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A study on initiatives to be adopted during COVID-19 in agriculture and allied sectors

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Abstract

A total lockdown of the nation was imposed by the Indian government on March 24, 2020, in reaction to the COVID-19 epidemic. This decision had unfavorable effects on farmers and the supply lines for agricultural products. This was exacerbated by the reality that India's economy, like that of most emerging nations, is heavily dependent on agriculture, with only a minor amount of its agricultural systems being industrialized. Keeping in view of disruption caused by COVID-19 pandemic, the present study on initiatives adopted to overcome the pandemic situation. The state and district Cooch Behar was purposively selected for the study. A total 100 respondents were selected at the rate of 25 farmers for each village randomly. Primary data were collected through personal interview method with structured interview schedule. The data were processed into frequency. Results shown that medium level of the respondents received those initiatives during COVID-19 pandemic in agriculture sector.

Keywords: COVID-19, pandemic, agriculture, impact, unfavorable effects

Introduction

The unique SARS-CoV-2 virus, also known as coronavirus 2019 (COVID-19), has recently spread, and it has turned into one of the worst pandemic scenarios in the last century (Dhama *et al.*, 2020a, Dhama *et al.*, 2020b, Sohrabi *et al.*, 2020) [6, 5, 10]. Lockdowns on entire communities have been implemented globally to slow the disease's spread. This has disrupted economic activity and forced quick policy adjustments to lessen the pandemic's negative health effects (Ayyittey *et al.*, 2020; Bhagavathula *et al.*, 2020, Chatterjee *et al.*, 2020; Kumar *et al.*, 2020c; Singh *et al.*, 2020a) [1, 2, 13, 7]. Owing to widespread COVID-19 mitigating measures at the national level, the exceptional circumstances that have undoubtedly overshadowed the direct effects of the virus have severely impacted economic activities related to farming systems in India as well as farmers throughout South Asia (Mahendra Dev, 2020; Pothan *et al.*, 2020, Vardhan *et al.*, 2022) [4, 8, 11]. For instance, the shutdown in India has essentially stopped transportation, which has decreased harvests and harmed food security. At the height of the spring harvest, products frequently did not make it to the "mandis" or rural marketplaces, seriously upsetting regular supply lines. India experienced hardest hit from it being an agriculturally dependent economy (Vardhan *et al.*, 2022a) [12]. The lack of migrant labourers in the agricultural sector has also impacted planting, harvesting, and post-harvest activities (Pothan *et al.*, 2020) [8].

In order to identify and describe the various multi-level implications of the COVID-19 lockdown and related effects on agricultural systems in the district of Cooch Behar, West Bengal, India, we present quantitative and qualitative data from the ground level in this paper. We also take into account the related emergency responses of the Indian federal government and state governments. Given the current circumstances, India's agricultural industry may not develop for many years or may develop in a way that is inconsistent with the Sustainable Development Goals (SDGs). Alternatively, lessons learned from coping with COVID-19 could potentially spark the development of more robust supply chains. Against this background, we argue that the development of sustainable agro-policies and decision-making in response to the prevention of future pandemics urgently needs to be rooted in lessons learned from the current COVID-19 pandemic.

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Research Methodology

The present study was conducted in Cooch Behar-I and Cooch Behar-II blocks of Cooch Behar district in West Bengal. The purposive and random sampling techniques were followed in case of selecting the areas and respondents of the present study. The state West Bengal and Cooch Behar district were selected purposively. The Cooch Behar-I and Cooch Behar-II block from selected district were selected randomly with the help of simple random sampling procedure. The Paschim Ghugumari and

Hawargadi villages were selected from Cooch Behar-I block and Chattisingh Mari and Dakshin Kalarayer Kuthi villages were selected from Cooch Behar-II block randomly. From each village 25 numbers of respondents were selected randomly. In this way total 100 numbers of respondents in the study area chosen as a sample for this study.

Results and Discussion

Table 1: Initiatives to be adopted

Sl. No.	Statement	Yes	No
A	Online Advisories and consultation		
1	Use ICT tools for various agricultural training	28	72
2	Farm delivery of inputs at doorsteps	11	89
3	Agro Met advisories helped farmers for safe harvesting during lockdown period	4	96
4	Reaching farmers through video conferencing app	87	13
5	Online training of agricultural input dealers	28	72
B	Promoting protection against COVID-19		
1	SHGs/FPCs/FCs came forward to provide cotton masks to COVID-19 warriors	40	60
2	SHGs/FPCs/FCs resort to mask and sanitizer making for additional income and social responsibilities	40	60
3	FPO and KVK join hands in distribution of free food kits to fight against COVID-19	92	8
4	Ensuring safe harvesting with necessary precautions against COVID-19	12	88
5	Sanitization of community and farm areas in the villages	87	13
6	Promoting scientific washing of vegetables and fruits during lockdown	7	93
C	Assuring livelihood through linkages		
1	Linking growers to market to avoid market failure	88	12
2	Linking producers to consumers	60	40
3	Establishing linkages for marketing	85	15
4	Marketing of value added products as immunity boosters	31	69
5	Connecting growers to consumers through farmers' groups and institutions	60	40
6	Linking FPOs with market on wheel	80	20
7	Produce purchase at Farm-gate by FPO	73	27
8	Marketing farm produce through FPOs	69	31
9	KVK promotes FPO for marketing of farm fresh produce	28	72
10	Value chain management through farmers club startup linkage	71	29
11	Collective marketing of farm produce with online platform	0	100
D	Mechanizations solutions for tackling labor shortage		
1	Doorstep service of farm implements during COVID-19 period	23	77
2	Linking SHCs and machine banks	12	88
E	Adding value for reducing losses		
1	Sustaining income of the farmers by value addition of tomatoes	68	32
F	Marketing initiatives		
1	Direct marketing of vegetables and fish to consumers	40	60
2	Direct marketing of watermelons: producer to consumer	12	88
3	Modified marketing approach in Oyster/ Milky mushrooms	25	75
4	Fresh fish door delivery during lockdown	0	100
5	Door delivery of ready-to-cook(R2C) cut vegetables during lockdown	0	100
6	Pooling of vegetables in village facilitates ease in marketing of vegetables	28	72
G	Miscellaneous initiatives and options		
1	Use of human medicine for treatment of poultry enteritis	0	100
2	Promoting nutrition gardening during lockdown	68	32
3	Promoting intensive production system of goat rearing	12	88
4	Managing Fall Army Worm(FAW) infestation in summer maize	29	71
5	Pest management with neem based formulations during lockdown	40	60
6	Desi chicken and small ruminants saved farmers from financial distress	72	28

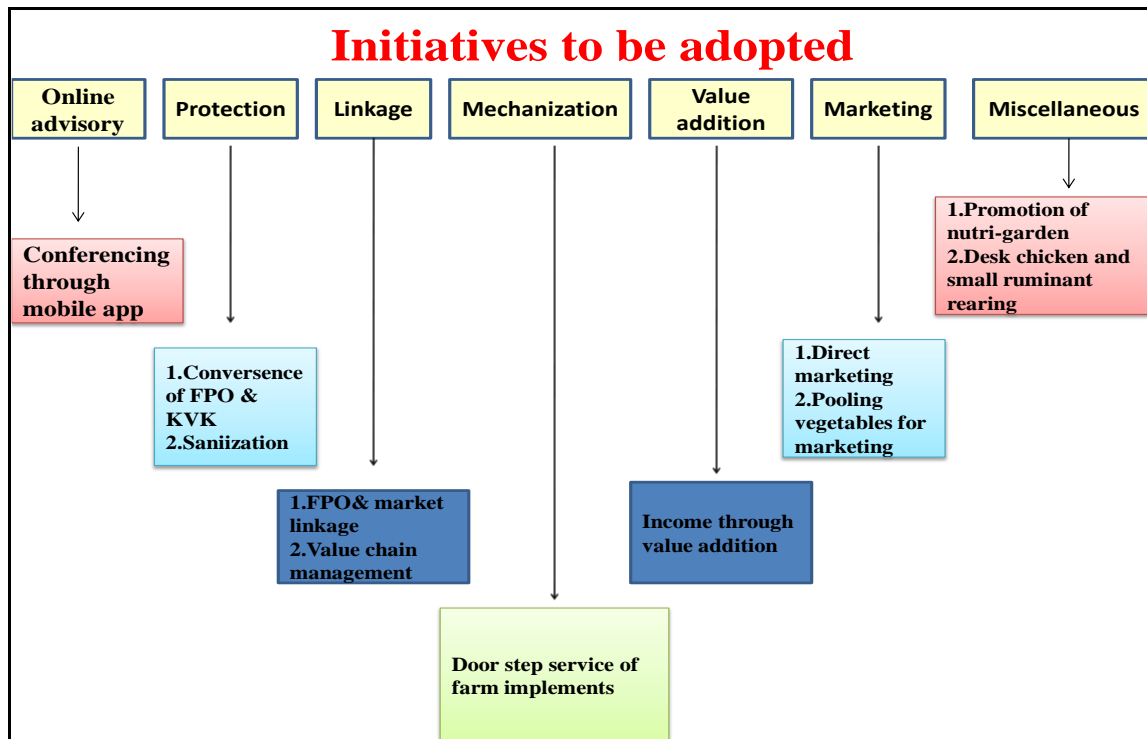


Fig 1: Initiatives to be adopted

The identified initiatives which can be adopted to make the agriculture and allied sector more resilient and vibrant are establishing provision of online advisory services through virtual conferencing with the help of some smart phone applications, convergence of KVK and FPO activities at the grass root level to provide technical backstopping along with timely critical input supply, proper management of appropriate agricultural product based value chain by establishing a strong linkage with FPO and market, ensuring the door step service of farm implements for mechanized farming due to restriction of human movement during pandemic, ensuring income through off farm product and value added on farm product, direct marketing of agricultural produce from producer to consumer, vegetables may be accumulated and sell in the market, nutri garden concept may be promoted to supply the nutrition during pandemic, rearing of deshi chicken and ruminant for supplying the protein to the farm family members during the lockdown period.

Conclusion

In the present study the identified initiatives which can be adopted to make the agriculture and allied sector more resilient and vibrant are establishing provision of online advisory services through virtual conferencing with the help of some smart phone applications, convergence of KVK and FPO activities at the grass root level to provide technical backstopping along with timely critical input supply, proper management of appropriate agricultural product based value chain by establishing a strong linkage with FPO and market, ensuring the door step service of farm implements for mechanized farming due to restriction of human movement during pandemic, ensuring income through off farm product and value added on farm product, direct marketing of agricultural produce from producer to consumer, vegetables may be accumulated and sell in the market, nutri garden concept may be promoted to supply the nutrition during pandemic, rearing of deshi chicken and ruminant for supplying the protein to the farm family members during the lockdown period.

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