Impact of Covid-19 on Agricultural Output and Farm Inputs in Uttar Pradesh (India): An Empirical Analysis at Farm Household Level

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Abstract— *The present paper examines the impact of Covid-19 pandemic on agriculture sector of Uttar Pradesh and also assesses the impact of Covid-19 on farm/ crop production and availability of agricultural inputs. The primary information was collected from 360 farmers of 6 districts of Uttar Pradesh through structured farm household schedule. The macro level analysis shows that agricultural output has been found positive in Uttar Pradesh during the Covid-19 period. The farm household level results indicate that the agricultural output has declined as per 69.0 per cent respondents whereas it has increased for only 9.0 per cent farmers. As the output prices of the agricultural commodities are concerned, it has declined according to 62.0 per cent respondents. On the other hand 19.0 per cent reported an increase in the output prices of agricultural sector of farm household. The study also revealed that the availability of agricultural inputs declined and prices of farm input increased substantially. Moreover, it also found the performance of agriculture sector in Western Uttar Pradesh is better than the Bundelkhand region of the state. The present study suggests that agricultural infrastructural facilities, effective digitalization of agro activities and integrated agriculture cold chain need to be improved for mitigating the losses caused by such pandemic.*

Keywords— COVID-19, Agricultural Output, Farm Inputs and Uttar Pradesh.

JEL Classification: Q1, Q5 and O15.

I. INTRODUCTION

It has been extensively known that agriculture of Uttar Pradesh is one of the most operative tools for achieving higher growth and reducing poverty especially in rural areas (Kumar, Sanjeev et al., 2020). Agriculture sector is backbone of Uttar Pradesh economy, where around 50.0 per cent of the population depends directly on this sector for their livelihood. Moreover, agricultural sector occupies an important place in socio-economic space in the state with one-fourth of state domestic product and also providing the highest employment to the masses (UPDES, 2022). This sector is also a pivot point for food security of the country and plays a key role in supporting secondary and tertiary sector of the state. The fertile Indo-Gangetic plains play a vital role of agriculture sector in Uttar Pradesh. Agriculture sector of the state is a significant contributor to the national food security. Around 40.0 per cent of India's cereal (paddy & wheat crop) is produced by the state and the highest producer of cash crop i.e., sugarcane (Gulati et al., 2021).

In the year 2020, world experienced once in a century catastrophe which brought the economy to a standstill. Like calm before a storm, Covid-19 induced lockdown created a situation for an unforeseen chaos that affected lives and livelihood of billions across the world. For the first time in modern economic era both demand and supply got adversely hit. At its core, Covid-19 pandemic was a health crisis, but due to contagious nature of the disease governments all over the world reluctantly had to

impose lockdown to contain the spread which transformed a health crisis into a full fledge economic crisis. Furthermore it adversely affected all the sectors except agriculture. The Indian economy taking major hit during Covid-19 pandemic, agricultural sector showed most resilience towards harmful effects of the lockdown. Being the only sector with positive growth rate during Covid-19 pandemic it acted as a buffer to rural economy providing temporary employment to migrated laborers. Most of the states in India with higher share of agriculture in gross state value added (GSDP) witnessed a lower contraction in economic activity vis-à-vis states with higher share of industry and services (Goyal et.al. 2022)

The impact of pandemic on the agriculture sector differs from the other sectors of the economy, as well as region to region. The shortage of labor and machinery, limited access to crop fields and crop marketing, poor access to agricultural inputs, advisory services, supply chain disruptions and perishability of the products were reported as the major issues in the sector during this pandemic in India (Adhikari et.al., 2021; Kaur,2021)

II. LITERATURE REVIEW

Fox, Promkhambut and Yokying (2020) assess that how Covid-19 outbreak affects rice growing farmers of Southeast Asia. Rice growing farmers of Southeast Asia already having faced drought challenges suffered the havoc created by Covid-19 pandemic more or less at the same time. Having conducted telephonic interview of thirty farmers of Thailand in June 2020, it was reported that 65.0 per cent of farmers faced problems in the form of shortage of labour and unavailability of agriculture credit while purchasing agriculture inputs. They are unable to produce crops even for self-consumption. The paper shows the effects of Covid-19 pandemic on farmers i.e. rise in prices, unavailability of food and lack of government assistance. Although farmers of Thailand and Vietnam received basic government assistance but farmers of Cambodia, Myanmar and Laos are still struggling.

Umar and Abdin (2020) enquire into the changes in the consumption pattern of urban and rural India induced by the covid-19 pandemic. The study also evaluates the similarities and dissimilarities of the covid-19 induced changes in consumption pattern of rural and urban consumers. The study is based on primary data. The analysis reveals that the consumption pattern changed significantly during the pandemic period due to lockdown. It also reveals thatcovid-19 pandemic had a more profound effect on urban consumption as compared to rural consumption, due to the more diversified economy of urban space. Coming to the consumption basket, the pandemic caused a significant shift of consumption from non-essentials towards essential items.

Dilnashin, Birla, Rajput, Keswani, Singh, Minikina and Mandzhieva (2021) made an attempt to show post pandemic scenario in agriculture sector in the form of economic shock, by reviewing available online academic databases, Google Scholar, PubMed and Science Direct. Under the major sub-headings it discusses the impact of covid-19 pandemic on food security and rural livelihood, on agriculture supply chains, and trade relations. The pandemic completely triggered India's agriculture system. From the study it can be concluded that due to disruptions in supply chain, wholesale and retail prices of commodities increased significantly. Ultimately, if we fail to understand the impact of covid-19 on agriculture, we would be incompetent to deal with similar catastrophe in future. To overcome this kind of situation, policy makers need to revaluate the agricultural policies and structure in India.

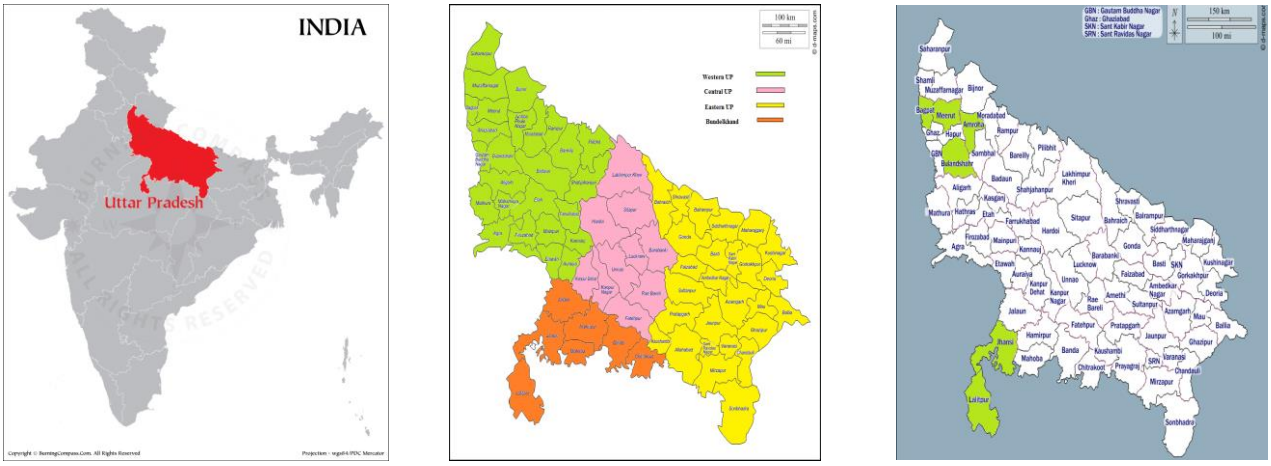
Mohanty and Jaimon (2021) focused on 6 major states of India to study the economic consequences of Covid-19 induced lockdown on consumption, labour and income, healthcare, access to relief programs and migration. The study concludes that the first wave had tremendous socio-economic impact on rural households that was aggravated by second wave. The study also highlights that there is lack of full understanding of the damage done by lockdown hence suggested further studies to be undertaken by the government to estimate the loss of rural economy.

Goyal, Kovuri and Golait (2022) is a presence across nation (PAN) India study of asymmetric economic impact of Covid-19 pandemic on Indian states. The study uses PCA methodology to determine the state-wise Economic activity index and state-wise mobility index. The study reveals that the economic structure of the state plays a significant role as the recovery trajectory of covid-19 pandemic is concerned. Results clearly depicts that states with higher share of agriculture in GSVA witnessed lesser contraction in economic activities than states with higher share of industry and services in GSVA.

There are lot of literature available on the impact of Covid-19 pandemic on Indian economy as well as agriculture sector at national level. There are very rare study available of Covid-19 pandemic on agriculture sector in Uttar Pradesh. It is in this context, the present paper examines the impact of Covid-19 on agriculture sector in Uttar Pradesh at farm household level. Moreover, the present study tries to examine the impact of Covid-19 on agricultural output/ crop production and farm inputs and also analysis the trends of price of crop production and farm inputs cost during this pandemic at farm household level.

III. METHODS AND DATABASE

Methods: Uttar Pradesh is divided into four administrative regions, namely Western Uttar Pradesh (WUP), Eastern Uttar Pradesh (EUP), Central Uttar Pradesh (CUP) and Bundelkhand, and nine agro-climate zones, viz., Terai, Western Plains, Mid-Western Plains, Western Semi-Dry Plains, Mid-Western South Plains, South-Western Semi-Dry Plains, North Eastern Plains, Vindhyachal and Bundelkhand. There are very wide regional/ climatic variations across the state. In the present study, two regions viz., Western Uttar Pradesh and Bundelkhand has been selected for farm household survey. Bundelkhand is drought-prone region and Western Uttar Pradesh is highly developed agriculture sector of the state. For the assessment the impact of covid-19 on agriculture sector of Uttar Pradesh, primary data in different districts has been collected from farm household. Six districts of the state namely, Meerut, Baghpat, Amroha, Jhansi, Lalitpur and Bulandshahr were selected purposively. In each district, 2 blocks were selected and one village were selected from each block. 30 schedules from each village have been filled at farm household. Therefore, the study is based on primary household survey of 360 farmers. For this study, convenient sampling procedure was used. The primary data for this study was collected last quarter of 2022. It covers both waves of Covid-19 pandemic in India. All the farmers were individually interviewed through pre tested schedule, so that original picture of impact of Covid-19 could be drawn. Responses received from the farmers were analysed by using SPSS software and simple statistical techniques has been used for analysis. The details of selected districts are given in Figure 1.



Selected Districts Indicate by Green Color

FIGURE 1: Map of Area of study at Regional and Farm Levels in Uttar Pradesh

Source: Author's classification

Database: The database for the present paper was collected from various secondary data sources such as Directorate of Economics and Statistics, Department of Agriculture and Farmer's Welfare, Ministry of Agriculture and Farmer's Welfare, Government of India, Reserve Bank of India Handbook of Statistics on Indian States, Government of India, Uttar Pradesh Directorate of Economics (UPDES), Government of Uttar Pradesh and Statistics, Government of Uttar Pradesh.

IV. RESULT AND DISCUSSION

Agricultural Growth Trends in Uttar Pradesh: The agricultural output growth trend of India as well as Uttar Pradesh from 2011-12 to 2021-22 are presented in Figure 2 and Figure 3 respectively. This Figure 2 depicts the trends of agriculture, forestry and fishing output in India. The data depicts that there is consistent increase in the gross value of output, with average output

increasing between the time periods 2015-2022. During the pandemic period i.e. 2020-2021, the result shows that there are steep decline from quarter 3 (2019-2020) to quarter 3 (2020-2021) with absolute values greater than previous period.

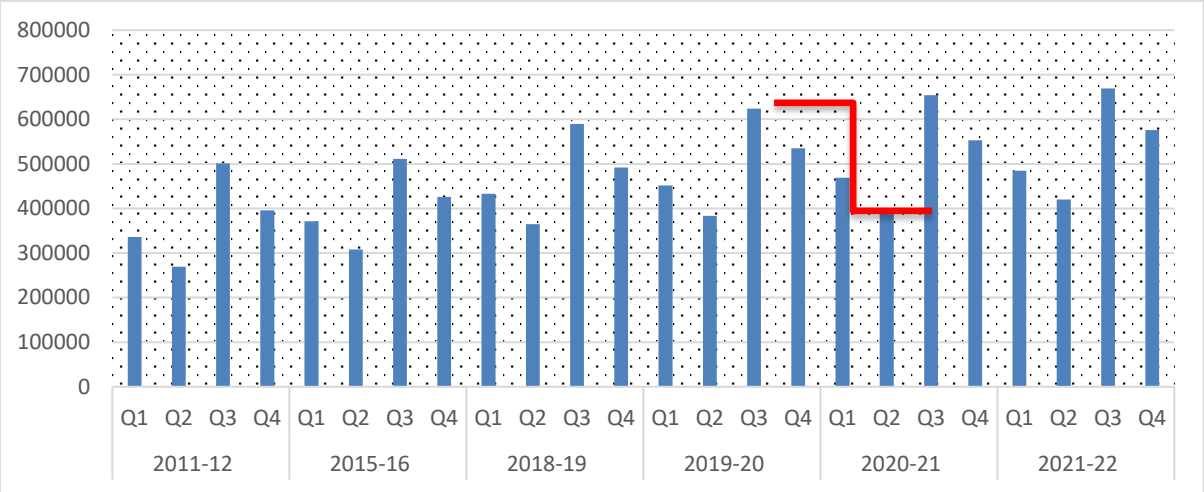


FIGURE 2: Trends of Agriculture, Forestry & Fishing Output in India (Rs. Crore)

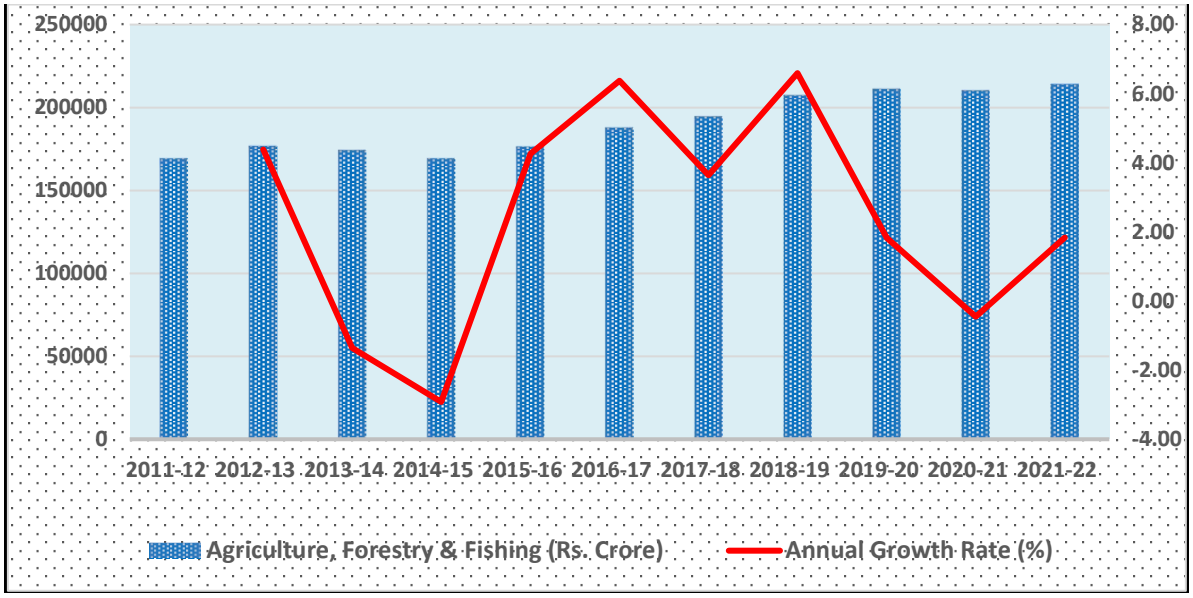


FIGURE 3: Trends of Agriculture, Forestry & Fishing Output in Uttar Pradesh

Figure 3 depicts the trends of agriculture, forestry and fishing output in Uttar Pradesh. The data shows that there is consistent increase in the gross value of output with annual growth rate before pandemic period, with an exception of period 2014-2015. After 2014-15 rapid growth is seen in output and annual growth rate. The figure shows that there is consistent increase in absolute value of output with increase in annual growth rate throughout the years but due to worse impact of Covid-19 pandemic agriculture sector hit badly. There is growth declining in pandemic period i.e. 2020-2021. Although overall economic growth declined by 7.2 per cent but agriculture and allied sectors report a growth of 3.4 per cent during the lockdown.

Results and Discussion based on Primary Database: Table 1 represents the responses of farm household of selected district of Uttar Pradesh about the impact of Covid-19 on the agricultural output viz., crop sector, animal husbandry, fisheries, logging & forestry and poultry and their prices. The crop sector reported an increase as per 18.84 per cent respondents in the output. On the other hand, 65.80 per cent farmers responded that the agricultural output has decreased, whereas the output remained unchanged for 15.36 per cent. Similarly, 28 per cent reported that the output prices as regards to crops have increased. But 66 per cent farmers responded that output prices of crops have decreased. In animal husbandry, the output reported a decline as per 48 per cent respondents; however, 35per cent reported no change in the output in animal husbandry. The output has increased according to 18 per cent farmers only. Similarly, 28.41 per cent reported that the output prices as regards to animal

husbandry have increased. But 66.38 per cent farmers responded that output prices of animal husbandry have decreased. The fisheries sector reported an increase as per 12.33 per cent respondents in the output. On the other hand, 66.0 per cent farmers responded that the fisheries output has decreased, whereas the output remained unchanged for 21.59 per cent.

TABLE 1
IMPACT OF COVID-19 ON THE AGRICULTURAL OUTPUT AND ITS PRICES

Agriculture Sub-Sector	Impact	Impact on Agriculture Output		Impact on Agriculture Output Price	
		Frequency	Per cent	Frequency	Per cent
Crops	Increase	65	18.84	98	28.41
	Decrease	227	65.80	229	66.38
	No Change	53	15.36	18	5.22
Animal Husbandry	Increase	61	17.68	93	26.96
	Decrease	164	47.54	220	63.77
	No Change	120	34.78	32	9.28
Fisheries	Increase	28	12.33	40	17.62
	Decrease	150	66.08	125	55.07
	No Change	49	21.59	62	27.31
Logging and Forestry	Increase	33	14.73	40	18.02
	Decrease	135	60.27	115	51.80
	No Change	56	25.00	67	30.18
Poultry	Increase	35	15.42	42	18.92
	Decrease	134	59.03	121	54.50
	No Change	58	25.55	59	26.58

Source: Author's calculation based on primary household survey

Similarly, 17.62 per cent reported that the output prices as regards to fisheries have increased. But 55.07 per cent farmers responded that output prices of Fisheries have decreased. The logging and forestry sector reported an increase as per 14.77 per cent respondents in the output. On the other hand, 60.27 per cent farmers responded that the logging and forestry output has decreased, whereas the output remained unchanged for 25.0 per cent. Similarly, 18.0 per cent reported that the output prices as regards to logging and forestry have increased. But 51.80 per cent farmers responded that output prices of logging and forestry have decreased. However, 30.18 per cent farmers have responded that there is no change in the price. The poultry sector reported an increase as per 15.42 per cent respondents in the output. On the other hand, 59.03 per cent farmers responded that the poultry output has decreased, whereas the output remained unchanged for 25.55 per cent. Similarly, 18.92 per cent reported that the output prices as regards to poultry have increased. But 54.50 per cent farmers responded that output prices of poultry have decreased. However, 26.58 per cent farmers have responded that there is no change in the price.

The Impact of Covid-19 on the agricultural/ farm Inputs and their price level with the help of selected farm household of Uttar Pradesh are presented in Table 2.

TABLE 2
IMPACT OF COVID-19 ON THE AGRICULTURAL/ FARM INPUTS AND ITS PRICES

Agricultural Inputs	Impact	Impact on Availability of Agricultural inputs		Impact on Prices of Agricultural inputs	
		Frequency	Per cent (%)	Frequency	Per cent (%)
Fertilizers	Increase	43	12.43	249	71.97
	Decrease	205	59.25	44	12.72
	No Change	98	28.32	53	15.32
Pesticides	Increase	37	10.69	237	68.50
	Decrease	187	54.05	32	9.25
	No Change	122	35.26	77	22.25
Rental Agro-machinery	Increase	36	10.40	208	60.12
	Decrease	158	45.66	33	9.54
	No Change	152	43.93	105	30.35
Fodder/Cattle feed	Increase	39	11.27	226	65.32
	Decrease	158	45.66	37	10.69
	No Change	149	43.06	83	23.99
Seeds	Increase	40	11.56	248	71.68
	Decrease	177	51.16	21	6.07
	No Change	129	37.28	76	21.97
Fuel	Increase	73	21.10	251	72.54
	Decrease	157	45.38	26	7.51
	No Change	115	33.24	69	19.94

Source: Author's calculation based on primary household survey

The availability of fertilizers reported an increase as per 12.43 per cent respondents. On the other hand, 59.25 per cent farmers responded that availability of fertilizers has decreased, whereas the availability of fertilizers remained unchanged for 28.32 per cent. Similarly, 71.97 per cent reported that prices as regards to fertilizers have increased. But 12.72 per cent farmers responded that prices of fertilizers have decreased. The availability of pesticides reported an increase as per 10.69 per cent respondents. On the other hand, 54.05 per cent farmers responded that availability of pesticides has decreased, whereas the availability of pesticides remained unchanged for 35.26 per cent. Similarly, 68.50 per cent reported that prices as regards to pesticides have increased. But 9.28 per cent farmers responded that prices of pesticides have decreased. The availability of rental agro-machinery reported an increase as per 10.40 per cent respondents. On the other hand, 45.66 per cent farmers responded that availability of rental agro-machinery has decreased, whereas the availability of rental agro-machinery remained unchanged for 43.93 per cent. Similarly, 60.12 per cent reported that prices as regards to rental agro-machinery have increased. But 9.54 per cent farmers responded that prices of rental agro-machinery have decreased. However, 30.35 per cent farmers have responded that there is no change in the price.

The availability of fodder/cattle feed reported an increase as per 11.27 per cent respondents. On the other hand, 45.66 per cent farmers responded that availability of fodder/cattle feed has decreased, whereas the availability of fodder/cattle feed remained unchanged for 43.06 per cent. Similarly, 65.32 per cent reported that prices as regards fodder/cattle feed have increased. But 10.69 per cent farmers responded that prices of fodder/cattle feed have decreased. However, 23.99 per cent farmers have

responded that there is no change in the price. The availability of seeds reported an increase as per 11.56 per cent respondents. On the other hand, 51.16 per cent farmers responded that availability of seeds has decreased, whereas the availability of seeds remained unchanged for 37.28 per cent. Similarly, 71.68 per cent reported that prices as regards to seeds have increased. But 6.07 per cent farmers responded that prices of seeds have decreased. However, 21.97 per cent farmers have responded that there is no change in the price. The availability of fuel reported an increase as per 21.10 per cent respondents. On the other hand, 45.38 per cent farmers responded that availability of fuel has decreased, whereas the availability of fuel remained unchanged for 33.24 per cent. Similarly, 72.54 per cent reported that prices as regards to fuel have increased. But 7.51 per cent farmers responded that prices of fuel have decreased. However, 19.94 per cent farmers have responded that there is no change in the price.

Figure 4 represents the responses of selected farm household of the study about the impact of Covid-19 on the agricultural output and results reveal that covid-19 pandemic had significant impact on the production of agriculture and its allied sector. Many factors such as restrictions on the movement of labor and machinery, interruptions in the supply chain of commodity and lockdown imposed to curb the fast growing impact of the pandemic contributed to the fluctuations in agriculture sector. Out of total responding farmers, 69.0 per cent reported a decrease in the agricultural output. On the other hand only 9.0 per cent reported an increase in the output. The agricultural output remained same for 22.0 per cent respondents.

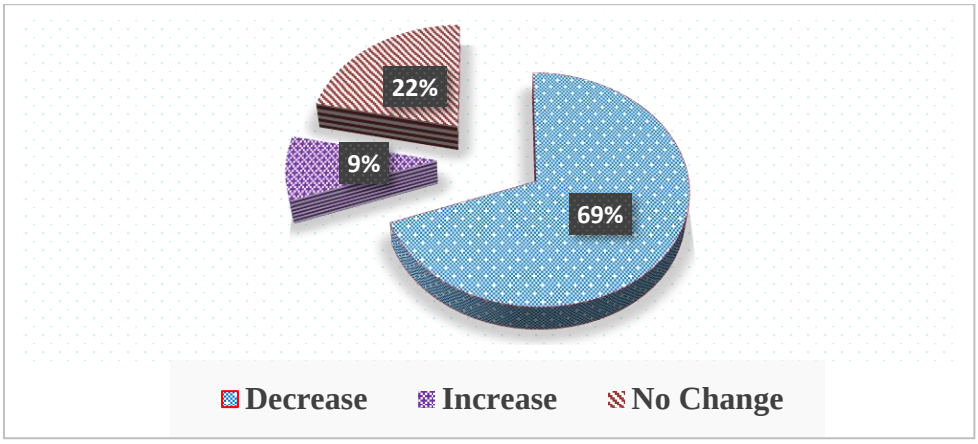


FIGURE 4: Impact of Covid-19 on Agricultural Output

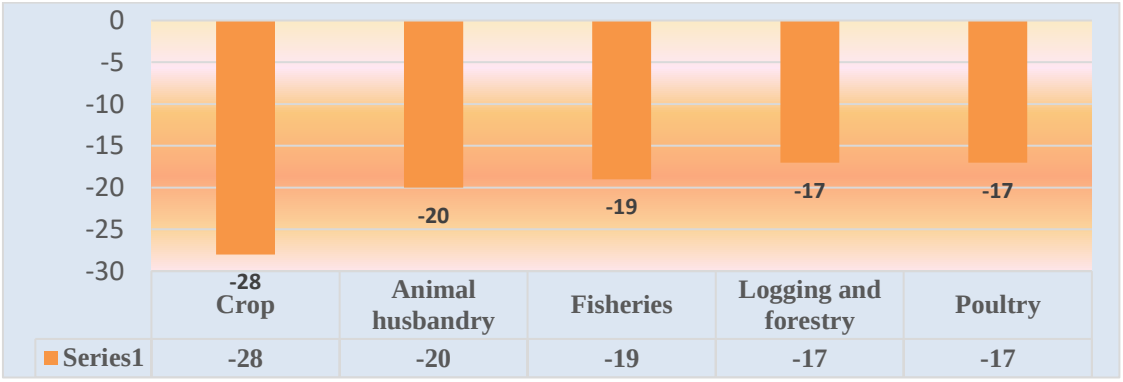


FIGURE 5: Decrease in Production in Agriculture and Allied Sector (in per cent)

The responses to the decrease in production in Agriculture and Allied Sector (in per cent) are presented in Figure 5. To have a detailed analysis of impact of pandemic on the agriculture allied sector, the study has bifurcated the allied sector into Crop, Animal husbandry, Fisheries, Logging and forestry, Poultry. The production of Crop, Animal husbandry, Fisheries, Logging and forestry, poultry has decreased according to 28.0 per cent, 20.0 per cent, 19.0 per cent, 17.0 per cent, 17.0 per cent respectively. The sector with the most evident and strong impact is Animal husbandry with 38.0 per cent production declining in the range of 0-25 per cent. It is followed by crops with the decline of 35.0 per cent in the range of 0-25 per cent. Similarly decline of 30.0 per cent, 28.0 per cent, and 28.0 per cent was recorded in fisheries, logging and forestry, poultry respectively.

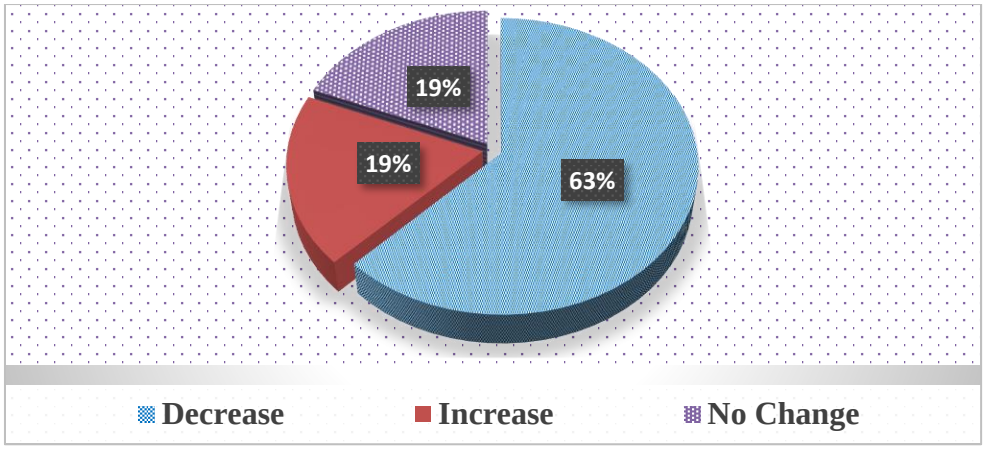


FIGURE 6: Responses for Change in Overall Prices of Agricultural Commodities (in per cent)

Figure 6 represents the responses for change in overall prices of agricultural commodities (in per cent). As stated above that 69.0 per cent of the farmers reported a decline in the production of agriculture commodities. This reduction in the production along with decreased demand (inadequate money with the consumer to demand), lockdown, and disrupted supply chain fueled the miseries of the farmers. 62.0 per cent of the farmers responded that there is a decrease in the prices of the commodities. Furthermore, only 19.0 per cent respondents reported that the output prices have increased. Similarly, 19.0 per cent reported no change in the output prices. Besides decline in the agricultural production, decrease in the output prices has added to the ever increasing miseries of the farmers.

The response of farm respondent regarding decrease in output prices of commodities in agriculture and allied sectors (in per cent) are given in Figure 7.

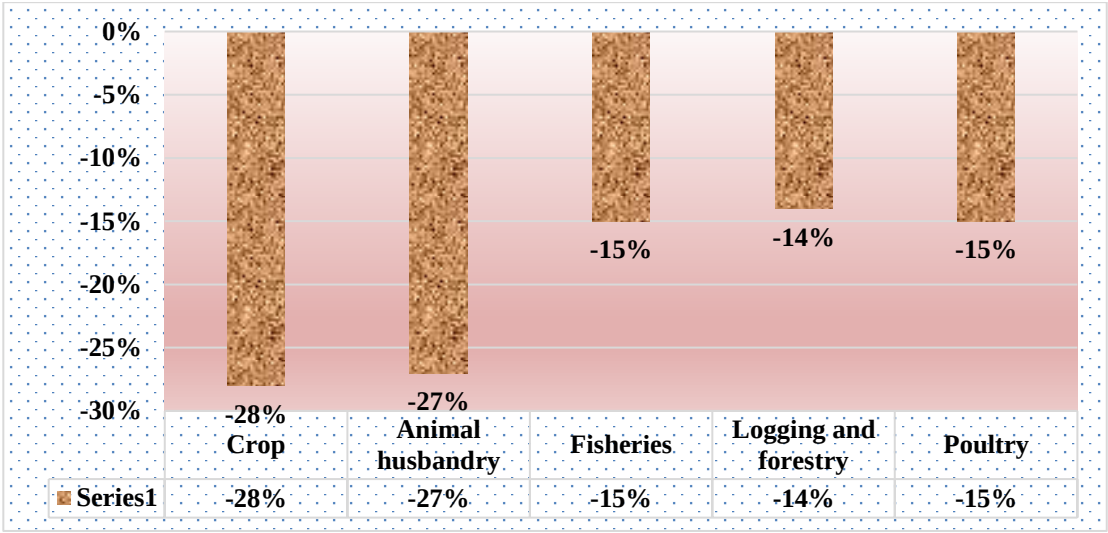


FIGURE 7: Decrease in Output Prices of Commodities in Agriculture Sectors (in per cent)

Considering the allied sectors of the agriculture the output prices have decreased across all sectors. The most notable decline was in the Crop sector (28.0 per cent), followed by decline in Animal husbandry (27.0 per cent) due to decreased opportunities available to farmers to trade their commodities. The market places and shops were closed down; there was minimal demand for the commodities which resulted in low output prices. The minimum decline in prices was perceived in logging and forestry sector (14.0 per cent) and poultry and fisheries sector (15.0 per cent) respectively. The fall in output prices could be credited to decrease in demand for such commodities and disruptions in mobility of agricultural output due to ban on movement of vehicles.

The response of farm respondent regarding change in overall availability of agriculture/ farm inputs (in per cent) in agriculture and allied sectors are given in Figure 8. The farm household responses indicate that around 58.0 per cent cases, the availability of agriculture/ farm inputs have been decreased.

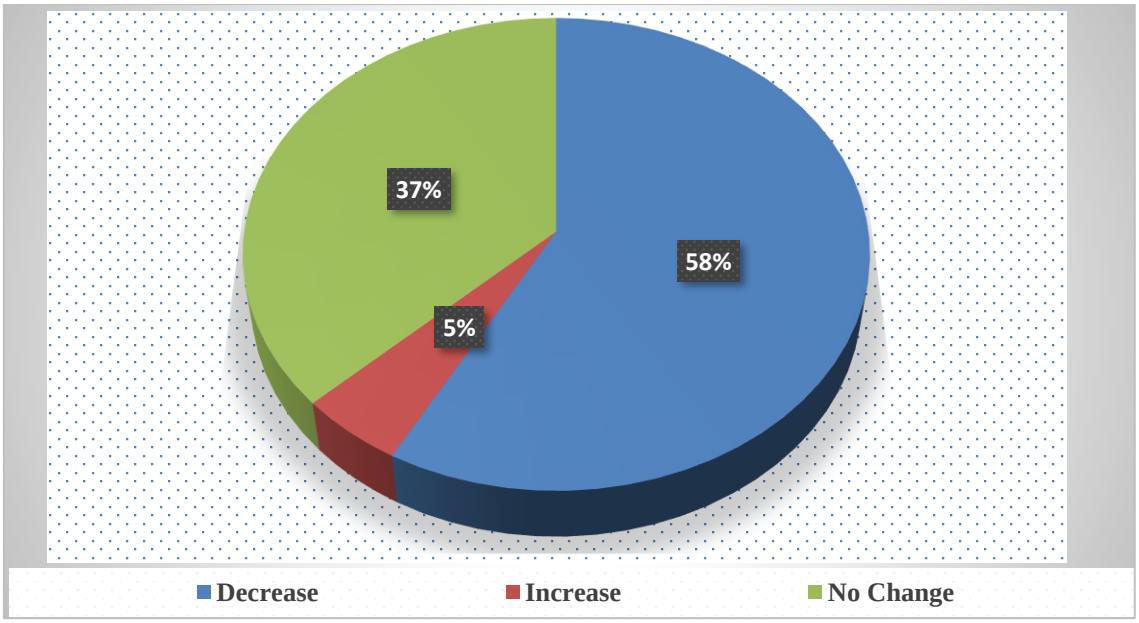


FIGURE 8: Responses for Change in Overall Availability of Farm Inputs (in per cent)

Figure 9 represents the responses for decrease in the availability of agricultural inputs (in per cent).This part of the study analysis the impact of pandemic on the overall availability of agricultural inputs such as Fertilisers, Pesticides, Rental Agriculture machinery, Fodder/cattle feeds, Seeds, Fuel. The availability of inputs has decreased as responded by 58.0 per cent of the farmers. According to only 5.0 per cent respondents the input availability has increased. The availability of agricultural inputs has remained same for 37.0 per cent respondents.

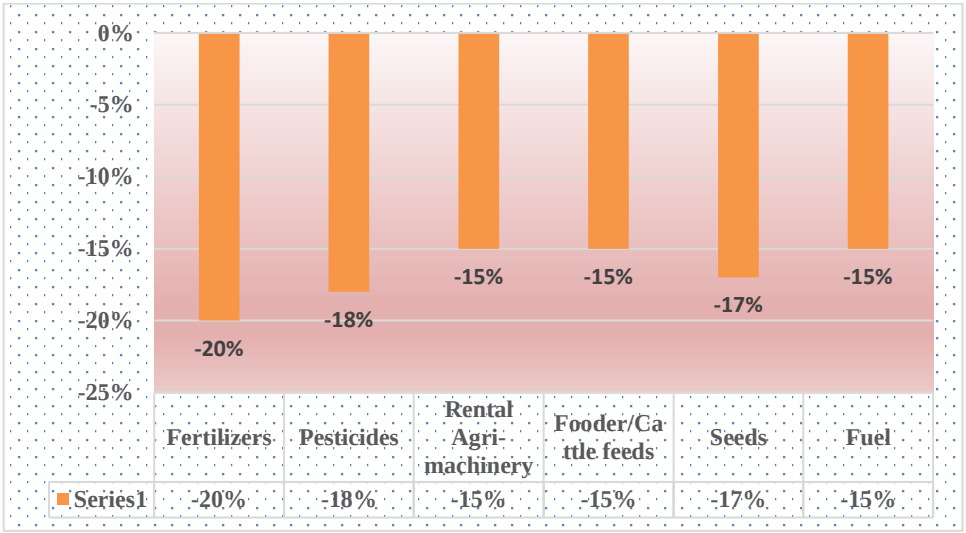


FIGURE 9: Decrease in the Availability of Agricultural/ Farm Inputs (in per cent)

After analysing the impact of pandemic on farm inputs individually, it can be reported that the availability of Fertilisers was the most affected by the pandemic. The most intense decline was in the availability of fertilizers (20.0 per cent) accompanied by pesticides (18.0 per cent), seeds (17.0 per cent). Significant decline was recorded in the availability of rental agro-machinery, fodder and fuel (15.0 per cent). The availability of fertilisers has declined in the range of 25-50 per cent as per 41.0 per cent respondents. Similarly, in the range of 25-50 per cent the availability of pesticides, rental agricultural machinery, fodder/cattle feeds, seeds, and fuel is recorded to decline as per 38.0 per cent, 37.0 per cent, 40.0 per cent, 36.0 per cent, and 36.0 per cent respondents respectively.

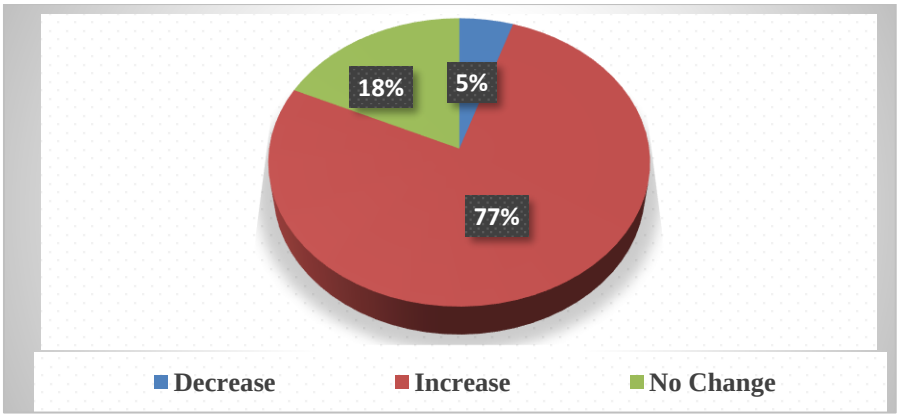


FIGURE 10: Responses for Change in Overall Prices of Agricultural/ Farm Inputs (in per cent)

The responses of farm respondent regarding change in overall prices of agricultural/ farm inputs (in per cent) in agriculture and allied sectors are given in Figure 10. The prices of agricultural inputs increased substantially in most of the sample districts. As apparent from the analysis made above, the availability of agricultural inputs had declined. This decline in the availability of the agro-inputs resulted in higher prices of the inputs. The overall prices of agricultural inputs increased as per 77.0 per cent of the respondents, while 5.0 per cent reported a decrease in the input prices. In 18.0 per cent of the selected samples the prices of agricultural inputs remained unchanged.

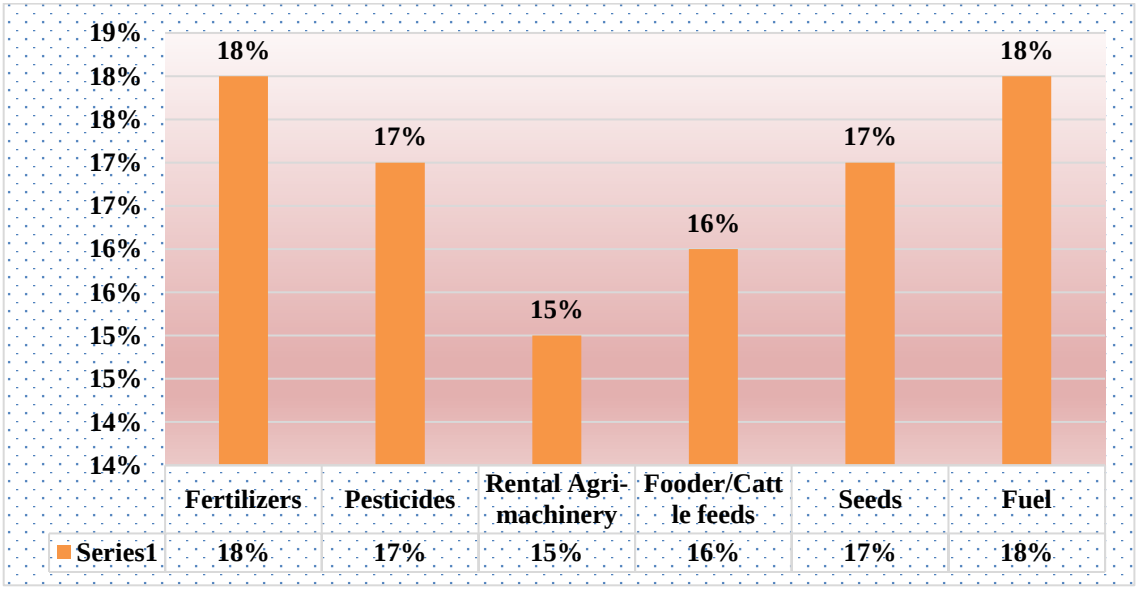


FIGURE 11: Response for Increase in Prices of Agricultural/ Farm Inputs (in per cent)

The responses of farm respondent regarding increase in prices of agricultural/ farm inputs (in per cent) in agriculture and allied sectors are given in Figure 11. All in all majority of the inputs had witnessed an increase in the magnitude of the prices. The highest increase in prices can be seen in the case of fertilizers and Fuel (18.0 per cent each), followed by pesticides and seeds (17.0 per cent), fodder/cattle feed (16.0 per cent), rental agro-machinery (15.0 per cent). The increase in prices of agricultural inputs can be attributed to low availability due to disruption in supply, shut down of markets, restrictions on the movement of material. The input prices of fertilisers have increased in the range of 0-25 per cent as per 50.0 per cent respondents. Similarly, in the range of 0-25 per cent the input prices of pesticides, rental agricultural machinery, fodder/cattle feeds, seeds, and fuel is recorded to increase significantly.

V. CONCLUSION AND POLICY IMPLICATIONS

Although overall impact of Covid-19 pandemic on Indian economy is quite harsh, there is agriculture sector which records positive growth rate during both Covid-19 waves, however, industrial and service sector suffered significantly. According to the findings, major impact of Covid-19 is observed on fisheries and poultry, due to the widespread fear of fishes being the

vector of the contagious disease. Covid-19 has no impact on agricultural output as per 22.0 percent respondents whereas it has increased by 9.0 percent farmers. The agricultural output declined as per 69.0 percent respondents, the reason behind declined output were strict restrictions imposed on the labour, machinery movement and supply of various inputs. As regards availability of inputs, 37.0 percent farmers reported that there was no impact on the availability of inputs during pandemic , whereas 58.0 percent reported that there has been decline in availability of inputs .The prices of inputs remained same for 18.0 percent respondents, 5.0 percent reported a decline and 77.0 percent said that the prices of inputs increased due to disruption in movement of men and machinery, prevalent corruption in distribution of inputs such as fertilizers, pesticides, seeds etc.. The study revealed that the performance of agriculture sector in Western Uttar Pradesh is more satisfactory than the Bundelkhand region of the state. The present study suggests that the agricultural infrastructural facilities, effective digitalization of agro activities and integrated agriculture cold chain need to be improved for mitigating the losses caused by the pandemic. Agriculture sector being a prominent sector for the revival of the economy from the aftermath of the pandemic needs more attention of the policy makers. To overcome the issues faced by farmhouse hold and to prevent such happenings in the future, we need to ensure that the market mechanism for agricultural inputs and output need to be more effective and free from every form of evil which could hinder the growth of agricultural sector. The inclusion of farmers under government initiatives such as e-NAM, National Mission for Sustainable Agriculture (NMSA), Livestock Insurance Schemes needs to be increased to revitalize agriculture sector and to improve their economic conditions.

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