ANALYSIS OF PRICE CHANGES OF AGRICULTURAL PRODUCT DURING COVID-19

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ABSTRACT

According to the 2019's PPPs International Comparison Program and United Nations Millennium Development Goals (MDG) programme, nearly 80 million people out of 1.2 billion Indians, somewhat equal to 6.7% of India's population, lived below the poverty line of $1.25 in 2018–19. By this data we can easily come through knowledge that a large amount of people in Indiaare highly price sensitive. Such that a slight change in price would affect the purchasing capacity of people.

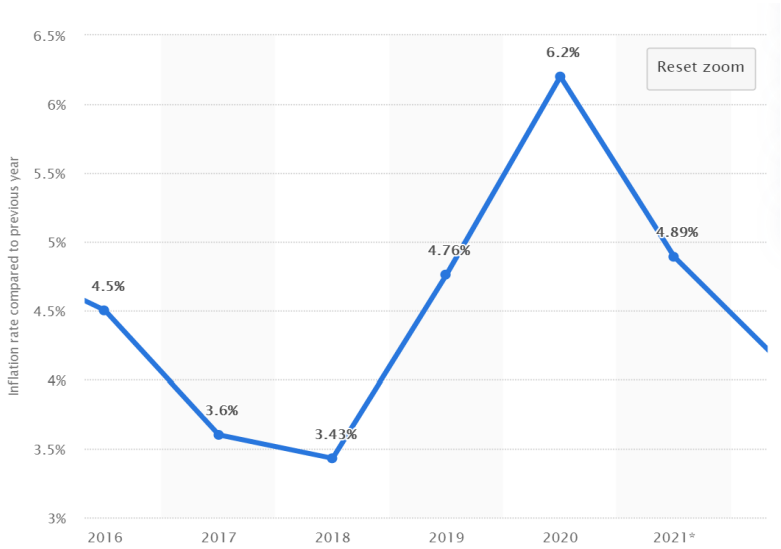
INTRODUCTION

The Covid-19 pandemic has affected the agricultural market and left lasting consequences. The OECD analysis highlights how slowing economic growth could affect food security, farmers' livelihoods, greenhouse gas emissions and trade. The magnitude of these effects depends on the severity of the global GDP decline. Based on two economic recovery scenarios, this document describes how the economic shock caused by the pandemic could affect the agricultural sector over the next decade. Our analysis shows that lower economic growth will lead to lower overall food consumption. Falling income leads to a decrease in per capita caloric needs. Not surprisingly, the pandemic has caused major disruptions in global and regional food supply chains and is likely to exacerbate food crises in many countries. However, little is said about the impact of the COVID-19 pandemic on food prices.

OVERVIEW OF LITERATURE

Agriculture plays a role of backbone of Indian economy as far we considered first economic plan made in1951 which paid high attention in development of agriculture for fulfilment of basic requirements. Any disruption in agriculture due to various reasons such as draught and flood leads to economic consequences.The main economic consequences of reoccurring drought, crop failure due to climatic conditions and famine were found to be declines in agricultural production that led to increases in imports of food items, reductions in agriculturally based manufacturing activities and subsequent declines in agricultural exports. These negative impacts on the economic conditions were clearly reflected in unfavourable, growth rates in the GDP.because of these reasons agriculture has been always a veryimportant factor in Indian economy. In hard situation like covid 19 agriculture is the one of the very few sectors which has been affected the most. However, Production is not affected the most butrisks from the COVID-19 pandemic are putting new challenges in front of a sector that is already under threat.The lockdown created both a shortage of labour and equipment due to migration of labour.farmers have not been able to harvest their bumper crops of cereal and oilseed harvest this season.

This was not the limit of problems for farmer. Worst problem faced by farmer was that they did not gate the justiciable price of their product due to non-availability of purchasers in market leading them to sell their non-durable products like green pea, Tomato etc at a unworthy less price. However, one could easily say that sales of agricultural product at less rice would result in less price in retail market as well, which would be advantageous for common people. But things did not go as such because price prevailing during covid period were mind crushing.



Source:https://www.statista.com/statistics/271322/inflation-rate-in-india

According to Statista inflation of India was 6.2 in last 5 years.this this research we would try to answer the question that if farmer did not get price and customer is has paid higher rate than where is the economic blockage and also analyse the significance of relationship between both of them.

RESEARCH OBJECTIVE

Normallypricing of goods are controlled by demand and supply of the good, but question arises that even total production has not been affected drastically such as in 2019-20 crop year; food grain production reached a record of 296.65. In 2019-20, total Food grain production in the country is estimated at record 295.67 million tonnes which is higher by 10.46 million tonnes than the production of food grain of 285.21 million tonnes achieved during 2018-19. This shows that agriculture sector has performed quite well and amount of production should not have let inflation to rise. But then also inflation raised which is a matter of research. In this research our main objective is to analyse the relationship between the change in price at which far er is selling their product in market and the price in which consumer is getting those goods in market. Here we will discuss various causes and their effect in change in price of commodities. For this researcher has sub divided the objective of this research in following sub-objective?

(1) To determine the various causes of change in price of agricultural product sold by farmers in market.
(2) To analyse various causes and their effect in price of goods for consumers in retail market in period of covid 19
(3) To analyse the relationship between change in price of product sold by farmer and purchased by consumer in retail market

RESEARCH HYPOTHESIS

A research hypothesis is a specific, clear, and examinable proposition or predictive assertion about the feasible consequence of a scientific study based on a precise property of a population, such as presumed variations between subjects on a specific variable or relationships between variables. Specifying the research hypotheses is one of the most essential steps in planning a scientific quantitative research study. A quantitative researcher commonly states a prior expectation about the effects of the research about in one or greater research hypotheses before conducting the study, because the blueprint of the research regularly is determined by way of the stated hypotheses.not

1. As we have seen in earlier studies that during covid 19 farmers is not getting handsome price of their agricultural production due to various reasons. In this research we would try to find out that covid 19 had affected prices or not. So, the first hypothesis researcher has formulated is as follows

   H_{01}: There is no significant effect of covid 19 upon the selling price of agricultural product in hand of farmer
2. As we have read earlier that duringpandemic price of various retail goods including food grain rose to its highest level. In this research we would try to answer the question arisingabout the reason behind the change in prices. So, the second hypothesis formulate is as follows

   H_{02}: There is no significant effect of covid 19 upon the cost of various agriculture-based food items for common consumer
3. The main aim of this research is to study the relationship between change in farmers production and cost for consumer in retail market.as we show earlier that somehow the price change is not following the demand and supply theory because there areunexpected changes in price in spite of sufficient production and supply. So, the 3rd hypothesis is called as follows

   H_{03}: there is no significant relationship between price change of agriculture product in hand of farmer and cost in hand of consumer.

RESEARCH METHODOLOGY

The present study is based on the quantitative data collected through key respondents through Questionnaires, mails and direct interviews. The study is based on key respondentsresponse with 200 farmers and 200 business man in the Jalaun District, Uttar Pradesh. The main reason behind choosing Questionnaires, mails and Direct interviewing for collection of Data is that the farmer or entrepreneurs are not able to respond nicely in any other form of data collection then direst interview however it became ease to use mails and questionnaires in case of business man's as they could easily answer them.

POPULATION

Jalaun district is one of the districts of Uttar Pradesh that falls in Jhansi division. River Yamuna naturally demarcates it in north by means of whilst Madhya Pradesh demarcated western boundary of the district. Administratively the district has 5 Tehsils whichareOrai, Jalaun, Kalpi, Madhogarh and Konch and 9 Development Blocks i.e. Rampura, Kuthond, Madhogarh, Konch, Jalaun, Nadigaon, Dakore, Mahewa and Kadaura. There are 564 Gram panchayats and 942 income villages in the district. The geographical location of Jalaun district is 4.56 lac ha with a internet cultivated place of 3.451 lakh ha, out of which 1.035 lakh ha place is irrigated. The fertilizer consumption of the district is 98.60 Kg/ha (2003-04) and the cropping depth is a hundred and fifteen per cent. The Population is 14.55 lakh (2011 census).

SAMPLING

The individual farmer andis considered as unit of study is while the population includes all farmers and business man in the Jalaun district of Uttar

Pradesh state in India. A sampling procedure was adopted in which districts; blocks, villages, Mandies, farmers and business man are selected. Amongst the 75 districts of Uttar Pradesh. Jalaun is chosen for research because of presence of various factors which are crucial for farmers and businessman work such as good farming condition, presence of Market, and connectivity from Jalaun to other part of Uttar Pradesh. Form among 09 blocks namely Rampura, Kuthaund, Madhogarh, Nadigaon, Jalaun, Maheva, Kadaura, Dakor and Konch. Jalaun have been chosen purposively based on the various factor needed for farming and business and other agricultural activity. The reason behind choosing Jalaun is that it is up to the mark for every type of activities as well as contains a large population of farmers as well as business man. Jalaun contain various numbers of Mandies for crop sale which would help for data collection direct from farmer and businessman at same place. Thus total 10Mandies of Jalaun District is chosen for research which are as follows Jalaun Mandi, Orai Mandi, Konch Mandi, Kalpi Mandi, Kuthond Mandi, Madogarh Mandi,

Itaura Mandi, Kotra Mandi, UmriMandiare, Kadaura Mandi taken for study. From among these mandies 100 farmer and business man will be taken as respondent. These farmers will be chosen arbitrary on the spot. The data is collected and recorded in MS WORD Office software, and analysed with the help of simple percentage and a suitable type of average.

RESULT AND DISCUSSION

Demographic and social structural bases of key informants

Various studies available on Demographic and social structural bases of the farmers and price of their product are conducted. In this section, the demographic and social characteristics of the selected farmer and entrepreneur are disused. The demographic and social profile of respondent is collected through the direct interview, Questioners. The characteristics of respondents are discussed such as age and literacy. These characteristics are discussed in *Table 1and Graph-A*

Age is the most likely determinant of the capacity to take decisions related to price more efficiently. It is the first demographic characteristic that determines the social status of an individual in Uttar Pradesh society. The respondents were classified as young (<30), middle age (30-50), and aged (50-60) based on age. The highest numbers of the farm entrepreneurs were falling in age of middle age of (30-50) which was 56%. Middle age (30–50) was reported as 56% and aged (50-60) were reported as 12%,

Table showing

Literacy also plays a very important role in decision making process of any type so respondents are categorised on the basis of their literacy rates

Table 2 shows the respondent parentage on basis of their literacy

A. Effect of Covid 19 on price of agricultural product

In period of covid 19 it has been noticed that price of every commodity has arouse to unimaginable level. It created a huge imbalance in product and its price productivity. By price productivity we mean relationship between price of a commodity and the value it provide to its user. Normally price use to be as its value decided by market mechanism but in period of covid 19 the scarce supply of good made the user to procure it at price even more than its value. How ever this change in price can also be justified demand and supply mechanism but in normal situation this may not have been the scenario. The main point to be discudded here is that did this price mechanism had any impact upon the price of various agricultural product sold by farmer in various mandies. For this point of study various farmers are sacked with various form of data collection which shows the following result.

Table

Affect of covid 19 on selling price of agricultural product for farmer.

Items	Before pandemic	During Pandemic	Percentage change
Green pea	1700	1100	35.29%
White pea	5000	4000	20.00%
Chickpea	7000	6000	14.28%
Tur Dal	11000	9600	12.72%
Masur	8700	7900	09.19%
Mustered	6000	5500	08.33%

As we can see in above, various items during covid pandemic had got its price decreased. This data is collected primarily and directly from mandies workers who gets daily update of price. We took some crops those who can easily demonstrate the overall price pattern of various crops produced in Jalaun district of Uttar Pradesh. We can see that price of Green pea decreased with 35.29%. White pea got its price decreased by 20.00 % instead of its durability. Chickpea's price decreased by 14.28%. Tur dal price decreased by 12.72 %. Masur Price decreased by 9.19 %. Mustard seeds price decreased by 8.33 %. There may be various reasons behind this change in price but researcher has tried to find out the most reason behind it.

F-Test Two-Sample for Variances		
Statistics	*Before pandemic*	*During Pandemic*
Mean	6566.666667	5683.333333
Variance	10170666.67	32300277.78
Observations	6	6
df	5	5
F	3.175826997	
P(F<=f) one-tail	0.115225	

F-score of the test statistic follows the F-distribution (Snedecor's) with (5, 5)-degrees of freedom. P-value is 0.115225 therfore result is not statistically significant: there is not enough evidence to reject the null hypothesis. This decision is made at significance level $\alpha = 0.05$.

B. **Effect of covid 19 upon the cost of various agriculture-based food item for common consumer**

During the pandemic we all went through a serious problem of a imbalance in demand and supply of various good which got high chances of affecting price of product for last consumer. Government took various steps to maintain a smooth supply and demand mechanism but it seems to be unsuccessful because prices increased unprecedently. This indicates that there must be many reasons behind this type of prise change.

So, in this research researcher would try to determine the presence of covid 19 upon the cost of agriculture-based food items. In this part we would try to find out that the change in price of product is due to Covid 19 impact or due to some other human generated reasons like hording etc. response is taken from various people which is tabulated as follows.

Reason of change	Respondent	Percentage
Rain	03	03.00
Covid 19	20	20.00
Production	06	06.00
Hording	30	30.00
Unethical selling	41	41.00
Total	100	100

As we can see that there are mixed responses among respondent about the reason behind rise in price of product and other items. Verya smaller number of respondents considers rain as the reason behind the rise in price. Only 3 percent of people take rain as the factor for rise in price. 6 percent of respondent thought that less production is a reason behind rise in price. 20 percent people consider covid breakout as main reason behind rise in price. But we can clearly see that 30 percent of respondent believe that the major reason for rise in prise is hording done by various business men to sell their commodity at high price. Further we can see that maximum number of respondents that is 41 percent of total respondent have submitted that the main reason behind rise in prise is unethical selling. Unethical selling mean selling product at a rate which is much higher than the normal selling price. For example, if a good is prices at rupee 100 and due to some reason,it is sold at 500 rupees instead of its regular selling price of 200 rupee. This high pricing is called unethical selling.

The above study can easily show that the price rise of various commodities which has its base form agricultural background is mainly due to the artificial reasons like Hording of commodity and unethical selling to harness the calamities to earn more profit.

C. Relationship between price change of agriculture product in hand of farmer and cost in hand of consumer.

Price depends upon the price mechanism of demand and supply in a market. Demand and supply indicates the mutual consent of producer and consumer to buy and sell Tahir product. This exchange of commodity is service takes place when buyer and seller get on to some price agreeable tom both of them. This is hoe market price is fixed. In period of covid 19 we got to see disequilibrium between demand and supply which resulted in price hicks. On an average we found that price of every commodity increased highly due to various reasons. Only price rise is not the main problem but the main problem is the rise in price of agricultural good without any rise in price of those goods in hand of farmers. In a table data collected directly from farmers and retailers are shown below which will make us easily see the scenario very easily.

Commodity	Price in farmers hand(MSP)	Prise at retailer hand	Percentage rise in prise
wheat	1840	3500	90.12
Jowar	2570	5600	117.2
Bazra	2000	6700	235
Ragi	3150	5200	65.07
Barli	1440	2340	62.5
Pateto	850	2057	142
Onion	3550	8190	130.7

*https://www.napanta.com/market-price/uttar-pradesh/allahabad/sirsa
*https://www.indiatoday.in/business/story/onion-prices-in-india-up-by-over-400-after-march

F-Test		
	Price in farmers hand(MSP)	*Prise at retailer hand*
Mean	2200	4798.142857
Variance	905266.6667	5194620.81
Observations	7	7
df	6	6
F	0.051683652	
P(F<=f) one-tail		0.002122
F Critical one-tail	0.233434021	

Your result is statistically significant: you can reject the null hypothesis and accept the alternative. This decision is made at significance level α = 0.05. Since p value is less than critical value so we must accept the null hypothesis that H03, there is no significant relationship between price change of agriculture product in hand of farmer and in hand of consumer. There for it can be deducted that there are various factors which are controlling price and there is no relationship between price change in hand of farmer and in hand of consumer.

CONCLUSION

It can be clearly deduced that the change in price level during Covid- 19 it totally unprecedented and unfair. It can be concluded from right tailed test that th rise in rice is much more than usual and over the top. It can also be concluded that the hording and unethical selling are the most significant reason behind the price increase, as opinion of the respondent. It is clear that the price rise has only profited for the businessman. It is found that the price of the agriculture product has no relation with the price of the product with retailer because price increase of the product is more than hundred percent in most of the product and more than 50% in every product. So we can conclude that the Covid 19 has not affected the farming of the country but it affected farmer of the country because they did not get their rightful product price.

REFERENCE

1. http://mospi.nic.in/sites/default/files/Statistical_year_book_india_chapters/FiveYear20Plan20writeup_0.pdf
2. KirosFassil G. “Economic Consequences of Drought, Crop Failure and Famine in

Ethiopia, 1973-1986 Ambio", Vol. 20, No. 5, Environmental Security (Aug., 1991), pp. 183-185

3. MaggoDeepa"Impact of COVID-19 on smallholder farmers – insights from India", 2 Jun 2020
4. O'Neill Aaron "Inflation rate in India 2026",May 5, 2021, https://www.statista.com/ statistics/271322/ inflation -rate-in-india/
5. https://pib.gov.in/PressReleseDetailm.aspx ?PRID=1624044#:~:text=As%20per%20Third %20 Advance% 20Estimates,tonnes%20achieved%20during %202018%2D19. APS/PK/MS/BA
6. J. LavrakasPaul "Research Hypothesis", Encyclopedia of Survey Research Methods, Published: 2008, DOI: https://dx.doi.org/10.4135/9781412963947 .n472, January 1, 2011, ISBN: 9781412918084 | Online ISBN: 9781412963947
7. Ministry of Panchayati Raj (8 September 2009). "A Note on the Backward Regions Grant Fund Programme" (PDF). National Institute of Rural Development. Archived from the original (PDF) on 5 April 2012. Retrieved 27 September 2011.
8. Government of India, Horticulture Statistics Division Department of Agriculture, Cooperation & Farmers' Welfare Ministry of Agriculture & Farmers' Welfare
9. https://jalaun.nic.in/subdivisionblocks/#:~:t ext=For%20implementation%20and%20 monitoring.
10. Liang James, Wang Hui, P. Lazear Edward, September 2014,Working Paper 20506, Demographics And Entrepreneurship, national Bureau Of Economic Research,1050 Massachusetts Avenue, Cambridge, MA 02138,http://www.nber.org/papers/w2050 6
11. https://www.alberta.ca/how-demand-and-supply-determine-market-price.aspx
12. https://www.napanta.com/market-price/uttar-pradesh/allahabad/sirsa
13. https://indianexpress.com/article/india/pot ato-price-average-monthly-highest 6910745/#:~:text= Public % 20Distribution %2C%20show.- ,The%20average%20retail%20price%20of% 20potato%20in%20Delhi%20this%20month, 2010%2C%20almost%2011%20years%20ag o.&text=The%20all%2DIndia%20average%2 0retail,(Rs%2020.57%20per%20kg)
14. https://www.napanta.com/market-price/uttar-pradesh/allahabad/sirsa
15. https://www.indiatoday.in/business/story/ onion-prices-in-india-up-by-over-400-after-march-1627284-2019-12-11