival of Jute before COVID-19 Pandemic

Range	Minimum	Maximum	Mean	Std. Deviation
25.00	.00	25.00	10.0962	6.38493

Source: Analysed by the researchers (2020)

Market arrival of Jute during COVID-19 Pandemic

The mean market arrival of jute during the COVID-19 pandemic was 18.5385 quintals with a standard deviation of 11.84018. The arrival in jute in the market

increased during COVID-19 compared to before COVID-19 because of the demand created for jute bags during the lockdown.

Table 8: Market arrival of Jute during COVID-19 Pandemic

Range	Minimum	Maximum	Mean	Std. Deviation
34.00	.00	34.00	18.5385	11.84018

Source: Analysed by the researchers (2020)

Market Arrival before and during COVID-19 Pandemic

Further, it is revealed that there were differences in the mean market arrival of jute before and during COVID-19 pandemic (10.0962 and 18.5385 quintals before and during respectively). The 't' value is 5.749 and the p-value is .000 which shows that the p-value is < .01 and therefore, it is concluded that there was a significant difference in the market arrivals of jute

before and during COVID-19 pandemic. Hence, the null hypothesis was rejected. It was reported by the Hindu Data Team (2020) that market arrivals dropped to very low levels during the first phase of the lockdown through subsequent phases saw a marginal revival. In the case of jute, it was found that the market arrivals increased during the COVID-19 pandemic.

Table 9: Market arrival of Jute before and during COVID-19 Pandemic

	Mean	Std. Deviation	N	't' value	'p' value
MABCOVID	10.0962	6.38493	104	5.749	.000**
MAACCOVID	18.5385	11.84018	65		

Source: Analysed by the researchers (2020)

** Significant at less than 1% probability level

Relationship between Market Price and Market Arrival before COVID-19 Pandemic

It is revealed from the results presented in Table 9 that there was no significant relationship between

market price and market arrival before the COVID-19 pandemic.

Table 10: Relationship between Market Price and Market Arrival before COVID-19 Pandemic

		MPBCOVID	MABCOVID
MPBCOVID	Pearson Correlation	1	.000
	Sig. (2-tailed)		.997
	N	104	104
MABCOVID	Pearson Correlation	.000	1
	Sig. (2-tailed)	.997	
	N	104	104

Source: Analysed by the researchers (2020)

Relationship between Market Price and Market Arrival during COVID-19 Pandemic

It is revealed from the results presented in Table 11 that there was a significant relationship between market price and market arrival during the COVID-19 pandemic. The 'r' value is -0.818 and significant at less than a 1% probability level. Hence, the null

hypothesis was rejected. The negative 'r' value shows that as the quantity of jute arrival increases the price of jute decreases in the market. This finding is similar to the findings reported by Patel and Patel (2013), Kumar *et al.*, (2005), Chitra (2000), Awasthi (1985), Muniyandi (1985), and Dinakar (1990).

Table 11: Relationship between Market Price and Market Arrival during COVID-19 Pandemic

		MPDCOVID	MADCOVID
MPDCOVID	Pearson Correlation	1	-.818**
	Sig. (2-tailed)		.000
	N	65	65
MADCOVID	Pearson Correlation	-.818**	1
	Sig. (2-tailed)	.000	
	N	65	65

Source: Analysed by the researchers (2020)

Conclusions and Recommendation

There was much variation in the market price of jute during the COVID-19 pandemic since the lockdown was enforced in five stages with strict restrictions in transport and other activities in the initial stages followed by relaxation in transport and other activities subsequently. There was not much difference in the mean market price of jute before and during the COVID-19 pandemic even though the price was lower during the pandemic. The arrival of jute in the market increased during COVID-19 compared to before COVID-19 because of the demand created for

jute bags during lockdown due to closure of jute mills. There were variations in the mean market arrival of jute before and during the COVID-19 pandemic. There was a significant relationship between market price and market arrival during the COVID-19 pandemic. As the quantity of jute arrival increases the price of jute decreases in the market. Raw jute arrivals pick up gradually from August onwards (Sinha, 2020). Therefore, farmers did not bear the brunt of COVID-19 as much as the workers in the jute mills, it is, perhaps, because of the schedule of sowing and harvesting. The Minimum Support Price

(MSP) for jute has been raised by the Union Cabinet to ₹3950 per quintal for 2019-20 seasons from ₹3700 per quintal last year. In this price, there would be no immediate gain for the farmers since the MSP is less than the market price. The Commission for Agriculture Costs and Prices has suggested a 7% increase in the MSP for the jute to Rs. 4,225 per 100 kg in 2020-21. Therefore, it is recommended that the MSP for jute should be increased to safeguard the interests of the jute farmers.

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Conflict of Interest

The authors declare that no conflict of interest exists in the publication of this research work.

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