



Impact of COVID-19 Lockdown on Indian Agriculture: A Comprehensive Research Analysis

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DOI- 10.5281/zenodo.10679022

Abstract:

This comprehensive review explores the multifaceted challenges faced by the agricultural sector in India during the COVID-19 pandemic. It sheds light on the stark contrast between the relative safety of the middle class in their homes and the struggles of farmers and migrant labourers. With a focus on the neoliberal policies in agriculture, the narrative covers issues related to labour migration, small and marginal farmers, the role of women in agriculture, and the impact on specific crops and sectors. Additionally, the study examines the vulnerabilities of tribal communities, the fisheries sector, dairy and poultry farming, and the implications for the overall food supply chain. The research incorporates insights from surveys and reports to provide a comprehensive understanding of the crisis.

Keywords: Agriculture, COVID-19, Neoliberal Policies, Labour Migration, Small and Marginal Farmers, Women in Agriculture, Tribal Communities, Fisheries, Dairy Farming, Poultry Farming, Food Supply Chain.

Introduction

As the COVID-19 pandemic unfolds, this review delves into the profound challenges faced by the Indian agricultural sector. It highlights the paradoxical situation where the middle class finds refuge in their homes while farmers navigate the complexities of producing crops and migrant labourers embark on arduous journeys. The analysis addresses the impact of neoliberal policies on agriculture, emphasizing the increased scale of labour migration, poverty, and the challenges encountered by small and marginal farmers.

This study examines the impact of the COVID-19 lockdown on the agricultural sector in India, drawing on news reports, media reports, newspaper articles and research reports. The government announced a long-running national-level lockdown in March without any exit plan. The months of March-April are the peak time for harvesting of *Rabi* crop and April-May for sowing of *Kharif* crop, both of which depend on migrant Labour. But as is well known, India suffered the largest displacement of migrant workers since independence, during the lockdown, due to the government having made no provision at all either for their staying in place or their travel back home. This essay examines the impact of the mass displacement of labour on farming, fisheries, dairy industries, poultry farming and vegetable and fruit production sectors.

Research Methods:

The study relies on a comprehensive literature review methodology, incorporating data from news

reports, media reports, newspaper articles, and research reports. Insights from surveys conducted by reputable institutions, including Harvard TH School of Public Health, the Public Health Foundation of India, and the Center for Sustainable Agriculture, contribute to the research findings.

Literature review:

While the middle classes are sitting safely in their homes, farmers in India are producing their *rabi* crop, sowing the fields without labourers. At the same time, millions of migrant labourers with bare feet and hungry stomachs, hiding from the administration, are marching to their homes located hundreds of kilometres away. After the advent of neoliberal policies in the agricultural sector of India, and the growth of capitalist farming, migration of labour increased on a large scale. Of course, labour migration is also due to poverty, low agricultural holdings, cash crop expansion of the irrigated area, and lack of other employment. Due to higher wages than their home states laborers from states like Uttar Pradesh and Bihar migrated to Punjab, Haryana, and Maharashtra. Similarly, labourers from states like Rajasthan moved to Gujarat and the southern Indian states of Maharashtra, Karnataka, etc. Farmers in India are highly dependent on seasonal labour for agriculture, most workers are required during harvesting time. The crops mainly grown in India are three seasonal crops - *Rabi*, *Kharif*, and *Zayed*. The main *Rabi* crops are wheat, mustard, gram, and paddy (in south India) while paddy, cotton, millet, maize, and pulses are sown in *Kharif*. The *Rabi* crop

harvesting season requires 1 million migrant labourers in Punjab and 0.6 million migrant labourers in Haryana, of which 80 per cent of migrant labourers come from Bihar (Samant, 2020). More than 120 million people in India migrate from rural areas to the cities for their livelihood. About 85 per cent of the total farmers in India fall under the category of small and marginal farmers (Venkataramkrishnan, 2020). The estimated production of food grains was set at 292 million tonnes by the Government of India in 2019-20, of which 149.6 million tonnes were for Rabi and 142.4 million tonnes for Kharif. It is too early to estimate how much has been produced ("*Farmers stare at bitter Baisakhi as corona spells harvest of woes,*" 2020, p.6).

India's "grey" economy is large and consists of people from the unorganized/informal sector. Out of the national total of 465 million workers in 2017-18, about 91% (422 million) were informal workers. Farmers, labourers, and women are directly connected with agriculture (Jangra, 2020; Dev, 2020). Oxfam (2013) stated that about 80 per cent of agricultural work in India is done by women and they own only 13 per cent of the land. According to the University of Maryland and the National Council of Applied Economic Research (NCAER, 2018), more than 42 per cent of women in India constitute the agricultural labour force, while less than two per cent are farms. Unfortunately, women remain invisible in the mainstream policies (Pachauri, 2019).

At present, there are mainly four types of problems facing the farmers, which cannot be avoided such as - 1. Producing Rabi crop 2. Selling production in the food grain market (*mandi*) 3. Storage of food grains 4. Sowing of Kharif crop. A total of 85 percent of the farmers in India are small and marginal farmers, who have an average of 2 hectares of agricultural land. There are about 40–50 million seasonal migrant workers in India. According to International Labour Organization (ILO) statistics, the share of agriculture in the total workforce of the country was 43.9 per cent in 2018. The ILO warns that nearly 400 million workers in the unorganized sector, which is equivalent to 90 per cent of the country's total workforce, are falling into poverty during times of current crisis (Bhaumik, 2020). Within a few days of the central government allowing migrant labourers to their home state, more than 1.25 lakhs of Chhattisgarh, 5 lakhs of Orissa, 15 lakhs of Rajasthan, 4 lakhs of Assam, 1 lakh of Madhya Pradesh, 7 lakh 12 thousand labourers of Uttar Pradesh got themselves registered to go back to their states. A farmer in the South Indian state of Karnataka committed suicide after not being able to sell his crop due to the Covid-19 lockdown. Similarly, another farmer from Zari village in Uttar Pradesh also committed suicide by hanging from a

tree when he could not find a labourer to harvest his wheat crop (Lal, 2020).

Tribal communities are the most vulnerable in terms of food and nutritional security as seen in national statistics. In addition to agricultural activities, collecting leaves Tendu or Kendu by tribal communities in Orissa and Mahua flowers of non-forest yield and sales have been badly affected by the lockdown, which is not experiencing any collection agents, and markets are closed (Bhaya & Kurup, 2020). According to the Forest Rights Act, 2006 all non-timber forest products of plant origin under Minor Forest Produce (MFP) such as bamboo, brushwood, stump, cane, tussler, cocoon, honey, wax, lac, tendu/kendu leaves, medicinal plants and Includes herbs, roots, tubers, etc. (Nigar, 2020). The tribal or forest dwellers are eagerly waiting for the summer season. This time too, good yields were expected because this time due to good weather, Tendu Patta and Mahua grew very much. But the national-level lockdown has badly hurt the tribal economy. According to the Indian Ministry of Tribal Affairs, almost 60-70 per cent of tribals depend on the storage and sale of income MFP. The collection and sale of MFP in India is a major source of income for forest dwellers, particularly the Mahua flower and the Tendu leaves. Tendu leaves are used for making Indian cigarettes, called beedi. It is mainly found in the tribal forest areas of Madhya Pradesh, Odisha, Maharashtra, Andhra Pradesh, Bihar, Rajasthan, Uttar Pradesh, Gujarat, Tamil Nadu, and West Bengal. In India, Mahua trees are found in large numbers in the states of Uttar Pradesh, Madhya Pradesh, Odisha, Jharkhand, Chhattisgarh, Andhra Pradesh, Maharashtra, Bihar, West Bengal, Karnataka, Gujarat, and Rajasthan. Traditionally, Mahua has been a part of the daily routine of the tribals. At the beginning of March, the tall green trees of Mahua are covered with flowers and by the middle of March, these flowers turn into small yellow fruits that are used as food items by the tribal. Mahua fruits are used in many ways by the tribal such as - Mahua fruit is used to make highly nutritious flour. The tribals also traditionally make liquor from Mahua (Sridhar, 2020; Tippana, 2020; Mishra, 2020; Maudgil, 2020; Kumar, 2020; Kukreti, 2020).

The sudden lockdown has also affected the strawberry farmers of Haryana. Strawberry is cultivated on about 500 acres in other districts including Hisar, Rohtak, Bhiwani, and Sonapat in Haryana. Progressive farmers are cultivating it because of the good price, but the long-term lockdown is causing damage. Strawberries reach the market for sales and food processing units from March - April, but strawberries are not reach the market due to the lockdown, hence the food processing unit cancelled its orders. Strawberries deteriorated due to not reaching the market. Its fruit

can only be used for three or four days, temperatures above 30 degrees are harmful to strawberry fruit. After this, it starts deteriorating in the plant itself (Alam, 2020). *Pan* leaf is cultivated in about 21 districts of Uttar Pradesh. The cultivation is spread over 1,000 hectares of land (Jaiswal,2020). When the lockdown took place, the *pan* was lying in the mandis, and rotting. Apart from this, the *pan* plant is also rotting because there is no transport facility, due to which the *pan* is not reaching the mandis. The National Pan Farmers Union says that this situation is not only in Uttar Pradesh but the condition of pan farmers across the country. According to the union, 18 states of India cultivated *pan* and exported to 29 countries in the year 2018-19. The years of 2019-20 were not so good for *pan* farmers. First, in December-January, frost damaged the cultivation of *pan*, later rains and hailstorms damaged the crop and now the farmer is devastated by the lockdown (R.Singh, 2020). India is a major producer and exporter of mangoes. The country grows around 1,500 varieties and exports about 50,000 tonnes of mangoes annually. A rare variety of Indian mangoes like Azam-us-Samar is sent from the Nizam family in Hyderabad to Queen Elizabeth, similarly, the Mallika mango variety is popular in South Korea. But traditionally exports in May seem uncertain due to the Covid-19 lockdown. Mango production in 2020 has already been affected by delayed monsoons, cyclone, and other climatic factors.

Jackfruit is one of the three primary horticultural crops of Tamil Nadu and Kerala, along with mango and banana. In the wake of the COVID-19 pandemic, millions of jackfruits have not yet been picked up from the trees, causing heavy losses to farmers and seasonal contractors. In Tumkuru and Hassan districts of Karnataka, farmers cultivate jackfruit in strip plantations. In Tamilnadu, farmers cultivate jackfruit in more than 30,000 acres of orchards along with mango, amla, cashew, and sapota (*chikoo*). Realizing the economic importance of this crop, many farmers borrowed and invested in growing it in large orchards. The medium moist, red, sandy soil is ideal for growing this crop without water and chemicals and the fruits grown in these areas are delicious. Jackfruit trees flower from December – January and are ready for harvest in March – April as summer fruits. Due to the normal rainfall and favourable climatic conditions in 2019, jackfruit trees produced good yields and the farmers were happy. Contractors usually pay in advance after assessing whether the tree is flowering. This year, they paid crores of rupees as an advance in hopes of a good harvest. Unfortunately, they have been unable to harvest, process, and supply in major markets such as Bengaluru, Chennai, Delhi, Hyderabad, and Mumbai. The demand for jackfruit during peak season is around 100 tonnes every day and the total turnover is around Rs 150 crore.

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Labour shortages have affected businesses for harvesting, grading, loading, and restrictions on truck movements. Now, contractors are at a huge disadvantage because advances from farmers cannot be withdrawn. This is because it was an informal agreement based on mutual trust. Farmers have already spent an upfront amount for transporting and transporting fruits including weeds and thorn bushes for garden cleaning, fencing, pruning of trees, and weed removal. Resource-poor marginal and small farmers are unable to pay in advance, while some large farmers are prepared to accommodate a partial amount during the next harvest season. In normal years, they are close to the mini truck gardens, yielding the lead on major collection points, vehicle size where they take it away from places in other states. The drivers are now unemployed. Local labourers, who specialize in identifying fruits and harvested fruits without harming others, have also been unemployed. The ripening fruits are rotting, and the seeds are growing in the trees, causing concern among farmers. They believe that agricultural products should be cut. Next year, the gods will punish them with flowers and a decrease in production. The loss in income is going to affect spending on their household needs, including education and repayment of loans (Rajendran, 2020).

The loss of fish from the lockdown has disrupted the economy and food security for many people. The fisheries sector accounts for about 1.03 per cent of India's GDP by 2017-18. This is about 6.58 per cent of India's total agricultural GDP. More than nine million active fishermen of India directly depend on it for their livelihood, of which 80% are small-scale fissures (M S Swaminathan Research Foundation, 2020). According to government estimates, the region provides livelihood to about 16 million fishermen and fish farmers at the primary level. India's beaches such as Mangrol in Maharashtra, Dakshina Kannada district in Karnataka, Vanacabra in Diu, Visakhapatnam in Andhra Pradesh and entire coastal fishermen have been destroyed. The lake fish industry is deeply concerned about its future. Inland fisheries have also come to a standstill. There are reports from media and social media that fish are being thrown back into the sea by fishermen in the Western Ghats of India. Fish farmers are facing various problems like curfew at loading sites, all ice plants being closed, storage being problems, and labour is not available. Those who have fish stock have only two options left, either throw the fish back into the water or sell it at the one-quarter price. Without full labor the task of load-unloading is impossible. This is peak fishing time but the lockdown has disrupted the entire supply chain. Most migrant laborers who work on fish boats are moving back to their home states. Small-scale fishermen are unable to go inland and

for marine fishing. The income of these self-employed people depends on their daily fishing, due to which they are not getting daily food and diet along with income loss. Most fisherwomen act as fish vendors in small markets, but their livelihoods are at risk due to not having customers. No special package for fisheries has yet been provided by the federal government. This is the story of the entire Indian coastline (Vohra, 2020).

Vegetable growing farmers are unhappy due to the closure of transport and lack of demand in the markets because vegetables cannot be kept safe for long periods without cold stores. There is a deal of benefit only after harvesting and supplying vegetables daily, otherwise, it starts rotting even after 1 day. The demand for vegetables has decreased, so selling vegetables locally at low rates is a compulsion. Small-scale farmers are required to keep milch animals along with farming so that they can get milk, curd, and ghee for the home and dung manure for the farm. However, now the use of animals for agricultural purposes has remained minimal. After the success of cooperatives, the dairy industry has strengthened its hold in every village in India, due to which small and marginal farmers, especially rural women, are selling milk on a large scale so that they can arrange funds immediately when needed. The price of milk has come down by about 50 per cent. The average price of cow's milk in villages fell to Rs 16-18 per liter, which is less than a liter of a water bottle. Poultry farming saw an unprecedented fall in egg prices at the poultry hub Namakkal in India with a fall of Rs 1.95. Rumours of coronavirus spreading through chickens started the practice of leaving chickens on the streets in rural areas. Small dairy and poultry farmers engaged in contract farming have suffered major losses with many private contracting firms (A. Singh, 2020).

A survey was conducted by Harvard TH School of Public Health, the Public Health Foundation of India and the Center for Sustainable Agriculture from 3 May to 15 May 2020 to evaluate the impact of the lockdown on agricultural production and livelihoods. The survey was conducted in 200 districts in 12 states of India. 40 per cent of farmers faced a yield reduction due to lack of labour, storage or transportation options. Similarly, 80 per cent of the farmers lost yield due to weather. About 30 per cent of the farmers were unable to harvest their crops due to issues related to the lockdown. Only 63 per cent of the farmers were able to harvest their crops, of which 22 per cent had to store their crops due to the lockdown. About 44 per cent of the farmers were successful in selling their produce while about 12 per cent of the farmers were trying to sell their crops (Kapil 2020).

The above picture shows that the Indian agricultural sector is facing a severe crisis in the era of the COVID-19 pandemic, which is impacting

both farmers and migrant labourers. But the state of farming is deteriorating by the day, while mainstream Indian media is least interested. A rich resource for information is the People's Archive of Rural India (PARI), founded by Magsaysay Award winner P. Sainath, which has prominently covered peasant issues and farmer suicides in rural India. Seventy per cent of India's population is directly or indirectly based on agriculture. But, unfortunately, even 2 per cent of India's media is not devoted to the country's farmers and labourers (Kedia, 2017). The farming sector is the most important sector of any economy, and this is a myth that rich developed countries have no farming. They have better farming than us, which is very modern and very sophisticated than ours. If the farming sector collapses, then not only will India go hungry but even allied industries will be hampered.

Key Findings and Government Statistics:

The research incorporates survey findings from reputable institutions like Harvard TH School of Public Health, the Public Health Foundation of India, and the Centre for Sustainable Agriculture. Additionally, it references government statistics related to agricultural production and workforce distribution (Kapil, 2020; "Farmers stare at bitter Baisakhi as corona spells harvest of woes," 2020).

1. Neoliberal Policies and Labour Migration:

The advent of neoliberal policies in the Indian agricultural sector has led to significant labour migration. The study traces the root causes, such as poverty, low agricultural holdings, and the expansion of cash crops. The migration patterns, particularly from states like Uttar Pradesh, Bihar, and Rajasthan to Punjab, Haryana, Maharashtra, and other regions, are explored, underscoring the critical role of migrant labourers in the agricultural cycle (Samant, 2020).

2. Plight of Small and Marginal Farmers: The majority of Indian farmers, constituting about 85%, fall under the category of small and marginal farmers. The review sheds light on their challenges in producing, selling, and storing food grains, emphasizing the vulnerability of this segment (Venkataramakrishnan, 2020).

3. Role of Women in Agriculture: Oxfam's findings and data from the University of Maryland and NCAER (2018) are incorporated to underscore the crucial role of women in Indian agriculture. The study highlights the disproportionate distribution of land ownership and the need for mainstream policies to recognize and address the challenges faced by women in the sector.

4. Specific Crop and Sector Challenges: The impact of the lockdown on specific crops like strawberries, pan leaves, mangoes, jackfruits,

and the overall mango export industry is analyzed. The study delves into the challenges faced by farmers cultivating these crops, addressing issues ranging from harvesting to market supply (Alam, 2020; Rajendran, 2020; Singh, 2020; "Save the Indian mango," 2020).

5. Vulnerability of Tribal Communities: Tribal communities, already vulnerable in terms of food and nutritional security, are examined in the context of disrupted activities such as the Tendu and Mahua collections. The review underlines the importance of non-timber forest products for the livelihoods of these communities (Bhaya & Kurup, 2020).

6. Fisheries, Dairy, and Poultry Farming: The study provides insights into the challenges faced by the fisheries sector, dairy farming, and poultry farming. The disruptions in supply chains, the closure of markets, and the fall in prices have severe implications for the livelihoods of those dependent on these sectors (Vohra, 2020; A. Singh, 2020).

In summary, The research presents key findings, including the impact of neoliberal policies on labour migration, challenges faced by small and marginal farmers, the crucial role of women in agriculture, specific crop and sector challenges, vulnerabilities of tribal communities, and disruptions in fisheries, dairy, and poultry farming. Government statistics and survey data enhance the depth of the findings.

Conclusion:

In conclusion, the review provides a comprehensive analysis of the challenges faced by the Indian agricultural sector during the COVID-19 pandemic. It emphasizes the urgent need for policy interventions to address the immediate concerns of farmers, labourers, and various sub-sectors. The study underscores the importance of safeguarding the backbone of India's economy through targeted measures and a holistic approach to address the diverse challenges faced by the agricultural community.

"Future Implications and Recommendations"

The study suggests potential avenues for policy reforms and interventions to strengthen the resilience of the agricultural sector in the face of future crises. Recommendations include targeted financial support, improved infrastructure, and the integration of technology to enhance efficiency in the agricultural supply chain.

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