

## Review Article

# Impact of covid-19 pandemic and its containment measures on food security, agriculture and agriculture extension in india

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**Covid -19 Pandemic effects on affected individuals and their families, social and economic implications of home isolation, hospitalization, social distancing, and containment measure like use of masks, frequent handwashing, keeping safe distance and cough etiquettes, multiple lockdowns and local restrictions including sealing of apartment complexes and villages, posed a significant risk to Indian household food security in last 15 months. The pandemic exhibited the crude phenomenon of the fragile living of over 100 million migrant workers, daily wage earners, vegetable and flower vendors, some middle-income contractual workers as they either lost their jobs or had cut in the income. They had to take loans if there was a hospitalized Covid 19 patient in the family. Many daily wage earners had to walk miles on empty stomachs as the city transports were disrupted. Even the Indian national managers of the pandemic did not foresee such a situation.**

**Key words:** Covid 19 pandemic, lock down , government stimulus liberalization of agriculture market

## INTRODUCTION

Fortunately, India had sufficient buffers of food grains- 58.4 million tons and pulses 3 million tons as of March 2020, but not other commodities such as fruits and vegetables, eggs, meat, milk, and sugar that constitutes 78% of the total food consumption. As against other sectors of the economy, agriculture has surely shown more resilience. The country's farmers have successfully harvested winter crops. Even sowing of summer crops has progressed well, despite constraints in timely supplies of inputs at reasonable prices. Since agriculture directly impinged on Household Food Insecurity (HFI), most of its operations were exempt from restrictions imposed due to the pandemic [1]. Impact of the lockdown on the Indian agriculture sector has been complex and varied across diverse segments that constitute the agricultural value chain. Acute shortage of labor, reverse migration, harvest, transportation and logistics and exports were some of the unforeseen challenges that the stakeholders across the value chain witnessed.

Agriculture is by far the largest employer in India as nearly 700 million people make a living from it, though it contributes only around 17% for GDP. For decades, the government had shielded farmers from the free market by providing price supports on some crops, running wholesale markets where farmers can sell their goods, and rounding up buyers to guarantee sales. Now, the government

plans to take a step back, with the hopes that the free market will boost an industry that has stagnated over time. But some mediators than actual farmers fear the perils of liberalization than prospects that even if the free market helps the overall economy.

The COVID-19 Pandemic posed huge challenges for the global community, more so to developing countries. It all began with national Governments focus on health issues like upgrading hospital infrastructure like beds, drugs, Oxygen, and ventilators. Personal protectives in April-May 2020, but soon had big impacts on social economic, industrial, and other developmental issues including agriculture extension and food security [3]. The COVID-19 pandemic and its lockdown measures posed a significant risk to Household Food Insecurity (HFI) which in turn had implications for child feeding practices, supplementary feeding programs leading to increase in proportion of malnutrition in developing countries including India and forcing to evolve coping strategies. Nation-wide multiple lockdowns and supplemental lockdowns by each state and districts in the second wave since April 2021, that were enforced in major states like Maharashtra, Delhi, Kerala, Tamandu, Karnataka etc.in India had devastating effects. The resultant panic buying and stockpiling incidents together with spread of misinformation created a sense of food insecurity at local level. The four aspects of Food Security - availability, access, stability, and utilization of food has seen lot

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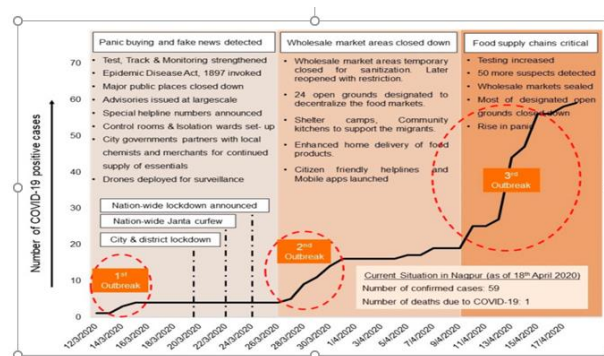
of changes from bad to worse over the last 15 months in India. The pandemic had and continues to have perilous journey southwards particularly of the poor and most vulnerable for food security. The pandemic has explicitly shown the phenomena of the fragile living of over 100 million migrant workers, who had to walk miles on empty stomachs, unprecedented in the history over a century, that even the national pandemic managers and development departments could not envisage such a situation.

## Literature Review

As of March 1, 2020, the country had sufficient buffers of food grains- 58.4 million tons and pulses 3 million tons, but not other commodities like fruits and vegetables, eggs, meat, milk, and sugar that constitutes 78 percent of the total food consumption. Disruption in supply chains and a decline in demand due to loss of jobs or cuts in income had caused a huge loss of production and income to the farmers, traders, and consumers. As against other sectors of the economy, agriculture has surely shown more resilience. The country's farmers have successfully harvested winter crops. Even sowing of summer crops has progressed well, despite constraints in timely supplies of inputs at reasonable prices. Since agriculture directly impinged on FSI, most of its operations were exempt from restrictions imposed due to the pandemic. Agriculture continues to be prominent sector for the Indian economy as it is the primary source of livelihood for over 58% of the nation's population and generates employment for 44% of the workforce. The sector contributes approximately 17.2% to India's GDP and witnessed a steady CAGR of 2.1% between 2014 and 2018. During the same period, the value of agriculture and allied activities rose to INR 27.56 lakh crore in FY 2019 from INR 20.93 lakh crore in FY 2015. Impact of the lockdown on the Indian agriculture sector has been complex and varied across diverse segments that constitute the agricultural value chain. Acute shortage of labor, reverse migration, harvest, transportation and logistics and exports were some of the unforeseen challenges that the stakeholders across the value chain witnessed. Ironically, the onset and the second phase of the of the pandemic coincided with the Rabi harvest and Kharif crop sowing season and is estimated to affect 140 million farmer households across the country. The lockdown delayed harvest of the Rabi crop due to non-availability of labour, machinery (harvesters, threshers, tractors, etc.) and transport, as well as restrictions on movement.

The Indian Government on Wednesday 2 May 2021 gave ex-post facto approval to a proposal to distribute monthly 5 kg free food grains to about 80 crore PDS beneficiaries during the May-June period under the Pradhan Mantri Garib Kalyan Anna Yojana (PMGKAY). The same has been extended till November 2021 on 7 June 2021, to combat the economic impact of COVID-19 on the poor. This is in addition to 5 Kg subsidised food grain under National Food Security Act (NFSA), including those covered under Direct Benefit Transfer (DBT). The total outgo in terms of food grains may be approximately 80 lakh tone and would entail an estimated food subsidy of Rs 25,332.92 crore. The Indian government had recognized the setback faced by the agricultural community, among others, and introduced a stimulus of INR 1.7 lakh crore, mostly to protect vulnerable sections from any adverse impacts of the pandemic. The benefit includes advance release of INR 2,000 directly to the bank accounts of farmers under PM-KISAN scheme. However, despite relaxations, waivers, and financial support given by the government at each phase of the lockdown, the agricultural community has faced several

challenges (Figure 1).



**Figure 1:** Agricultural community has faced several challenges.

## The summary of impact on agriculture sector

Nearly 90% of the farmers were unable to harvest/sell produce or have sold it at reduced prices. The unemployment rate touched a peak of 23% in April and May 2020 during the nationwide lockdown, had come down to 10.18% in June 2020 after unlocking. Unemployment rates has been driven by significant increase in urban unemployment rates at 14.73% in May compared to 9.78% in April and rural unemployment rate at 10.63% as against 7.13% in April 2021. Supply chain bottlenecks resulted in a dip in farm prices of a range of commodities such as tomato, grapes, wheat, other fruits and vegetables, broiler chicken and eggs. The seed industry witnessed a 15-20% drop in sales due to disruptions in supply chain, leading to. nearly 30% of the cotton and maize hybrid seeds replacement market loss for the Kharif season. The micro-irrigation sector, heavily dependent on Pradhan Mantri Krishi Sinchayee Yojana (PMKSY- PMs Lift irrigation scheme) shrunk by 50% for want of an annual PMKSY action plan. Installation of micro-irrigation equipment decreased by 40% in the current Kharif season. In the agro-chemical industry, many players are import dependent and have witnessed constrained availability of raw material, technical support and import of finished products [4]. Unseasonal rainfall and hailstorm in northern parts of India, combined with the lockdown, have adversely affected the yield, delayed the yield estimation for agri-insurance companies, resulting in an increase in agri-claims and delay in pay-outs. Due to high government procurement, wheat stocks are likely to go further up, a huge burden of carrying stocks, to insecure over this period. Children in newly or consistently food-insecure households were less likely to consume a diverse diet compared with those in food-secure households. Households with consistent food insecurity were more likely to engage in coping strategies such as reducing other essential non-food expenditures, borrowing money to buy, or selling to obtain foods. Similar findings were observed for newly food-insecure households. Urban areas have traditionally been reliant on surrounding peri-urban and rural areas to meet their fresh food demands, though the conventional urban-rural food linkages are increasingly stressed due to the fast-growing urban population, rapid urbanization, industrialization, etc. Lately, the industrial supply chains have started to dominate the food markets by maintaining a steady supply of processed food with claims of higher standards. In another study in Nagpur, Maharashtra, the concerns of "Food and Grocery" were found to significantly increase in the lockdown phase along with the concerns of health services. The assessment of perceived food security at household level brought forward the key vulnerabilities in the local food systems, which could not be adequately addressed by the local

governments in the lockdown phase. It is acknowledged that the perceived household food security, immediate concerns, and key information sources are bound to vary significantly between different socioeconomic groups, calling for effectiveness of food-related governance initiatives in pandemic situation. Annual inflation rate in India eased to 4.29 percent in April of 2021, the lowest reading in three months from 5.52 percent in March. Figures came in line with forecasts of 4.2 percent. Food inflation slowed sharply to 2.02 percent from 4.94 percent, mainly due to pulses (7.51 percent vs 13.25 percent) and a bigger fall in cost of vegetables (-14.18 percent vs -4.83 percent). Cost also eased for clothing and footwear (3.49 percent vs 4.41 percent), miscellaneous (6.19 percent vs 6.82 percent) and pan, tobacco, and intoxicants (9.1 percent vs 9.81 percent) but accelerated for fuel and light (7.91 percent vs 4.5 percent) and housing (3.73 percent vs 3.5 percent). India's future inflation trajectory will be shaped by the course of the Covid-19 pandemic, but global commodity price-driven pressures remain a concern. Retail inflation, calculated based on Consumer Price Index (CPI), increased to 5.52 per cent in March, up from 5.03 per cent recorded in February, showed government data released on Monday. Inflation in food basket, or Consumer Food Price Index (CFPI), rose to 4.94 per cent in March from 3.87 per cent in February. Vegetable prices declined 4.83 per cent, while cereal and products and sugar and confectionery segments saw prices fall 0.69 and 0.53 per cent, respectively. This, however, was not enough to moderate the price rise in overall food basket. Oils and fats saw the highest price rise at 24.92 per cent, followed by meat and fish (15.09 per cent), non-alcoholic beverages (14.41 per cent), pulses and products (13.25 per cent), eggs (10.6 per cent), fruits (7.86 per cent), spices (6.72 per cent), prepared meals, snacks, sweets (5.39 per cent), and milk and other dairy products (2.24 per cent).

Inflation in fuel and light segment stood at 4.50 per cent, whereas housing segment saw 3.5 per cent price rise. Health services recorded an inflation rate of 6.17 per cent. Transport and communication got costlier by 12.55 per cent. Demand-supply imbalances may continue to exert pressure on food items such as pulses and edible oils, and the prices of cereals may soften going forward on the back of bumper food grains production in 2020-21

### Proactive actions by GOI

With the Centre having emphasized its commitment to minimum support prices in the face of an agitation by farm unions against the central farm laws, the Union cabinet on Wednesday 9 June 2021 announced new support prices for 14 kharif (summer sown) crops with boosts to oilseeds, pulses and less water consuming nutri-cereals such as bajra and jowar. The MSP of most popular crop paddy got a modest hike of Rs 72 per quintal for 2021-22, compared to previous year. The highest absolute increase in MSP over the previous year was for sesamum, a nutritional oil seed, followed by pulses like tur and urad dals. However, the returns to farmers over their cost of production will be highest in case of Bajra (85%) followed by urad (65%) and tur (62%) and for the rest of the crops, return to farmers over their cost of production is

estimated to be at least 50%, as has been the policy of the government. The Government procured 76,000 crore worth food items at the end of the Rabi season, including Rs 26,000 crore direct payment to Punjab farmers without market middlemen. This hike is in sync with the government's plan to encourage farmers to go for coarse cereals, oilseeds, and pulses in a big way by moving away from water-guzzling paddy. Pathways to action

Stabilizing food systems and keeping inter-district, inter-state, national and international food trade open, increasing health efforts to protect work force along the whole food supply chain, extending social protection, promoting healthy food, and Investing in a sustainable future are key measures. Food security Monitoring & Social Security Provision: Government must expand the use of frequent food security monitoring systems to provide up-to-date information on the impacts of the pandemic and understand better vulnerability. The public sector can distribute concise and clear information via media and other channels about appropriate food hygiene, food consumption and preparation. income - spent mainly on food, Provide MSP for all the products and plan for multiple cash transfers or vouchers via mobile payment systems or other safety net programmers. Government must broaden the vision for a 'nexus approach in the context of Covid-19' and prepare appropriate safety nets for the most vulnerable along the rural-urban link and migrants through vouchers, solidarity funds, food parcels and the facilitation of civil society. Declare food production, marketing, and distribution as essential services, keep trade corridors open for continuous functioning of the critical aspects of food systems. As millions of children missed out on their daily school meals and Anganwadi supplementary feeds for more than a year now, governments must involve local community for supporting healthy diets for poor families in their city/villages.

### Conclusion

Government must encourage creation of more local variety ready to eat foods, walking away from national or even state homogenization that is hindering the nature and its natural equilibrium that might ultimately hinder protection of human beings against zoonosis. Special attention on social protection measures including schemes for provision of subsidised food and employment guarantee in urban areas. Build a strong foundation for effectively managing the local food systems in future pandemics

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