



COVID-19 Impact on Indian Cotton

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Introduction

India imposed a lockdown from 24 March 2020 due to the global pandemic of COVID-19. The lockdown is still in operation at press time (10 June 2020) in the country in different forms. The day the lockdown commenced in India, the first and foremost casualty appeared to be the farming sector, which comprises more than half of the population of the country. The first Prime Minister, Mr. Jawaharlal Nehru, said, 'Everything can wait but not agriculture', realising that the farm activities are bound by times, dates, or months and any lockdown on agricultural activities will rebound in reduced production, productivity, profitability and sustenance of the farming community and landless labourers (Bera, 2020). Thus, the ongoing lockdown due to Covid-19 in India since 24 March 2020 is expected to impact agriculture in general including cotton.

The government is often worried about the shortages of food and feed as food security is more important to planners than fibre availability. Fortunately, there are huge stocks of food grains and there is no immediate worry on this count. Therefore, the Government announced some sleek measures to ease the tensions of poor people. The Government initiated measures to provide monetary aid to make cash available to the poor and marginalised sections of the society to benefit approximately 800 million people in the country (Economic Times, 2020). Furthermore, to prevent hunger, ration supplies are being provisioned to meet the basic food and legume requirements for the next three months. Adequate care has been taken to provide support for the elderly, the jobless and the youth in the wake of large-scale shutdown. Wheat and rice have been provided to the poorer sections through ration shops at subsidised prices of US\$0.026 to US\$0.04 per Kg. While the government has been able to ensure food supplies and distribution to solve consumer problems, prices have slumped because of uneven distribution and disruption of the markets, thereby resulting in heavy losses to the producers. Farmers are distraught with the losses caused by the lockdown. Cotton farmers are more vulnerable to the crisis, as they can neither stock the produce due to space problems, nor sell the produce due to low prices, because the entire value chain is disrupted. This paper analyses the impact of COVID-19 on the cotton harvested prior to the lockdown and the ensuing sowing operations in the rainy season of 2020.

Cotton Economy of India

Cotton is very important crop grown commercially in 11 states of India. It occupies 12-13 million hectares of area in the country and is grown by about 8 to 10 million farmers. Ecologically there are three zones of cultivation. The north zone comprises of the States of Punjab, Haryana and Rajasthan, while the south zone constitutes of Tamil Nadu, Andhra Pradesh, Telangana and Karnataka. Nearly

67% of cotton is cultivated in central zone comprising of Maharashtra, Gujarat, and Madhya Pradesh. About 65% of the cotton is grown under rain-fed conditions mainly as rain-dependent while the rest of the cotton is flood-irrigated or drip-irrigated. Current estimates show that about 10% of Indian cotton is under drip irrigation. In north zone, the crop is sown in mid-April and in Tamil Nadu it is sown in August-September months. In the rest of the country it is sown with the onset of monsoon rains in June. The diversity in terms of cultivars and cultivation practices of cotton is unique to the country (Mayee, 2015; Mayee, 2019; Blaise and Kranthi 2019). It is also the first crop in India, where genetically engineered technology (GE) or commonly referred as biotech crop has been commercialised in the form of insect resistant *Bt*-cotton (Choudhary *et al.*, 2014). In the last decade, cotton production scenario has undergone dramatic changes and Indian cotton has not only dominated the International production system but attracted the attention of all global players in the commodity for its persistent growth. The assured production of 35 million bales of 170 kg each after 2005-06, ensured export of raw cotton because the domestic consumption capacity is only around 30 million bales. It is estimated that this year the production could reach 36 million bales while the maximum consumption by textiles and surgical industry may be around 29 million bales. Multiple uses of cotton as food (edible oil), feed (de-oiled cake) and fibre increased over the years. The value of cotton by-products from cotton seeds and cotton stalks is also high in India. Because of high production of seed oil, animal feed as de-oiled cake, linters and stalks for pellets/briquettes and particle boards, the rural economy received a major boost through additional income to farmers which helped the rural employment, rural industrialisation and conservation of natural resources. The *Bt*-technology assisted the domestic seed industry to grow and the vibrancy is seen from the fact that nearly 50 million packets, each containing 450g *Bt*-seeds plus 120g non-*Bt*-seeds for refuge planting are required annually to meet the farmers demand of seed. About 97% of the planting cotton-seed requirement met by the private seed companies.

COVID-19 Pandemic in India

SARS-CoV-2 or the novel corona virus inducing COVID-19 has put a third of world's people under lockdown and brought several major economies of the world to a grinding halt as it spread like wildfire from country to country in just a short span of time. Starting from the city of Wuhan in China in December 2019, COVID-19 has spread to nearly 181 countries across the world infecting millions of people with a mortality rate ranging from 1.5 to 5% as of April 1, 2020 (John Hopkins, 2020). India is no exception and hence on 24th March, the Prime minister of India ordered a complete lockdown of the nation. The pandemic is already wreaking havoc on the world's physical and

economic health but India being an intensively agrarian economy is also experiencing a different kind of stress on its 50% population comprising of farmers. As the 2019-20 cotton cropping season comes to an end by April and the new season of 2020-21 commences from April farmers are having to face additional difficulties resulting as fallout of the pandemic. Cotton farmers have to mitigate two major challenges; (i) sale of the harvested produce and (ii) procuring inputs and cultivation in the ensuing rainy season.

Challenge One: Cotton 2019/20

The current estimate of cotton production in 2019/20 is 35.4 million bales, out of which about 9.54 million bales have been procured by the Cotton Corporation of India (CCI) of Government of India until 28 May 2020 (Priyanka, 2020) and farmers were paid at the Minimum Support Price (MSP). After the Corona threat in mid-March, cotton sales were disrupted and then came the lockdown which closed the ginning factories which are the main hubs for the farmers to sell their produce and cotton sales were stopped abruptly. The lockdown resulted in situation wherein about 20% of the current year's crop was either stuck up in fields without being harvested or stacked in farmer's homes, because they were not able to transport or sell it (Cogeneration, 2020). Cotton prices dropped by 3-5% by the end of February as shipments of commodities to and from China had come to a halt. Decrease in cotton export will further put pressure on domestic prices of cotton yarn. However, there is always a ray of hope. The recent branding of Indian cotton could help in creating a special market in exports. Last year, the CCI launched a special brand called 'HIRA' (High Reliable Attributes), of Indian Cotton specifying quality having less than 1.7% trash, low moisture and assured quality. Even if the CCI manages to trade 10 m bales of HIRA, the Indian cotton brand will establish itself in the world market and could ultimately benefit Indian farmers. One danger still hangs over the head; if the pandemic is not contained soon, China's demand for cotton is likely to suffer and the burgeoning stocks could depress domestic prices. Cotton farmers and the stakeholders in value chain also benefit from by-products of cotton like; vegetable oil, oilcake, linters, pellets and briquettes from cotton stalks. These businesses have also suffered due to the lockdown. Fortunately, the recent amendments of the governments have permitted the crushing of cotton seeds for oil and cake (Economic Times, 2020).

Challenge Two: Cotton 2020/21

Initially the situation appeared grim for the ensuing rainy season called *khariif*, because of the possible blockage in availability of inputs such as seeds, fertilisers, manures, pesticides, machinery, labour etc. that are essential for sowing operations. Sowing at the right time is critical for high yields in cotton. The lockdown imposed on 24 March 2020 posed two major challenges to seed distributors. The

first one was the immediate supply of nearly 6.5 million *Bt* cotton seed packets of 450 gm each to the north zone of Punjab, Haryana and Rajasthan before mid-April when farmers undertake sowing after the harvest of wheat. The second challenge was the distribution of about 4 million packets of seeds across the entire length and breadth of central India and parts of southern India before the first week of June 2020. Seed production is taken up mostly in the southern states of Tamil Nadu, Telangana, Andhra Pradesh and Karnataka. Some seed is produced in Gujarat and Maharashtra, too. Nearly 97 % of *Bt*-hybrid cotton seed is supplied by private seed companies. The process of seed processing involves a series of operations commencing with the harvest of raw seed-cotton and ends in the supply of 450 g labelled packets though approximately about 90,000 retail sellers. First, the seed-cotton is ginned to separate it from seed in ginning machines. The seeds are then delinted to remove the linters and graded on the basis of size, weight. These are mostly mechanical operations. However, subsequent processing like removal of damaged seeds is done by labourers in a time-consuming process. The seeds are then tested for germination, inspected for quality, treated with pesticides, packed and dispatched across the country. Companies producing cotton seeds involve distributors and dealers to ensure that the seeds reach practically all cotton growing villages through retailers. Lockdown due to Corona virus has greatly influenced the seed processing operations. Though seed-processing started in a normal manner in December, the lockdown halted all operations in March due to which about 5-10% of the seeds were stuck with the seed-producing farmers. Since March, the peak season for grading and packing was affected because of labour unavailability required in the processing plants. The time schedule of making the seed ready for dispatch coincided with the peak period of lockdown. Though many standard companies complied with all the prescribed safety precautions such as maintaining physical distances between workers, providing masks and adherence to all the safety measures suggested by the medical authorities of respective states, seed processing was affected nevertheless (Fernandes, 2020).

Government Support in the Wake of Lockdown

The government shutdown most of the industries, except those covered under the Essential Services Act such as the agro-industries, pharma, health care, telecom, banking, etc. However, shortage of labour force has affected the normal functioning of these industries. Keeping this in view and the on-going harvest of the winter season crops, the Government exempted farm workers and farming operations from the ban, with a caveat that they follow health care tips and social distancing. Further, various markets involved in procurement of agriculture products and sale of seeds, fertilisers, pesticides were exempted from the

lockdown restrictions by the state governments (Tripathi, 2020).

Initially it was felt that the entire process of cotton sale and seed supply would be disturbed but thanks to the government efforts, normalcy has been restored in the agriculture sector and farmers have been least affected by the general lockdown. Due to the restrictions imposed on movement, many farmers were not able to either sell their produce or receive payment. To address the problem being faced by the farming community, the government introduced extension of interest subvention and prompt repayment incentive benefit up to 31 May 2020 on short-term crop loans up to Rs 30,000 (US\$ 400). The government is also providing concessional crop loans with just 2.0% per annum interest subvention to banks. Immediately within a few days of the lockdown, the government realised the significance of timely farm operations that would be required for the coming season and eased restrictions on transport and sale of agricultural inputs and products. The government permitted opening of all agricultural-input-shops in rural and urban areas and sales of seed, fertiliser, pesticide, with priority instructions to civil and police authorities not to harass farmers and the farm input suppliers. A classic case of movement of cotton seeds from Tamil Nadu to Punjab (Hussain, 2020) is worth quoting in this crisis. Indian Railways provided exclusive parcel vans 24x7, to trader associations and manufacturers to move their consignment in a short span of time to destinations that were 3000 to 4000 km away to meet the demands of Punjab farmers. Sowing operations have been efficiently completed by the first week of June. These government actions are commendable and provide a reassurance to farmers that their business of farming would go on unabated.



Figure 1. Spinning mills have been shut, except for resumption of partial activity

The Processing Hurdles

Seed-cotton after harvest from fields is not normally stored by the farmers because of the large volume of produce and

is sold off as early as possible. The first step in processing commences with ginning to separate the lint from the seed. There are large number of ginning factories in India, but very few have a composite infrastructure to facilitate pressing the lint into bales of 170 kg each. During the last decade, there has been a lot of improvement in installation of new ginning and pressing factories with modern equipment and automation. However, the entire process of ginning and pressing involve many steps such as packing, stripping, marking and loading which require a large amount of labour. The first phase of the lockdown led to closure of ginning factories because of which nearly 15-20 % of the cotton harvested in February and March was stuck with farmers. Moreover, the social distancing regulations made it difficult for labour operations and thereby handling of bales. The first steps of disruption in the supply chain and the value chain commenced at this stage.



Figure 2. textile factories are closed across the country. A few opened with some activity recently.

Further the panic situation created by the COVID-19 pandemic and the subsequent lockdown has hit hard the core of textile industry i.e. the demand. The overseas and domestic demand for textile products nosedived and hence the textile industry came to a grinding halt. India has more than 2000 spinning mills with different spindle capacities. The apparel industry is also severely hit. Stores are closed and trade has halted. Buyers are cancelling or postponing their orders in view of big inventories with them. Yarn export was down by 30-35% in January-February this year even before the effects of COVID-19 were pronounced. USA and European Union are the biggest markets for textile exports. Unfortunately, both are reeling with a large number of COVID-19 cases and high mortality rates. India's textile and apparel sectors contribute 4.0% to the global market, 7% to the industrial output of the country in value terms, 2.0% to the GDP and 15% to India's export earnings. This sector is considered as the biggest employment generator after agriculture. It employs about 105 million people in various activities; majority of them as daily wage workers.

Therefore, the closure of factories has resulted in layoffs. Most of the garment units in India are micro, small or medium enterprises (MSME). It is also predicted that even when the pandemic subsides the textile and apparel manufactures will take lot of time to resume business as usual. All the related associations of cotton such as, the Confederation of Indian Textile Industries (CITI), Clothing Manufacturers Association of India (CMAI) are seeking concessions and financial packages from Government. Besides the basic interest rate reduction and extension of soft loans; the associations are demanding moratorium on principal and interest amounts for four quarters and similar such financial concessions. They feel that unless the government gives stimulus packages, the sector shall not be able to rise once again even when the shutdown relaxes. It is matter of great satisfaction that majority of cotton farmers were able to sell their cotton before March and received due returns before the lockdown was imposed. However, the value chain remains broken as of now and if it continues to be disrupted through the year, the 2020 season may present an ordeal for farmers. Hence the government must seriously develop mitigation plans to support the cotton value chain to see them through this pandemic.



Figure 3. Small-scale factories have been the worst hit.

Epilogue

But for the government interventions, the ongoing lockdown due to the pandemic in India could have adversely impacted agricultural operations due to late harvesting, delayed land preparation, inadequate input supplies and thus reduced farm incomes. Fortunately, both the governments at the centre and in the states woke up in time to the

importance of timely agricultural practices and introduced several measures to restore normalcy of farm operations. The needy farmers were given access to easy credit and their loan repayments extended. Removing the restrictions on transport and sale was one of the most welcome steps to make available the agricultural inputs such as seed, fertiliser, pesticide and implements. Agricultural inputs were considered as essential commodities and shops selling these items were permitted to remain open during the lockdown period with caveats of social distancing and health care. The initial fear that cotton farmers would suffer due to the present crisis has been negated by the government's positive interventions and now it is expected that the upcoming cotton season shall be as normal as any other.

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