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Johns Tiyndel G

M.Sc. Agriculture in Agricultural Economics, PG research scholar, College of Agriculture, Central Agricultural University, Imphal, Manipur, India

Pradeep A

M.Sc. Agriculture in Agricultural Economics, PG research scholar, College of Agriculture, Central Agricultural University, Imphal, Manipur, India

Unprecedented challenges on farmers in the midst of COVID-19 lockdown days: A review

Johns Tiyndel G and Pradeep A

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Abstract

The COVID-19 outbreak has affected the routine process in multiple sectors across the globe. It's still questionable how much of an impact it has on the world economy and its key sectors, especially agriculture. On January 30, 2020, India reported its first infection. Because of that nationwide lockdown was implemented on March 25, 2020. In many parts of the country, the coronavirus pandemic has triggered a significant reverse migration from urban to rural areas. COVID-19 lockdown creates demand for labour and scarcity of agricultural inputs like seeds, fertilizer and chemicals. The condition favours increasing in labour cost and input cost which leads to dramatically rise in the cost of cultivation. The farmers were unable to harvest the produces due to the closure of markets, lack of transport facilities leads to dumping into the field during lockdown times. Thus, the adverse effect of the COVID-19 pandemic encounters consequences for the farmers in the country to meet their livelihood security.

Keywords: COVID-19, COVID-19 lockdown, farmers, food security and supply disruption

Introduction

Agriculture is a vital aspect of everyday life in India, the majority of people get their livelihood directly or indirectly from farm-related economic activity. It employs about 70 per cent of the country's population and supplies food for people, raw materials for production, wood for fuel and housing, herbs for medicine and above all for means of nourishment and livelihood. (Venu, 2018) [1]. The SARS - CoV-2 Coronavirus (COVID-19) pandemic has quickly spread across the world, antagonistically influencing the lives and livelihood of millions across the world. India announced its first infection on 30th January 2020. Considering that the disease was highly infectious, the nationwide lockdown was enforced from 25th March 2020 and it is still ongoing to control the spread of the COVID-19 pandemic. During the underlying initial few weeks, the restrictions were severe on economic activities, educational institutions, worship places of all religions throughout the country (Ceballos *et al.*, 2020) [3]. Although farmers and agricultural labourers were exempted from the COVID-19 lockdown, agriculture cannot remain unaffected by the current pandemic condition. Farmers' low incomes were an important problem in India even before the COVID-19 crisis, with the government of India is having a goal to double farmers' income by 2022. However, the level of the COVID-19 lockdown's consequences on farmers' agricultural production, food insecurity, livestock earnings, and daily wages is still unclear. The secondary data were collected from the various sources like web article journal, newspaper and published data of Government of India. Only the recent published documents were reviewed.

Phases of COVID-19 lockdown in India

COVID-19 lockdown started in a name of "Janata Curfew" which means people's curfew i.e., 14 hours on 22 March 2020 from 7 a.m. to 9 p.m. incitation taken by the Honourable Prime Minister of India. During the time people were instructed to respect the curfew and help the frontline workers to fight against the pandemic. The Curfew restricted the people to come out of their homes and suspended all the economic and social activities. Few important essential things like transport of essential commodities, police and medical given exempted. Total of 68 COVID-19 lockdown days were embarked in India through four phases are given in the Table 1.1

Corresponding Author:**Johns Tiyndel G**

M.Sc. Agriculture in Agricultural Economics, PG research scholar, College of Agriculture, Central Agricultural University, Imphal, Manipur, India

Table 1: COVID-19 timeline in India

Lockdown	Period	Days	Restrictions and Relaxations
Lockdown 1.0	25 March 2020 to 14 April 2020	21 days	No relaxation was given. All industries, transport, hotels, educational institutions, worship places were remained closed
Lockdown 2.0	15 April 2020 to 03 May 2020	19 days	Relaxation was given for farm operations, some industries and movement of cargo.
Lockdown 3.0	4 May 2020 to 17 May 2020	14 days	Cities were classified into red, orange and green zones. Relaxation for orange and green zones while restriction has remained the same for the red zone
Lockdown 4.0	18 May 2020 to 31 May 2020	14 days	Restrictions were similar in lockdown 1.0 to the red zones. Relaxation like movements of vehicles without prior permission and opening of industries for the orange and red zones

Source: Government of India, 2020

Consequences of COVID-19 lockdown

The COVID-19 pandemic has important adverse consequences on the economy and the people of the country. The challenges to the agriculture sector are vulnerable due to the effects of COVID-19 lockdown. Farming activities are extensive and have far-reaching consequences. These can be mainly divided into two categories:

1. Farm production
2. Marketing activities

Farm production:

The food that was consumed daily links to a wide network of farmers, dealers, food producers and retailers involved in moving food from farm to plate. Despite COVID-19, the farmers have been challenged by many diseases, pests, and weeds that have hampered agricultural output, resulting in crop yield loss. In addition to the existing challenges for the farmers, the COVID-19 lockdown which was imposed to control the spread of the virus creates an unprecedented situation in production. They are as follows

a. Shortage of labours: Labour is one of the most important factors in agricultural production. The COVID-19 lockdown adversely affected the availability of on-farm labour in the farm operation. The northern states of India like Punjab, Haryana, and Uttar Pradesh depends on eastern Indian agricultural labourers, but most of them returned to their villages when the lockdown began on March 24, fearful of the virus and experiencing wage interruptions. The reverse labour migration leads to scarcity of labour seriously affected the harvesting time of winter planted (November–March) crops like wheat and pulses in the northwestern plains of India. Due to the scarcity of labour during lockdown days, agricultural labour costs have increased. As an outcome, the cost of cultivation increases, putting pressure on small and

marginal farmers in particular (Raman *et al.*, 2021) [5].

b. Availability of inputs: Seeds, fertilisers, chemicals, machinery are examples of agricultural inputs. The induced COVID-19 lockdown created a shortage of fertilizers, pesticides, herbicides, and seeds in several places in India. In certain places, the lack of inputs also caused a delay in planning for the next crop to the farmers. Furthermore, farmers stated that even government stores were closed owing to a fertiliser scarcity. Nearly 35% of farmers spent more on fertiliser prices ranging from 50% to 80%. The increased percentage of the cost will contribute to the total cost of cultivation, putting more pressure on small and marginal farmers by reducing their profit. The restrictions on logistics movement during lockdown hampered the uninterrupted flow of inputs for and outputs of agricultural activity (Arumugam and Kanagavalli, 2020) [2]. During the entire lockdown at the national level, the overall change in the availability of agricultural inputs was cutbacks. Table 1.1 indicates that the availability of fertiliser (11.2%) has reduced the most, followed by cattle feed/fodder (10.8%) and Agri-machinery rentals (10.6%). Pesticides (9.8%) and seeds (9.1%) have also seen a massive decline (Satyasai and Mohapatra, 2020) [8].

Table 2: Percentage of decreases in the availability of Agri inputs

Sl. No	Agri inputs	Percentage decreases
1	Seeds	9.1
2	Fertilizers	11.2
3	Pesticides	9.8
4	Agri-machinery rentals	10.6
5	Cattle feed and fodder	10.8

Source: Dept. of Economic Analysis & Research, NABARD (2020) [8].

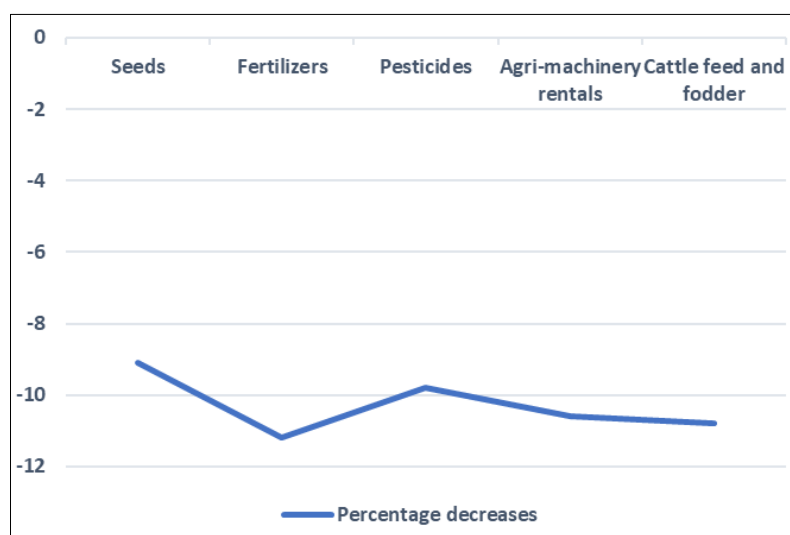


Fig 1: Decrease in the availability of Agri inputs (%)**Marketing activities**

Marketing activities of agricultural products overs in moving from farm to consumer which consists of various interconnected activities such as harvesting, grading, packing and packaging, transport, distribution and sale because of the following two primary reasons, the COVID-19 lockdown has a negative impact on marketing operations, resulting in a loss of money for farmers from the produced output.

a. Closure of Markets: Farmers across the country were panicked as a result of the COVID-19 lockdown, and experienced challenges such as rotting of ripening fruits and vegetables, and mandi operations were nearly suspended. The prices became worse, particularly when APMC markets (Agricultural Product Market Committee) started to close. This has had a significant impact on fruit transportation, which has decreased by 50% from 1,000 tonnes per day (Kumar, 2020) [4].

Farmers were stuck with the produce when APMC mandis (agricultural product market committee) mandis closed in several states, affecting food supply from the place of production to the point of consumption (Saha and Bhattacharya 2020) [7]. Chickpea was sold during the first phase 21 days lockdown in only 52 mandis. In the case of perishable crops, the situation was marginally better, although not all mandis that these commodities were sold and operational throughout the lockdown (Rawal and Verma, 2020) [8]. State wise functional mandis during lockdown days was presented in the Table 1.2. The challenge of non-functional mandis was highest in Madhya Pradesh (16.60%) with just 43 mandis out of 259 followed by Rajasthan (43.18%) with 57 mandis out of 132 mandis and Gujarat (30.09%) with 34 mandis out of 113.

Table 3: State-wise Mandis functional during lockdown

Sl. No	State	Mandis Available	Mandis functional in lockdown
1	Andhra Pradesh	10	7 (70.00)
2	Chhattisgarh	28	27 (96.43)
3	Gujarat	113	34 (30.09)
4	Haryana	72	65 (90.28)
5	Himachal Pradesh	21	12 (57.12)
6	Jammu and Kashmir	8	8 (100.00)
7	Karnataka	91	83 (91.21)
8	Kerala	67	49 (73.13)
9	Madhya Pradesh	259	43 (16.60)
10	Maharashtra	1	1 (100.00)
11	Nagaland	4	2 (50.00)
12	Odisha	65	46 (70.77)
13	Punjab	104	74 (71.15)
14	Rajasthan	132	57 (43.18)
15	Telangana	16	6 (37.50)
16	Tripura	27	26 (96.30)
17	Uttar Pradesh	234	223 (95.30)
18	Uttarakhand	17	8 (47.06)
19	West Bengal	68	57 (83.82)

Source: Agricultural supply chain during COVID-19 lockdown, Rawal and Verma, 2020 [6].

(Note: Figures in the parentheses indicate percentages to the total mandis available in the state)

b. Transportation Problem: Due to restrictions in the movement of vehicles and people across the country, the COVID-19 lockdown has created an impact on agricultural markets. Farmers are struggling to transport and sell in cities in the current situation when India's agriculture supply chain is in chaos. The movement of transport vehicles and agricultural harvest equipment between states was hampered due to delays caused by mandatory border checks, a shortage of personal protective equipment to cope with social distancing guidelines, and local norms, worries, and misinformation concerning COVID-19. Although the movement of essential commodities was exempted during the lockdown, private transporters were taken advantage of by increasing the transportation cost than usual that resulting in a greater negative impact on small and marginal farmers in the country (Ali and Khan, 2020) [1].

Conclusion

The unprecedented nature of the COVID-19 threat caused several countries, including India, to react fast to minimize the virus from spreading and causing human deaths. Elsewhere, India's initiatives to control the COVID-19 virus

have indeed been appreciated. In general, Indian farmers are subjected to much stress when doing agricultural operations. This stress has been marginally increased a pandemic condition caused by COVID-19. The lockdown is imposed to control the spread of the virus, but on the other side, came at a financial cost and had a major impact on people in the country. The adverse effect of the pandemic in the agriculture sector was discussed in this paper. The farmers in the country encountered challenges to meet their livelihood security during the COVID-19 lockdown.

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