

Impact of COVID-19 Pandemic on Agriculture and Management Strategies

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Agriculture is backbone of Indian economics and plays important role in GDP. *Agriculture is primary sector which generates employment.* But COVID-19 disease damage the life, business and properties from 2020 to present today. To control this pandemic, the activities executed was social separating and lockdowns which have upset the schedules, business and planned work. Covid severely influences the whole world and created a big challenge for India, its population and the important sectors of Indian economy like agriculture and industrial sector.

Agriculture contributes about 17 per cent to Indian GDP. GDP growth had reported 23.9% declines and 7.3% shrinks in the April-June 2020-21 quarter of fiscal year. At present covid-19 situation the agriculture sector was the only sector which have GDP graph in positive direction than the other sectors. Agriculture has grown by 3.4% gross value added (GVA) in this quarter 2020-21, compared to last year. The agriculture sector has added Rs 14,815 crore in the first three months (ref - Down to earth). For the agriculture sector, this is a new record 15.2 per cent of the overall economic growth. Due to this, agriculture has attracted huge private investors. Throughout the country the spreading of pandemic situation slow-downs everything, effects each sector and class of this country.

During the pandemic situation, the major issue was availability of labour required for harvesting of wheat and paddy sowing. The demand is high but the man power is less and labour cost were increased. In 2020, an estimated 10 million migrant workers or labourer returned to their native places after the imposition of the lockdown. During this problem, maximum of the farmers preferred Direct Sowing Rice (DSR) method for the better result, to over-cum the problem of the labour and to reduce the expenditures.



The poor sections of society are always the hardest hit in any disaster or pandemic situation. With about 85 percent of Indian farm households being small and marginal farmers, and a significant part of the population being landless farm laborers. The focus of the Government therefore was to protect the lives of every citizen. However, people living on agriculture and allied activities, mostly those losing their income from informal employment at this lockdown period, have to be provided with alternative avenues (cash transfers) till the economy bounces back (ICRISAT).

Problems faced by agriculture community during COVID crises:

The food supply chain is a complex web that involves producers, consumers, agricultural and fishery inputs, processing and storage, transportation and marketing, etc. totally disturbed due to The COVID pandemic. At the onset of the crisis, the food supply chains were strained as many countries-imposed restrictions on movement of goods and people across and within borders. As a result, the challenge was not availability of food but also easy access to it.

The problems during covid-19 in agriculture are primarily related to (a) labour availability (b) Marketing (c) Transportation availability as well for operation of markets (d) purchase the essentials (Pesticides, weedicides, pump etc.) (e) Prices of seeds and fertilizers are increases (f) In some states the agriculture is destroyed by the flood (g) Locust attack. The efforts of farming community together with the governments had successfully faced these challenges results of which there was growth in GDP in agriculture sectors.

Positive Effects of COVID on agriculture:

With these challenges and problems some positive effects of this pandemic were also seen some of those are as follow as:

- Due to an acute shortage of labour, there was a considerable shift towards direct seeding of rice as compared to transplanting, with an aim to reduce the expenditure as well as water consumption.
- A new record 15.2 percent of the overall economic growth due to this agriculture has attracted huge private investment.
- Motivation to farmers for Precision farming

- COVID-19 provided a strong push to rollout the usage of robots and research on robotics. In recent weeks, drones have been used to spray the pesticide/weedicide and to deliver food to those in quarantine.
- Technologies involved in distant learning are similar to those for remote work and also include virtual reality and artificial-intelligence-enabled robot teachers.
- Core technologies such as Big Data, cloud computing, Internet-of-Things (“IoT”) and block chain are building a more resilient management system for the future by enhancing the accuracy of data and encouraging data sharing.
- Sellers need to be able to talk to multiple buyers and find the best price. Online marketplaces, such as *kisan mandi*, *agribazaar* and market yard can have potential to matchmaking sites for future.
- Usage of machinery and high technique equipment’s is increased during the COVID pandemic which reduce the demand of labour.
- Use of AI in agriculture is increased.

Government efforts to overcome the effect of COVID pandemic:

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. Recently Agricultural Infrastructure Fund (AIF) scheme worth Rs 1 lakh crore for 4 years has been launched for creating facilities for cold storage, warehouse, packaging, ripening & waxing plants by agri-entrepreneurs, farmers’ association and local government agencies. Assistance under MGNREGA and PMGKAY is being provided to agricultural labourers etc. Under the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme 10.19 crore farmer families have been benefitted and an amount of Rs.94,1305 crore was released. During the period of lock down, an amount of around Rs. 410,86 crores (as on 15-09-2020) has been disbursed to various beneficiaries under the Scheme covering various instalments.

Under Pradhan Mantri Fasal Bima Yojana (PMFBY), total claims of Rs 5,326.7 crores were paid during lockdown period, Now the beneficiary farmers of PM-KISAN Scheme are also getting the facilities of Kisan Credit Card. There is no mortgage required to



avail loan up to Rs1.60 lakh the Government has adopted several developmental programmes, schemes, reforms and policies that focus on higher incomes for the farmers latest major intervention includes the 'Atma Nirbhar Bharat – Agriculture' which includes comprehensive market reforms and creation of 'Agricultural Infrastructure Fund (AIF)' worth Rs. 1 lakh crore and allocation of Rs 500 crore for Bee Keeping initiative. As per the Provisional Estimates of National Income 2019-20 the growth rate of real Gross Value Added (GVA) of Agriculture & Allied sectors is 3.4 % in the First Quarter (April-June), 2020-21. During the period of lock down, an amount of around Rs. 410,86 crores (as on 15-09-2020) has been disbursed to various beneficiaries under the Scheme covering various instalments. Under Pradhan Mantri Fasal Bima Yojana (PMFBY), total claims of Rs 5,326.7 crores were paid during lockdown period.

The Doubling Farmer's Income strategy as recommended by the Committee include seven sources of income growth viz., (i) improvement in crop productivity; (ii) improvement in livestock productivity; (iii) resource use efficiency or savings in the cost of production; (iv) increase in the cropping intensity; (v) diversification towards high value crops; (vi) improvement in real prices received by farmers; and (vii) shift from farm to non-farm occupations. Agriculture being a State subject, the State Governments undertake implementation of programs/schemes for the development of the sector. Union Minister for Chemicals & Fertilizers launched POS 3.1 software, SMS Gateway and Home Delivery facility of Fertilizers (RBK) for farmers in Andhra Pradesh

Immediately after the nation-wide lockdown was announced, the Indian Finance Minister declared an INR 1.7 trillion package, mostly to protect the vulnerable sections (including farmers) from any adverse impacts of the Corona pandemic. The announcement, among a slew of benefits, contained advance release of INR 2000 to bank accounts of farmers as income support under PM-KISAN scheme. The Government also raised the wage rate for workers engaged under the NREGS, world's largest wage guarantee scheme. Under the special scheme to take care of the vulnerable population, *Pradhan Mantri Garib Kalyan Yojana* (Prime Minister's scheme for welfare of the poor), has been announced. Additional grain allotments to registered beneficiaries were also announced for the next three months. Cash and food assistance to persons engaged in the informal sector, mostly migrant laborers, have also been announced for which a separate PM-CARES (Prime Minister Citizen Assistance and Relief in Emergency Situations) fund has been created.



The Reserve Bank of India (RBI) has also announced specific measures that address the “burden of debt servicing” due to COVID19 pandemic. Agricultural 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 behaviour.

The efforts of farmers and government together had played a good role to cope up with these challenges. The COVID pandemic had realized the farmers that the implementation of new technologies in farming sector is the need of hour. The increase in use of farm machinery and new technologies can help the farmers achieving future security to deal with these types of challenges. The application of AI, robotics and big data method can help in easing the labour consuming agricultural operations that will reduce the labour demand and labour cost. The use of new technologies in this sector can make farmers life prosperous, also increase their level of standard and income status.

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