

COVID–19: Impact on Agriculture Sector in India

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ABSTRACT

COVID-19 has emerged as a global pandemic which has disturbed almost every manufacturing and service sector and has brought the world economy to the stand still. One such victim of global pandemic is agriculture sector and so the Indian agriculture sector too is not unleft from its effect. Agriculture is the mainstay of the economy of India. Directly or indirectly, 55 percent of the population of the country relies on demand for climate-sensitive farming. The pandemic-induced lockdown in India imposed at midnight on 24 March, 2020 has forced nearly all employees to stay at home or in quarantine centers. This restriction has agitated global economy and is feared to trigger prolonged global recession in many countries. According to IMF, the GDP growth rate of India has been estimated of 1.9 per cent only. The social restriction imposed coincided with the country's peak harvesting time of crops like wheat, barley, mustard, peas, and variety of pulses. In the present review, we have highlighted the implications of COVID-19 in Indian agriculture sector and have attempted to bring up the considerable resilience to the current scenario.

Keywords: Agriculture, Climate, COVID-19, Farmers, Pollution

INTRODUCTION

Indian agriculture is mainly intensive and is currently concerned about the decline in productivity, mainly due to deterioration of soil health, surface/groundwater concerns, and new emerging insects/pests. Future climate change is identified through a historical analysis of climate and future climate change scenarios developed around the world. The impacts of climate change and its uncertainties on crop yields, crop production, and crop systems are designed by crop simulation model (IOL, 2020). Appropriate adaptation and mitigation strategies are effectively illustrated by the use of crop models. The impacts on a regional scale need to be examined by combining cultural models with biophysical and socio-economic related layers. COVID-19 pandemic is a concern linked with the rapidly changing situation in the world. As concerns about the virus continue to grow, it causes agriculture disruption and causes a major recession in the general economy.

The pandemic is a serious time for human well-being, but it is the best time for the healing of the Earth, since it has taught everyone that the Earth does not need humans for its rejuvenation. It is the land that helps humans survive and for this we must also contribute to nature by planting more trees, avoiding pollution, eliminating less chemicals in rivers and, above all, not wasting cereals and food, water. "Save the earth and the earth will save you" for decades (Ananth, 2020).

The COVID-19 blockade has caused many casualties around the world, but it has also shown us how the planet heals from behind windows. While the blockade reduces toxicity levels in the environment, the question that still exist is., Can we continue these practices after quarantine?

Agriculture Problems during COVID-19 pandemic

There are distinct issues to be studied and prepared by landowners, farm families, agricultural employers, and employees. The COVID-19 pandemic, with its long supply chains and endless nodes, has posed yet another major threat to our global food network. It is yet another proof that another local farming network will help urban communities build a more sustainable food system for their residents. The present agricultural issues relate primarily to (a) the availability of labor and (b) the inability to access commodity markets due to transport problems and the functioning of the economy. Migrant labor shortages have led to a sharp increase in daily income from harvesting. The rise is 50%, but it is not lucrative for farmers as prices have plummeted due to lack of market access, including transport disruption and border closure. Rising labor costs and lack of access mean that farmers experience substantial losses that caused crops to rot in the field. The most important issue to contend with by farmers is the question of paying off their crop loans and gold loans, at least to those who have received formal bank loans. Crop loans will also be repaid between April and May, and at the start of the new season, a payment plan will be made available.

Beneficial or harmful for agriculture

Lessons learned from the COVID-19 Pandemic Action Plan: While the world is still grappling with the rapid onset of the COVID-19 crisis, and as it is early to say which response approaches have been most effective, we may already begin to learn lessons to help shape our response to the disaster. Climate change is on a gradual path (Bhosale, 2020). Here, we share seven lessons on how to ensure that the recovery from the COVID-19 crisis takes place in a way that continues to place the 2030 Agenda and the Paris Agreement at the root of efforts to achieve sustainable development. Well-informed climate talks, including the Intergovernmental Panel on Climate Change (IPCC), mean unhindered accountability and scientific collaboration. Those left behind in the case of climate change include poor farmers, people without access to basic facilities, people living in the slums, and climate migrants.

If the pandemic subsides, and if it does, things are far from normal. "In India, nobody seems to be worried that Climate change is a much bigger problem than this Pandemic situation. Isn't it curious that COVID-19 is the very thing that helps us minimize global carbon emissions when we need it most? What if the crisis was the veiled blessing of nature? Microbes are the framework that has controlled everything for billions of years: the environment, the ecosystem, the oceans, and even the origin of organisms. "There are people who are concerned about the economy when they should fear the continuing mass extinction of the entire continuum of biodiversity that has evolved long before us and helped humanity to survive," said Mr. Gupta of Jaipur, author of the popular Compasswallah blog. "History shows that pandemics such as COVID-19 often last for years and occur in repeated waves.

Why does Indian agriculture respond to the crisis, and how does policy intervention have an impact on 140 million farm households around the world and, as a result, on a very significant country's economy in developing countries? Government assess the immediate challenges presented by

COVID-19 to the agricultural sector and recommend mitigation measures to ensure a sustainable food system in the post-crisis era (Carberry & Arabinda, 2020). The government has raised the wage rate for hired workers under the MGNREGA (Mahatma Gandhi National Rural Employment Guarantee) largest wage guarantee scheme in the world. Since about 85 percent of Indian farm families are small and marginal farmers, and a large proportion of the population are landless farm-workers, welfare initiatives to mitigate any harm caused by COVID-19 would make it possible for them to do so sincerely. People who live outside agriculture and allied activities, particularly those who lose their income during this period of informal work closure, need to have alternative means before the economy recovers. In the short term, the manufacturing and service industries may be severely affected until the economy recovers.

Three main parts: Environment, Food safety, and Agriculture.

Agriculture is the pillar of any economy. It is a job creating sector that aids in continuous running of the country's economy. Most farm-workers can't avoid hunger and food shortages when they try to feed the planet. When the pandemic spreads, the continued operation of food supply chains is vital to avoid food shortages and to reduce the adverse effects on the global economy. Coordinated strategic responses are needed to help millions of farm-workers' agri-food industries, livelihoods, and working conditions comply with applicable international labor standards. As we talk about the Indian economy, this sector is limited to the majority of the population. The livelihoods of all farmers and individuals entering this field are at high risk, whereas a brief pandemic period might leave a severe impact on the agricultural sector. Noteworthy, in 1943, nearly 2-3 million people died in the West Bengal famine in India due to the disruption of the food supply chain. There was no food shortage, but the supply chain was completely disrupted. During Nationwide lockdown, the Indian Government has announced an assistance package that includes cash transfers and maintenance. Indian farmers have repeatedly criticized the government for spending only 0.85 percent of Indian GDP on agriculture, which will lead to food and nutrition stability, farmers' empowerment, and growth in the economy. Quarantine and the deterioration of the supply chain of the industry, along with the disruption of trade, are limiting people's access to safe food sources. It has contributed to multiple losses as a source of income for those farmers who are dependent on their agricultural products. This obstructive aspect of the supply chain has caused a great deal of damage to all agricultural products with limited shelf life.

India's closure to monitor the COVID-19 outbreak has cleared the streets of the area, leading to a dramatic reduction in air pollution. Collective efforts to monitor the COVID-19 pandemic in India provide useful lessons that could form science-based climate change policies across countries. In the light of the climate-related disasters and the IPCC's latest limited-time alert, we need to reduce the global temperature increase from pre-industrial times to 1.5 degrees Celsius, and the risk of climate change needs more concerted action and coordinated response to tackle what lies ahead, similar to the current pandemic (Kapil, 2020). Gujarat is a former member of the UnderCoalition of the Alliance of States and Regions, the global coalition of states and national governments committed to aggressive climate action in line with the Paris Agreement. Stressing this and the positive effects of childbirth, Mudit Kumar Singh, Director-General of the Chhattisgarh Science and Technology Council, and former Chhattisgarh State Center for Climate Change, said: "Chhattisgarh is a way to get access to biodiversity and a forest-rich state.

The main summer growing season, which starts in the month of May, could have a serious impact on agricultural production. Indian farmers are no strangers to the crisis, but the current disturbance of the pandemic is unprecedented. In particular, the government must step forward to help smallholder farmers and marginal farmers through a package of tax incentives which must include unconditional transfers of money to poor rural families, economists and agricultural (Carberry & Arabinda, 2020). Even before the closure led to labor shortages and a virtual halt in the transportation of agricultural products, farmers saw losses in the winter harvest due to the exceptionally intense rains in March, which flattened the harvest in many places in the country. Farmers are concerned about the possible shortage of agricultural inputs, such as seeds and fertilizers, before the summer harvest. As local authorities restrict the movement of trucks loaded with agricultural chemicals, seeds, and fertilizers in many parts of the country, there is a possible shortage of these key inputs for the Kharif (monsoon or autumn) plantation season. "If there is a shortage, which seems likely, and the price of seeds increases, small producers and marginal farmers will be forced," said Mondal of ASA (Action for Social Advancement) (Taylor, 2020). "We must make informed decisions so that our agriculture and our food supplies are not threatened by COVID-19," said Singh, the seed industry needs a special stimulus package for small and medium-sized enterprises. Besides, if food is provided to farmers who need money to buy seeds and fertilizers for the sowing season, they added that they added that this was partially recognized by the government in the money transfers it offered to some groups, but the quantities are both limited and direct. "Given the extreme shortage of liquidity, the government can help by providing INR 5,000 (USD 67) per month to marginal smallholder farmers for 4-5 months," said Mondal. Acharyya, who requested cash transfers to small farmers of INR 7,500-10,000 (USD 100-133), said the government can do so.

More than half of the farmers who harvested underperformed crops during the national shutdown compared to the last planting season of the same crop surveyed 1,500 farmers in 12 states in 200 districts. The blockade forced 55 percent of farmers to keep their crops because they could not sell them to avoid the spread of the latest COVID-19. According to the survey, the losses to 40 percent of farmers who suffered yield losses were due to a lack of manpower, storage, or transportation options. According to the survey, roughly 30 percent of them were unable to harvest their crops because of closure issues. Of the 63 percent of farmers who have been able to harvest their crops, 22 percent have had to hold their crops due to closure problems. Around 12% of farmers still tried to sell their crops while 44% of farmers were able to sell their crops (Stephenson & John. 2020). State patterns in wheat harvesting regions of Indian states have shown that farmers in Bihar, Haryana, Madhya Pradesh, Rajasthan and Uttar Pradesh states store large quantities of crops, except for Punjab state.

Rural economy under threat

Long blockades coupled with rain and hail storms have increased rural misery in many areas, causing lenders to distressed peasants, a situation that farm leaders claim will lead to upheavals and suicides unless farmers get fast relief. Disruption to the market poses a significant challenge to the virus (Taylor, 2020). Ganesh Adatrao, from Marathwada's Osmanabad district, where many farmers have committed suicide in the past, said the prices of essential commodities are rising and regular bets on lenders have gone up. "Kirana owners insist on buying through cash." Because there is no job there is no cash available, "Adatrao said." He said the people who lent were under pressure to

pay." "I 'm scared; this should not lead to a rise in people's depression and suicide," said Adatrao, whose peasant father had committed suicide. "As the world is trying to recognize a rise in infections and a death toll of close to 217,674, the extensive blockades declared in major economies to flatten the spread of the virus has contributed to a potentially enormous economic impact. In a survey conducted by Ipsos (a multinational market research agency), it was observed that of 10,000 people in 12 countries, including India, people see COVID-19 as an economic crisis, if not more than a crisis of public health. In India, 71 percent of respondents see COVID-19 as a personal health risk, while 75 percent expect a personal financial impact.

What does this mean for future public support for protecting the environment and mitigating climate change? Use aggregated data as well as data from individual respondents, this study indicates that during economic recessions support appears to be lower. India's two-cycle economic growth in favor of environmental conservation using data from the 2006 World Values Survey as the Indian economy grew and GDP growth started to decline in 2014. Past work indicates that the negative economic effect of the blockades is likely to reduce public support for environmental conservation and the fight against climate change.

Environmental activists in many countries, including the United States, have made it challenging to mobilize public support for further optimistic climate action even under normal economic conditions. Evidence indicates that, while climate change mitigation policies are defined as financially beneficial, there is unlikely to be more public support for climate mitigation policies. Climate science is clear that, in the absence of concerted action, the potentially catastrophic consequences of climate change are emerging rapidly.

This indicates that although they are correlated with negative economic effects, the public is likely to support concrete steps to reduce the impact of COVID-19 (Dabur , 2020). The new line of longitudinal work has shown that health benefits action to tackle climate change is likely to improve public engagement and encourage climate reduction policies. However, this could be quite challenging given that, contrary to the pandemic crisis, the health impacts of climate change are likely to be less dramatic and visible, as well as the correlation between climate change and its impacts is far less direct.

Post lockdown Effect

Can India use the current upheaval as an opportunity to accelerate the inevitable and urgent transition in a regenerative, sustainable, low-carbon economy and build a new paradigm of growth that the world needs to adopt? Scientists have already identified the effects of global warming on India's development, and the escalation of severe climate disasters. WHO has described rising temperatures and potential climate change as a major cause of emerging infectious diseases and the spread of antimicrobial resistance that could increase the risk of potential epidemics and increase pressures on essential infrastructure such as public health in developing countries. Further emphasis on shifting to green energy, building sustainable infrastructure, and smart climate agriculture as part of a broader recovery would help achieve energy and food security and promote long-term economic growth by fostering wealth, jobs, well-being, and resilience (Turaga, 2020). While nearly 31 million households still lack access to electricity, there are major opportunities for decentralized renewable energy solutions (DREs), such as solar lighting systems and microgrids.

The Labor Organization estimates that India's transition to a green economy by 2030 alone will create 3 million jobs in the renewable energies sector. The creation of infrastructure, investment, and renewable energy expansion strategies, such as electricity grids, electric vehicle charging systems, and energy storage, would accelerate low-carbon development and present new long-term economic opportunities in the long run. While the two states' (Orissa and Kerala) post-catastrophe assessment shows that rebuilding critical infrastructure will take about ten years, their lack poses a serious risk and limits response capacity, particularly in uncertain times, as is the case with the current COVID-19 pandemic. Considering that the global economy is likely to suffer a significant blow from the pandemic, the movement of finance and resources from developed countries will be profoundly affected to assist developing countries in the transition. India has the opportunity to lead a new economic development paradigm focused on low carbon emissions, climate resilience, and inclusive and sustainable pathways, and pursue international collaboration to resolve the economies' deep vulnerabilities in the face of potential risks.

Conclusion

December 2019, COVID-19 eruption in the Chinese Wuhan region turned into a global pandemic affecting nearly 20 Lakh residents with a death toll of nearly 2 Lakh residents. While almost all people are recovering every day, this natural disaster has no surprise for the global financial system, and at the same time, has some compelling hint of it. The most responsive agricultural sector, the backbone of Indian subcontinent, is also affected by the externalities of the COVID-19 eruption. While not directly, but indirectly, due to the impact of COVID-19 dispersion, i.e. blockage across the country has become a black opening for the farmer community, income which is likely to decline. It was mainly because of the blockade that restrictions on the movement of agricultural products from their place of origin to the final user were hindered. Another concern is the lack of manpower due to the fear of viral transmission, which inevitably contributes to the loss of harvested goods, in particular fruit and vegetables, which are perishable in the agricultural sector. Although not directly, implicitly, due to the spread of crown infection, the closure of the nation is a dark opening to the net of cultivation. Breeders are likely to experience a decline in their wages. In general, as a result of the blockade, restrictions on the production of agri-food products from their place of formation to the final purchaser have been hindered.

Due to the fear of viral transmission, there is shortage of labour power which ultimately results in the waste of goods mostly collected in the ranch area, food produced from land of a transitory nature. Corona's pandemic of infection has had a potential impact on the network of agri-food supply stores, the mind-blowing network of the producer, the carrier, the dealer, and, finally, the consumer. Similarly, the Kharif and Rabi crop organization, which will trigger a major halt in the coming agricultural seasons, has been halted.

Smallholder farmers are a key part of India's food value chain and a key part of the global food system. Due to their limited access to resources, credit, and basic health care facilities, smallholder farmers are very vulnerable to the crisis. Health-related stressors, such as COVID-19, have a significant impact on the agricultural sector by exposing the vulnerability of food and distribution systems to destabilizing supply chains and disrupting cross-border trade. Nonetheless, prompt action must be taken to ensure that any structural shocks can be handled quickly and effectively, and to protect and encourage the sustainability of local food sources.

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