

## Facing the Challenges of Food crisis and Livelihood Security in India under the Threat of COVID-19

Pushpa Yadav<sup>1</sup> and Punit Kumar Agarwal<sup>2\*</sup>

<sup>1</sup>Assistant Professor College of Agriculture, Amreli, Junagadh Agricultural University, (Gujarat), India.

<sup>2</sup>Assistant Professor, Kulbhaskar Ashram P.G. College, Allahabad State University, (Uttar Pradesh), India.

(Corresponding author: Punit Kumar Agarwal\*)

(Received 27 February 2021, Accepted 15 May, 2021)

(Published by Research Trend, Website: [www.researchtrend.net](http://www.researchtrend.net))

**ABSTRACT:** The novel corona virus was first identified in December 2019 and it is a respiratory disease, which had affected to at least 240 countries on the earth. Corona virus has rapidly spread across the world and devastated the lives of millions of people on the earth. Corona virus has affected each and every sector of the economy and it is very difficult to measure its impact on each and every sector separately. One can predict the losses and damaged caused by the virus spread on the bases of available data and facts. Though there are some sectors in which data is not available now, but it can be predicted from the past crisis that the after effect of the pandemic might be more severe than our prediction. These sectors may be the most vulnerable sector and highly affected sectors due to this virus. Agriculture and food sector is one of the sector in which it is very difficult to predict the impact of COVID-19 as of late March, 2020, the impact of this virus on agriculture and food security is yet not known. March and April month is the crucial month for harvesting of wheat and mustard in northern part of the India, at that same time government imposes strict lockdown all over the country to minimize the spread of virus, which was the only solution for that. Shutting down of all the business activities and restricted movement of people have affected the harvesting a wheat crop in Punjab, Haryana and Uttar Pradesh. Not only the harvesting gets affected, the transplanting of paddy and input supply for next crops on the farm was also affected due to the havoc of pandemic. Most of the labour intensive work in agriculture was also delayed due to the restricted movement of labour from one place to another place, which again raises the issue of quality of delayed harvested agricultural produce. Availability of data and records on losses in agriculture sector caused by COVID-19, is one of the major challenges faced by the researcher while preparing the manuscript. So this article is trying to focus on the issue of impact of COVID-19 on agriculture and food security along with the livelihood earning issues of informal sector workers of the country.

**Keywords:** COVID-19, livelihood security, food security, migrant workers, informal sector workers, food supply chain, agriculture sector, lockdown.

### INTRODUCTION

#### *A. Covid-19: A Brief review of the present scenario in India*

The present health crisis across the world has badly affected the life of human being in every corner. The government of each and every nation's has taken this pandemic situation as national emergency and working on the priority bases for protecting the lives of people suffering from this disease as well as the frontline workers, doctors, nurses and health workers of their nation. India declared a three-week nation-wide lockdown till mid-April in the initial phase, which has subsequently been extended till May 3 and again it was extended up to May 17 for achieving satisfactory containment of the virus spread. During this pandemic, how does Indian economy will respond to the crisis and how government measures and policies are going to affect the households across the country? To reduce the impact of COVID-19, government is imposing economic shutdown, full lockdown and strict night curfew all over the country. All the economic and social

activities have stopped, factories are shuttered down and resulting from which, the workers are migrating to their home places, which would further going to interrupt the demand-supply scenario of labour in the country. During this sudden crisis and lockdown, several millions of people lost their jobs specially people who are engaged in agriculture and food sector. The closing of all the economic activities, businesses, industries, restaurants, schools, public parks and universities has risen the numbers of unemployed persons in the country, which further triggered the demand reductions for certain commodities, while the demand for food and agricultural products had increased and this has created the rising concern livelihood security and food crisis in forthcoming months in India. Country has to think on that way, is there any food crisis elucidating in near future. If the current situation is that much irony, the future scenario might not be sympathetic.

The novel corona virus was first identified at the end of 2019 and it is a respiratory illness, which had affected

to at least 240 countries on the globe. Corona virus has rapidly spread its wings and devastating lives of human being in almost all the countries of the world. Although the impact of corona virus on agriculture and food security is very unpredictable, the impact of the virus on food security and agriculture is not yet known, nor will it likely be known for coming months as the spread of the virus is continuously increasing at a different rate. The only thing for which we are very sure and certain is that this pandemic is going to have a strong negative effect on agriculture, including food security and livelihood of the poor and vulnerable people of the society. Looking in to the past, we had witnessed so many unseen risk factors that can be identified and the lesson from the previous pandemics (e.g. Ebola virus disease in West Africa in 2014, Global food crisis of 2008) indicated that the effects on agriculture and food security will be more rapid and more gigantic in proportion.

To limit the spread of the pandemic virus in India, government has taken early action by implementing phase wise lockdown for all economic and social activity, social distancing, testing has been expanded significantly, different schools, buildings, government hostels, guesthouses has converted into quarantine centers. More than 6000 railway coaches have been converted in to the isolation ward and ICU for COVID-19 positive cases. Still the virus has travelled a long way and had affected the large number of people. However, as Corona cases are increasing rapidly day by day, so there is an urgent need to have consciousness about the disease pandemic spread and its impact on different sectors of the country. Along with the sector wise impact there is also a need to identify the most susceptible and vulnerable sector, which is going to be the soft target of this pandemic crisis and this soft target, might be India's agriculture sector and food security.

All the possible steps taken by almost all the governing body of each and every country of the world are definitely helping in limiting the health crisis, but on the other hand the complete shutdown of all economic and social activities except essential services has created an economic crisis and misery for the poor with massive job losses and rising food insecurity. The latest figures from International Labour Organization on massive job loss in four sectors that have experienced the most "drastic" effects of the disease and falling production are: food and accommodation (144 million workers), retail and wholesale (482 million); business services and administration (157 million); and manufacturing (463 million). Together, they sum up to 37.5 per cent of global employment and this is where the "sharp end" of the impact of the pandemic is being felt now, the ILO chief added. Talking about the super economic power country USA, the latest data shows that Over 20 million Americans have now applied for unemployment benefit. Now we can imagine that what will be the situation of developing as well as under developed countries, if the pandemic has that much serious affects on one of the economically supper power country of the world.

India has to be prepared for the worst economic shock till now, as there are two reasons why the economic crisis will be more severe in India. First, pre-COVID-19, our economy was suffering with existing problems of unemployment, agriculture labour migration, low agriculture incomes, livelihood security, malnutrition, and widespread inequality in the terms of distribution of resources. Second, India's large informal sector is particularly vulnerable. According to the available data and facts, it was found that out of the national total 465 million workers; around 91% (422 million) were informal workers and not getting regular salaries or incomes. These agriculture migrant and other informal workers would be more vulnerable and severely-hit during the lockdown period. Here, this article would focus on the likely impacts of COVID-19 on agriculture, supply chains, food crisis and livelihood security in India.

There are some past pandemics that the world has experienced, it has been shown that quarantines and panic have an impact on human activities and economic growth (Hanashima and Tomobe, 2012; Bermejo, 2004; Arndt and Lewis, 2001); but, the effect also occurs in agricultural activities. When there is an outbreak of infectious disease, there is also an increase in hunger and malnutrition (Burgui, 2020; Sar *et al.*, 2010). Talking about agriculture, we all know that it a part of life and is one of the most important sectors in human development and is related to food security (Abdelhedi and Zouari, 2020; Kogo *et al.*, 2020; Lopez-Ridaura *et al.*, 2019). The Food and Agriculture Organization (FAO, 2020a) states that COVID-2019 is affecting agriculture in two significant aspects: the supply and demand for food. These two aspects are directly related to food security, so food security is also at risk. The food supply chain is a network that connects an agricultural system (the farm) with the consumer's table, including processes such as manufacturing, packaging, distribution, and storage (Chen *et al.*, 2020).

Initially, the announcements of social isolation made people go to the supply centers and generate a shortage of some products, despite this, the food supply has stabilized because it is one of the systems that must be maintained to ensure food security. One of FAO's roles is to promote that food value chains are not interrupted and continue to operate (FAO, 2020b, FAO, 2020).

It was found from the previous researches and studies that there is always a risk of developing a new infectious disease (Burnet and White, 1972), from the Spanish flu of 1918, to AIDS that still has no definitive cure. It is very unfortunate for all of us that, Covid-19 is the contagious disease that threatens and disturbs humanity and till the date is also not curable, hence the objective of this research paper is to analyze the relationships between agriculture and food security and how these relationships are being affected by the disease of COVID-19.

#### *B. Mitigation Measures and Researchable Issues*

For strengthening the farmers so that they can cope up with this pandemic and bear the losses due to the nation-wide lockdown, the Indian Finance Minister

declared an INR 1.7 trillion package, which mostly cover the vulnerable sections (including farmers) from any adverse impacts of the Corona pandemic. The Indian government also announces a benefit of, contained advance release of INR 2000 to bank accounts of farmers as income support under PM-KISAN scheme. The wage rate under the MNREGA scheme was also raised to support the agricultural laborers and their family. Under the special scheme of *Pradhan Mantri Garib Kalyan Yojana* (Prime Minister's scheme for welfare of the poor), was announced during the time of lockdown, under this scheme additional grain allotment was done to registered beneficiaries for the next three months. To cater the need of migrant laborers and informal sectors workers who lost their jobs due to lock down, government announces cash and food assistance for them. A separate PM-CARES (Prime Minister Citizen Assistance and Relief in Emergency Situations) fund has been created to cater the urgent need of health infrastructure and facing the immediate challenges.

The Indian Council of Agricultural Research (ICAR) has issued state-wise guidelines for farmers to be followed during the lockdown period. The advisory mentions specific practices during harvest and threshing of various *rabi* (winter sown) crops as well as post-harvest, storage and marketing of the farm produce.

The Reserve Bank of India (RBI) has also announced specific measures that address the "burden of debt servicing" due to COVID19 pandemic. Agricultural short term and crop loans have been granted a moratorium of three months (till May 31) by banking institutions with 3 percent concession on the interest rate of crop loans up to INR 300,000 for borrowers with good repayment behavior. These measures have taken by the government to support the Indian farmers, agricultural labours and vulnerable section of the society, but still there are so many immediate challenges and researchable issues that have been raised in this manuscript.

- What will be the future of Indian agriculture after COVID-19 pandemic
- Post COVID-19 effects on Indian farm economy.
- Making balance between the supply and demand of the food grains, fruits and vegetables and other essential items available to consumers, both in rural and urban areas, is the most critical challenge for Government.
- Problem of labour scarcity in Indian agriculture sector due to huge migration of farm labours to their home place.
- Delayed agricultural operations are going to create an issue of quality of production.
- Procurement and storage issue of agricultural and livestock products, which are highly perishable in nature.

#### *C. Agriculture Sector is yet to have an unpredictable sever effects*

Although the economic impact has not yet been felt in agriculture, which is one of the largest livelihood earning sector in India and also the backbone of Indian

economy. Risks of food insecurity and livelihood earning are now emerging. As long as the containment measures, including border closures, shutting down of all the economic activities and strict lockdown have applied in the country, the workers in this sector may be increasingly impacted, particularly if the virus spreads further into rural areas. Due to nationwide lockdown in the country, some activities in agriculture have been affected severely. It was reported that harvesting of wheat and pulses in the northern part of India have been stopped and late harvesting was noticed in almost all the crops and again arising the quality issue of the harvested produce. Preliminary reports shows that due to migration of labor to their home town after the lockdown of all the business and agricultural activities, non-availability of labor is interrupting some agricultural operations, like harvesting activities, particularly in Punjab, Haryana and Uttar Pradesh. Disruption in the supply chain of agricultural produce was also noticed during to complete shuttered down of the inter-state and intra-state movement of all the transportation means and other related issues. Prices have decline for wheat, vegetables, fruits and other consumable agricultural crops from the producer's side, yet consumers are often paying high prices. To earn their livelihood and fulfill the family consumption need, farmers would like to sell their produce at any price and this might be going to create the situation of distress sale among the farmers. Poor storage capacity is also one of the strongest reasons behind the distress sale in India. So perishables, unable to reach wholesale markets in time, are going to waste. Wheat prices have jumped by 8% and rice prices by 25% compared with those of March last year. Meanwhile, panic buying across the world is creating more waste and affecting the quality of diets as people struggle to access fresh food. Global action on food was a challenge even before COVID-19. That countries and regions are experiencing the pandemic at different times and in different ways — from China, to Europe, the United States, India and now Africa — has created an ethos of nations acting only for themselves (Torero, 2020).

#### *D. Food supply chain and food prices: The Demand and Supply Havoc*

Restrictions on the movement due to havoc of COVID-19 pandemic have severely affected the agricultural input supply chain at critical time in the season of agricultural operations. It is going to reduce the informal labourers access to farmlands and therefore both their wages and the area of land cultivated is going to reduce drastically. This disruption in agricultural activities, input supply, food supply chain and shutter down of all the industries not only affected the producer side but also had created the problem of food crisis and livelihood insecurity for the people of below poverty line, agricultural laborers, daily wage earners, contractual workers and migrant laborers. This section of society is likely to be more prone to suffer from food crisis and livelihood insecurity under the pandemic situation of COVID-19. Instability generated by an outbreak of COVID-19 and associated behavioral changes could result in temporary food shortage, price

hick and disruption in the market as well as discontinuity of food supply. This is likely to have adverse effects in particular on the most vulnerable section, such as informal laborers, urban population, migrant laborers and others that rely heavily on the market to meet their food need. Restriction on the movement or export/import may create problems in transporting key food items to different geographical locations and access market unit, affecting both producers and consumers side. This may result in low farmers income and instability of food prices thus creating the hue and cry situation for both producer's as well as consumers'.

Researches show that the past epidemic outbreaks represent one specific case of SC disruptions. This type of SC risks is distinctively characterized by long-term disruption existence and its unpredictable scaling, simultaneous disruption propagation (i.e., the ripple effect) and epidemic outbreak propagation (i.e., pandemic effect), and simultaneous disruptions in supply, demand, and logistics infrastructure (Ivanov D. 2020).

Moreover, if food supply chains and movement of key agricultural commodities becomes interrupted then vulnerable population are more likely to move in search of food and livelihood especially in those areas, which are densely populated with existing food crisis and livelihood insecurity problems. In such areas movement restrictions may be much more difficult to control and the migration of people from such areas would further threaten to spread of pandemic virus.

#### *E. Labour migration and food security*

Informal workers, daily wage earners and self-employed workers are among the groups, those are most at high risk of losing their jobs and incomes. The pandemic spread of COVID-19 is expected to have a significant impact on informal workers, landless labourers, daily wage earners and farm labourers. The recent study by ILO, shows that the nationwide lockdown and restriction on the physical movement of the people is going to foster the non-essential business with negative outcomes on labour markets worldwide, particularly in the informal sector. As the COVID-19 spread across the nations and has affected agriculture as well as other important sectors of the country, it is therefore expected that more informal workers will lose their jobs and face extreme poverty and food crisis. Informal workers engaged in agriculture and food supply chain would be at risk of losing their jobs, whereas they are considered as the most important factor of production that should remain operational. Agricultural operations are highly subjected to seasonality so it is influencing the demand for labour in agriculture and the most labour intensive work of planting, weeding and harvesting would overlap with lockdown and restricted movement of people. So the opportunity to supplement their household income and earning livelihood for the agricultural labourers would be lost. Restriction on movement in severely affected cities will hamper the agricultural worker from moving to urban areas in search of job opportunities. This will negatively affect the farmer's livelihoods by abiding

their ability to work for wage, leading to a greater risk of food insecurity and more vulnerable in this pandemic.

Without alternative sources of earning livelihood in cognizance, informal workers will be ready to continue their work without adequate preventive measures or appropriate protection, thus exposing themselves and their families to health and safety risk. Lockdown is also affecting the seasonal migrant workers and daily wage earners and forced to work in the worst conditions, which will make them more prone to health and safety risk. Estimates by the Centre for Monitoring Indian Economy show that unemployment shot up from 8.4% in mid-March to 23% in the first week of April. In urban areas, unemployment soared to 30.9% as of April 5. The shutdown will cause untold misery for informal workers and the poor, who lead precarious lives facing hunger and malnutrition (Dev, 2020).

If further, when these groups of migrant workers, agricultural labourers and farmers are experiencing any kind of income losses, they may follow the negative strategies to cope up the income loss and they will follow the distress sale of crop produce and farm assets. And this would be going to create catastrophic consequences for their life and livelihood.

So far COVID-19 has devastated each and every sector of the economy and it is important to note that all the above discussed impacts could have plausible rate of high risk on the severely food insecure population and threaten the developmental gains in food crisis context. Furthermore, the food crisis impact on vulnerable households will have lasting effects on their lives and livelihood in addition to reduced the number of meals, increased school drop-out rates, reduced means to have health expenditure, gender based violence, selling of productive assets, etc.

#### **POLICY RECOMMENDATIONS**

To cope up with the current pandemic havoc of COVID-19, there are some policy issues and recommendations that need to consider the existing situation of migration, food insecurity and agriculture income.

1. Ensuring to stabilize incomes and access to food as well as securing livelihood and food production assistance for the most acutely food insecure population.
2. Make sure for the continuity of the critical food supply chain for the most vulnerable populations, including between rural, urban and peri-urban areas through support to the fair price shops, local food market and different NGOs.
3. Safeguarding the farmers through fair and remunerative prices for their farm produce to overcome the situation of distress sale, and black marketing of the essential agriculture commodities.
4. Making arrangements of online platform for the sale of agricultural produce through the help of IT industries so that farm community does not have to visit the market yard again and again. This kind of online E-marketing platform is really going to help the farmers to minimize the risk for the exposure of the virus.
5. Creating a platform of testing COVID-19 virus and practicing social distancing for the farm population separately so that farm population could be protected

- from the transmission of COVID-19 to the extent possible.
6. Safeguarding the agricultural laborers through making them conscious about the virus through providing them all the necessary protective measures like mask, hand gloves, PPE kit and hand sanitizer and make them practicing social distancing while performing agricultural work in the field. As these agricultural labourers are at high risk for the transmission of COVID-19, while performing the agricultural operation on the farm.
  7. Mobilizing different communities and raising COVID-19 awareness through the farmer's field, livestock centers and animal health clinics with the help of local community leader.
  8. Safeguarding the interest of consumers also through providing E-marketing platform of fruits, vegetables, wheat, rice, pulses and other essential commodities and make sure that the supply should be door to door so that social distancing and lockdown policy of the government can be maintain.
  9. Ensuring the better preventive measures and health services for the people who are directly involved in the food supply chain and they are at high risk of COVID-19 transmission by creating awareness about food safety and health regulations, including rights, roles and responsibilities of the workers.
  10. Small poultry, piggery, backyard poultry and dairy farmers need more targeted help, as their pandemic-related input supply and market-access problems are urgent.
  11. Farmers, agricultural workers, land less laborers and daily wage earners should be included in the government's assistance package and social protection programs addressing the crisis.
  12. Priority should be given to that area which is already facing the food crisis due to the evolution of pandemic, which may result in vulnerable to the impact of new shock.
  13. Conducting sensitization training and awareness campaign with frontlines workers along the food supply chain on the best practices to mitigate the risk of infection.
  14. The government has correctly issued lockdown guidelines but implementation problems leading to labor migration, shortages of key agricultural items in the market and falling prices should be rectified.

## REFERENCES

- Abdelhedi, I. T., & Zouari, S. Z. (2020). Agriculture and Food Security in North Africa: a Theoretical and Empirical Approach. *Journal of the Knowledge Economy*, **11**(1), 193-210.
- Arndt, C.; Lewis, J.D. (2001). The HIV/AIDS pandemic in South Africa: Sectoral impacts and unemployment. *Journal of International Development*, **13**(4): 427-449.
- Bermejo, A. (2004). HIV/AIDS in Africa: International responses to the pandemic. *New Economy*, **11**(3): 164-169.
- Burgui, D. (2020). Coronavirus: How action against hunger is responding to the pandemic. Available in: <https://www.actionagainsthunger.org/story/coronavirus-how-action-against-hunger-responding-pandemic>
- Burnet, M.; White, D.O. (1972). Natural history of infectious disease. 4th ed. Cambridge, United Kingdom: Cambridge University Press. 279 pp.
- Chen, S.; Brahma, S.; Mackay, J.; Cao, C.; Aliakbarian, B. (2020). The role of smart packaging system in food supply chain. *Journal of Food Science*, **85**(3): 517-525.
- Dev, S.M. (2020). Addressing COVID-19 impacts on agriculture, food security, and livelihoods in India. *IFPRI book chapters*, 33-35.
- FAO - Food and Agriculture Organization. (2020b). FAO Director-General urges G20 to ensure that food value chains are not disrupted during COVID-19 pandemic. Available in: <http://www.fao.org/news/story/en/item/1268254/icode/>
- FAO - Food and Agriculture Organization. (2020a). Q&A: COVID-19 pandemic - impact on food and agriculture. Available in: <http://www.fao.org/2019-ncov/q-and-a/en/>
- FAO. (2020). Addressing the impact of COVID-19 in food crisis. Rome. <https://doi.org/10.4060/ca8497en>.
- Hanashima, M. and Tomobe, K. (2012). Urbanization, industrialization, and mortality in modern Japan: A spatio-temporal perspective. *Annals of GIS*, **18**(1): 57-70.
- ILO. (2020). Informal economy in South Asia.[online]. Genev. <http://www.ilo.org/newdelhi/areaofwork/informal-economy/lang-en/index.htm>.
- Ivanov D. (2020). Predicting the impacts of epidemic outbreaks on global supply chains: a simulation-based analysis on the coronavirus outbreak (COVID-19/SARS-CoV-2) case. *Transp. Res. Part E* 2020; **136**: 101922. doi: 10.1016/j.tre.2020.101922.
- Kogo, B.K.; Kumar, L.; Koech, R. (2020). Climate change and variability in Kenya: a review of impacts on agriculture and food security Environment, Development and Sustainability (in press).
- Lopez-Ridaura, S., Barba-Escoto, L., Reyna, C., Hellin, J., Gerard, B., van Wijk, M. (2019). Food security and agriculture in the Western Highlands of Guatemala. *Food Security*, **11**(4): 817-833.
- SAR, T. T., P.T. Aernar and R. S. Haumsaou (2010). H1N1 Influenza Epidemic: Public Health implication for Nigeria. *International journal of Virology*, **6**(1)1-6, 2010.
- Torero, M. (2020). Without food, there can be no exit from the pandemic. Countries must join forces to avert a global food crisis from COVID-19. *Nature*, **580**: 588-589.

**How to cite this article:** Yadav P. and Agarwal, P.K. (2021). Facing the Challenges of Food crisis and Livelihood Security in India under the Threat of COVID-19. *Biological Forum – An International Journal*, **13**(1): 622-626.