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Impact of COVID-19 on farming activities in Chittoor district of Andhra Pradesh

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Abstract

Impact of COVID-19 on Farming activities in Chittoor district of Andhra Pradesh revealed that there was an average 6.66 per cent decline in production of agriculture, 26.66 per cent decline in horticulture and 31.66 decline in production of livestock. In agriculture crops 25.00 per cent decline in farm gate prices followed by 85.00 per cent decline in horticulture crops due to disruption in supply chain management and restriction on movement of money, men and closure of APMCs. Impact of Covid-19 on availability of inputs revealed that there was 22.22 per cent decline in availability of inputs like Seeds, fertilizers and pesticides and 21.11 per cent rise in price of inputs. With respect to marketing majority (73.11%) of the farmers faced lack of marketing facilities in agriculture crops, followed by 95.00 per cent in marketing of horticulture produce and 51.66 per cent of the famers faced problems marketing of livestock produce due to disruption in supply chain management and restriction on movement of money, men and closure of APMCs. In impact of Covid-19 on crop shifting pattern 20.00 per cent of the tomato farmers shifted from tomato to groundnut and 10.00 per cent of the farmers shifted from tomato to paddy. Impact of covid -19 on Post lock down preparedness of farmers in production and marketing aspects revealed that majority (80.00%) shown increase rate of dependence on social media Platforms (Whatsapp, Youtube, Facebook etc..) and 23.33 per cent shown increased Interaction with ANGRAU Scientists (RARS/KVK/DAATTCs/DOA/ICAR) and 63.33 per cent of farmers shown interest towards formation of FPOs for production and marketing aspects.

Keywords: COVID-19, farming activities, livability

Introduction

The novel Corona virus (COVID-19) pandemic has rapidly spread across the world, adversely affecting the lives and livelihoods of millions across the globe. India has reported its first infection on 30 January 2020, prompting the authorities to soon initiate various measures to contain the spread of the epidemic. Given that disease is highly contagious; the much needed nationwide lockdown was enforced starting 25 march 2020 in order to contain the spread of covid-19 pandemic (NABARD, 2020) ^[13]. During the initial few weeks, the restrictions were strict and all non-essential activities and businesses including retail establishments, educational institutions across the country were prohibited from operating. Subsequently these restrictions are being gradually eased in phased manner in most parts of the country. While other sectors are reported to be under significant stress, it is important to analyse the impact of Corona virus on agriculture and allied sectors which provide livelihood to majority of the population in India. The agricultural and allied sector carries immense importance for the Indian economy. It contributes nearly 16% to the Indian economy and provides employment to nearly 50% of the work force. (Source: Directorate of economic and statistics, 2020). It is fundamental of for ensuring food security of the nation and also influences the growth of secondary and tertiary sector of the economy through its forward and backward linkages. The performance of agricultural sector greatly influences achievements on many other fronts (srikar, 2020) ^[4]. Agricultural growth reduces poverty directly, by raising farm incomes, and indirectly, through generating employment and reducing food prices. In other words, a thriving agricultural sector is a boon for most sectors of the Indian economy. According to Cariappa, 2021 the results of a 10 point strategy on mitigating the corona virus disease 2019 (COVID-19) on agriculture revealed that usage of social networking applications in the first phase of the nation-wide lockdown and in mitigating productivity losses and in overcoming market constraints. Although, India is one of the largest producer of some of the agriculture and horticulture products. Yet, the national yield of major crops is less than the global average yield production. Further, the national yield of such crops is for less than the highest yield achieved

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in other parts of the world. The Covid 19 pandemic has adversely impacted the global agriculture and Indian agriculture sector is no exception.

Research Methodology

A well structured interview schedule was designed and test checked internally. The data and feedback obtained through purposive random sampling method. In Andhra Pradesh Chittoor district was purposively selected based on highest area under cultivation in food crops, horticulture crops and livestock. (Source: <http://karshak.ap.gov.in/ekarshak>). In Chittoor district Madanapalle, Palamaneru and Pileru divisions were purposively selected based on highest area in cultivation in food crops, horticulture crops and livestock. Two villages were randomly selected from each mandal and a total of six villages from three divisions were selected. From each village twenty respondents were randomly selected thus making a total of 120 respondents. Primary data used for the study, the data was collected by researcher. Data obtained were analyzed using descriptive statistics such as percentage, frequency distribution, standard deviation and mean score.

Variables considered for study are impact of COVID 19 on field crops, horticultural crops, livestock production and productivity; crop shift by farmers due to labour migration and availability and to ascertain post lock down preparedness of farmers in production and marketing aspects.

Results and Discussion

Impact of COVID-19 on Farming activities in Chittoor district of Andhra Pradesh revealed that there was an average 6.66 per cent decline in production of agriculture, 26.66 per cent decline in horticulture and 31.66 decline in production of livestock. In agriculture crops 25.00 per cent decline in farm gate prices followed by 85.00 per cent decline in horticulture crops. Impact of Covid-19 on availability of inputs revealed that there was 22.22 per cent decline in availability of inputs like Seeds, fertilizers and pesticides and 21.11 per cent rise in price of inputs. With respect to marketing majority (73.11%) of the farmers faced lack of marketing facilities in agriculture crops, followed by 95.00 per cent in marketing of horticulture produce and 51.66 per cent of the famers faced problems marketing of livestock produce.

Table 1: Impact of Covid-19 on Field and Horticultural Crops

(n=120)

| S.No | Parameter | Agriculture crops | | Horticulture crops | | Livestock/Poultry | |
|------|--|-------------------|-------|--------------------|-------|-------------------|-------|
| | | F | P | F | P | F | P |
| 1 | Impact on Production (-6.66-21.66) | 8 | 6.66 | 32 | 26.66 | 38 | 31.66 |
| 2 | Impact on Farm Gate Prices (- 41.66%) | 30 | 25.00 | 102 | 85.00 | 24 | 20.00 |
| 3 | Impact on Availability of Inputs (-22.22%) | 20 | 16.66 | 28 | 23.33 | 32 | 26.66 |
| 4 | Impact on prices of inputs (+21.11%) | 24 | 20.00 | 24 | 20.00 | 28 | 23.33 |
| 5 | Impact on Marketing (-73.11%) | 88 | 73.33 | 114 | 95.00 | 62 | 51.66 |
| 6 | Impact on Labour availability (-39.16%) | 42 | 35.00 | 52 | 43.33 | 52 | 43.33 |

Impact of COVID-19 on Farming activities in Chittoor district of Andhra Pradesh revealed that agriculture production (-6.6 %) had not been adversely impacted significantly, mainly due to the fact that harvesting of rabi crops was almost complete by the end of April 2020. However, production in allied sector had declined significantly, especially in Livestock/poultry sector (-31.66%) primarily due to drastic decline in demand for these products possibly due to the widespread fear circulating in the wake of COVID 19 regarding safety of non-vegetarian food, particularly poultry. Similarly, production in horticulture crops (-26.6%) also reduced, owing to reduced demand for these products and disruption in their supply chain.

Impact on Farm Gate Prices: Farm gate prices have shown one-fourth decline in agricultural crops (-25%). However, prices in allied sectors had declined in the range of 41.66 per cent. This decline was highest in horticulture sector (-85.00%), followed by poultry (-20.00%) sectors respectively, mainly due to supply disruption caused by restriction on movement of vehicles and closure of Agriculture Produce Market Committees (APMCs). On the whole 41.66 per cent of sample size witnessed adverse impact on farm gate prices of agricultural produce.

Impact on Availability of Agri Inputs: Due to restrictions imposed on movement of men/material and closure of shops, availability of agri inputs viz. seeds (-21.2%), fertilisers (-24.2%), pesticides (-21.8%), fodder (-19.8%), etc. declined in the range of 22.22 per cent. On the whole 55 per cent sample size witnessed adverse impact on availability of agri inputs.

Impact on Prices of Agri Inputs - Due to disruption in supply chain owing to restrictions on movement of vehicles and

closure of shops and markets, prices of agri inputs viz. seeds (20.7%), fertilizers (27.0%), pesticides (19.0%), fodder (18.0 %), increased in the range of 21.11 per cent. 54 per cent of sample size witnessed an increase in prices of agri inputs, possibly due to its non-availability.

Impact on Agriculture Marketing –Even though local procurement centres were opened by various State Governments under their jurisdiction, yet restrictions on movement of vehicles had adversely impacted about 74 per cent of sample size witnessed impact of agriculture marketing through mandis. The impact on operation of rural haats was more severe, with 73.33 per cent on marketing of agricultural crops followed by over whelming 95.00 per cent on marketing of horticulture produce and 43.33 per cent on marketing of livestock being adversely affected. This was mainly due to a complete ban on opening of rural haats by the local authorities in majority of the districts in the country.

Impact on Labour availability: Due to disruption in supply chain owing to restrictions on movement men and vehicles 35.00 per cent labour shortage witnessed in agriculture crops followed by 43.33 per cent in horticulture crops and livestock activities. On the whole 39.16 per cent sample size witnessed adverse impact on availability of labour.

Table 2: Crop shifting pattern

(n=120)

| S.No | Previous crop (Pre covid-19) | Shifting crop (Post covid-19) | F | P |
|------|------------------------------|-------------------------------|----|------|
| 1 | Tomato | Groundnut | 2 | 20 |
| 2 | Tomato | Paddy | 12 | 10 |
| 3 | Pomegranate | Mango, Papaya, Jamun | 8 | 6.66 |

In impact of Covid-19 on crop shifting pattern 20.00 per cent of the tomato farmers shifted from tomato to groundnut and 10.00 per cent of the farmers shifted from tomato to paddy.

The probable reason might be due to lack of storage facilities and fluctuations in prices of tomato and closure of agriculture market committees.

Table 3: Post lock down preparedness of farmers in production and marketing aspects

(n=120)

| S.No | Component | Production | | Marketing | |
|------|---|------------|-------|-----------|-------|
| | | F | P | F | P |
| 1 | Dependence on Social Media Platforms (Whatsapp, Youtube, Facebook etc.) | 32 | 53.33 | 48 | 80.00 |
| 2 | Interaction with ANGRAU Scientists (RARS/KVK/DAATTCs/DOA/ICAR) | 19 | 31.66 | 14 | 23.33 |
| 3 | Formation of FPOs | 29 | 48.33 | 38 | 63.33 |
| 4 | Interest in New Technological Advances | 26 | 43.33 | -- | -- |
| 5 | Professional Communication | 17 | 28.33 | 28 | 46.66 |

Impact of covid -19 on Post lock down preparedness of farmers in production and marketing aspects revealed that majority (80.00%) shown increase rate of dependence on social media Platforms (Whatsapp, Youtube, Facebook etc.) and 23.33 per cent shown increased Interaction with ANGRAU Scientists (RARS/KVK/DAATTCs/DOA/ICAR) and 63.33 per cent of farmers shown interest towards formation of FPOs for production and marketing aspects.

The possible reason might be that with increased internet penetration and growing social media presence will raise awareness on latest farm technologies and proved immensely useful to farmers in seeking solutions to their day to day agricultural problems pertaining to crop production, plant protection, weather advisories, livestock diseases and overcoming marketing problems during pandemic. Timely information availability ensured farmers overcome travelling difficulties in far way extension institutions i.e, KVK and DAATTCs during lock down period and helped them to receive immediate advice and save their crop from losses. Majority of Farmers shown interest in formation of FPOs so that they gain access to critical inputs, technology, credit and market access which will be useful in overcoming future pandemic situations. Relevant solutions through commodity based Whats App groups helped owners to reduce pest and diseases and post-harvest losses. Social media facilitates the farmers to exchange professional information in agriculture and allied sectors after post-covid.

Conclusion

Impact of COVID-19 on Farming activities in Chittoor district of Andhra Pradesh revealed that there was an average 6.66 per cent decline in production of agriculture, 26.66 per cent decline in horticulture and 31.66 decline in production of livestock. In agriculture crops 25.00 per cent decline in farm gate prices followed by 85.00 per cent decline in horticulture crops due to disruption in supply chain management and restriction on movement of money, men and closure of APMCs. Krishi Vigyan Kendra's are already maintaining farmer WhatsApp groups and Blogs and it can increase through certain other means like short duration YouTube videos, Face book stories etc. It has huge potential as it makes collaboration and participation of clients for getting quick feedback. Mostly during pandemic situations or any natural disasters or social emergencies it facilitates faster communication and mitigates losses helping stakeholders to react quickly

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