A STUDY ON AGRICULTURE AND FOODGRAIN MANAGEMENT IN INDIA

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# A STUDY ON AGRICULTURE AND FOODGRAIN MANAGEMENT IN INDIA

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## Abstract

*Indian agriculture despite the COVID-19 outbreak displayed the country's resiliency and perform well. The agricultural and allied sector employs about 54.6 percent of the country's total workforce and accounts for nearly 17.8 percent of GDP in 2019-20. The new financing policies, market reforms, and food processing policies as part of the Atma Nirbhar Bharat gave new life into the sector. However, Indian agriculture has faced various challenges, mitigation of which requires a holistic policy approach. The crop productivity is much lower than in other advanced and emerging market economies due to fragmented landholdings, lower form mechanisation and lower public and private investment in agriculture. This article articulates the issues in agriculture and food grains management in India.*

Keywords: Atma Nirbhar Bharat, food grains management, India, employment, livelihoods, green revolution, COVID-19

## Introduction

Agriculture and allied sectors are critical in terms of employment and livelihoods for the small and marginal farmers, who dominate the agriculture ecosystem in India. To attain the Sustainable Development Goals (SDGs) of ending poverty and bringing in inclusive growth, activities related to agriculture need to be closely integrated with the SDG targets. With the decline in the size of landholdings in agriculture, India has to focus on resource efficiency in smallholder farming to meet the SDG targets and also to attain sustainability in agriculture. The backbone of

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smallholder farming in India should be a combination of resource-efficient techniques, dynamic cropping patterns, climatic change farming, and intensive use of ICTs. For a safe and secure future, agriculture must undergo a massive transition, shifting from a philosophy of 'green revolution led production to a philosophy of 'green ways' led sustainability.

Agriculture is extremely important to India's economy. Agriculture and its allied sector activities employ 54.6 percent of the entire workforce (Census 2011) and account for 17.8 percent of the country's Gross Value Added (GVA) in 2019-20 (at current prices). India's agriculture sector functioned brilliantly despite the COVID-19 outbreak, displaying the country's resiliency. Agricultural and allied sector activities employ about 54.6 percent of the country's total workforce (Census 2011) and account for nearly 17.8 percent of GDP in 2019-20 (at current prices). While non-agricultural businesses were harmed by COVID-related lockdowns, the agriculture sector increased at a robust 3.4 percent at constant prices in 2020-21(first advance estimates). Various financing policies, market reforms, and food processing policies released as part of the Atma Nirbhar Bharat announcements have breathed new life into the sector.

Given the importance of the agriculture industry, the Indian government has taken many initiatives to ensure its long-term development. Various government interventions for the growth of allied sectors such as animal husbandry, dairying, and fisheries demonstrate the commitment to maximising the potential of the allied sector to enhance farm welfare. Several steps were taken for enhancing the agricultural productivity and marketing of it in the country. The government also implemented many food management programme with significant financial implications in terms of food subsidies. The Pradhan Mantri Garib Kalyan Anna Yojana offered an additional 5 kg of food grains per person per month, free of charge, to 80.96 crore beneficiaries, above and beyond the NFSA stipulated needs, till November 2020.

More than 200 LMT of foodgrains were distributed, resulting in a financial outlay of over Rs 75000 crores. Also, under Atma Nirbhar Bharat Package, 5 kg per person per month was distributed for four months to benefit approximately 8 crores migrants who are not covered under NFSA or state ration card entailing a subsidy of Rs 3109 crores approximately.

**Objectives**

1. To study the agricultural performance in India.
2. To trace the relationship between agriculture and food management in India.

**Methodology**

This study is based on secondary data. The secondary data on agriculture and food management have been collected from the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) and the Central Statistics Office (CSO). Though data on employment are available in the Census, they have not been included since the NSSO survey reports are published at shorter time intervals, with standardized concepts and more importantly, collected by trained professionals. Apart from the NSSO reports, other Government publications like Economic Survey, Indian Agricultural Statistics and other reports have been collected.

**Agriculture share in GDP hit 20% after 17 years: Economic Survey**

Agriculture sector has grown well with a positive growth at constant prices in 2020-21. The share of agriculture in the gross domestic product (GDP) was 20 per cent for the first time in the last 17 years, making it better performance sector during 2020-21. The resilience of the farming community in the face of adversities made agriculture the only sector to have clocked a positive growth of 3.4 per cent at constant prices in 2020-21 when other sectors slid. The share of agriculture in GDP increased to 19.9 per cent in 2020-21 from 17.8 per cent in 2019-20. The last time the contribution of the agriculture sector to GDP was at 20 per cent was in 2003-04. This was also the year when the sector clocked 9.5 per cent GDP growth, after the severe drought of 2002 when the growth rate was negative. Following 2003-04, the share has remained between 17 and 19 per cent.

"The growth in GVA (gross value added) of agriculture and allied sectors has been fluctuating over time. However, during 2020-21, while the GVA for the entire economy contracted by 7.2 per cent, growth in GVA for agriculture maintained a positive growth of 3.4 per cent," according to the survey. The continuous supply of agricultural commodities, especially staples like rice, wheat, pulses and vegetables, also enabled food security. In 2019-20 (according to fourth advance estimates), total food grain production (296.65 million tonnes) in the country was higher by 11.44 million tonnes than in 2018-19. It was also higher by 26.87 million tonnes than in the previous five years (2014-15 to 2018-19) average production of 269.78 million tonnes. The production also boosted the allocation of food grains under the National Food Security Act (NFSA) that increased by 56 per cent in 2020-21, compared to 2019-20. The government allocated 943.53 lakh tonnes of food grains to states / Union territories till December 2020. Agriculture is the primary occupation for nearly 58% of India's population. The GVA from agriculture, forestry, and fishing was Rs. 19.48 crore in FY20. The share of agriculture and allied sectors in GVA of India was 17.8 % in FY20.

The Indian food industry is increasing and also contribute to the world food trade every year by way of food processing industry. Indian food and grocery market is the world's sixth-largest which is 70% of the total sales. The Indian food processing industry accounts for 32% of the country's total food market, one of the largest industries in India and is ranked fifth in terms of production, consumption, export and expected growth.

The Economic Survey of India 2020-21 report stated that in FY20, the total food grain production in the country was recorded at 296.65 million tonnes—up by 11.44 million tonnes compared with 285.21 million tonnes in FY19. The government has set a target to buy 42.74 million tonnes from the central pool in FY21; this is 10% more than the quantity purchased in FY20. For FY22, the government has set a record target for farmers to raise food grain production by 2% with 307.31 million tonnes of food grains. In FY21, production was recorded at 303.34 million tonnes against a target of 301 million tonnes.

India's horticultural crop production made a record 331.05 million tonnes (MMT) in 2020-21 (according to the third preliminary estimate), an increase of 10.5 million tonnes from FY2008. India's livestock population is about 535.78 million, which is about 31% of the world's population. Milk production in the country is expected to increase by 10% year-on-year from 198 tons in FY2008 to 208 tons in FY2009. The horticultural area is expected to increase by 2.7% in FY2009.

The boom of the Indian economic system is reliant on the agriculture industry. It accounts for approximately 16% of India's Gross Domestic Product (GDP) and 13% of overall exports. It employs fifty-two percentage of the country's body of workers and guarantees the survival of extra than 620 million people. The percentage of agriculture in the gross home product (GDP) has reached nearly 20 in step with cent for the primary time inside the closing 17 years, making it the only shiny spot in GDP overall performance for the duration of 2020-21, in keeping with the Economic Survey 2020-2021.

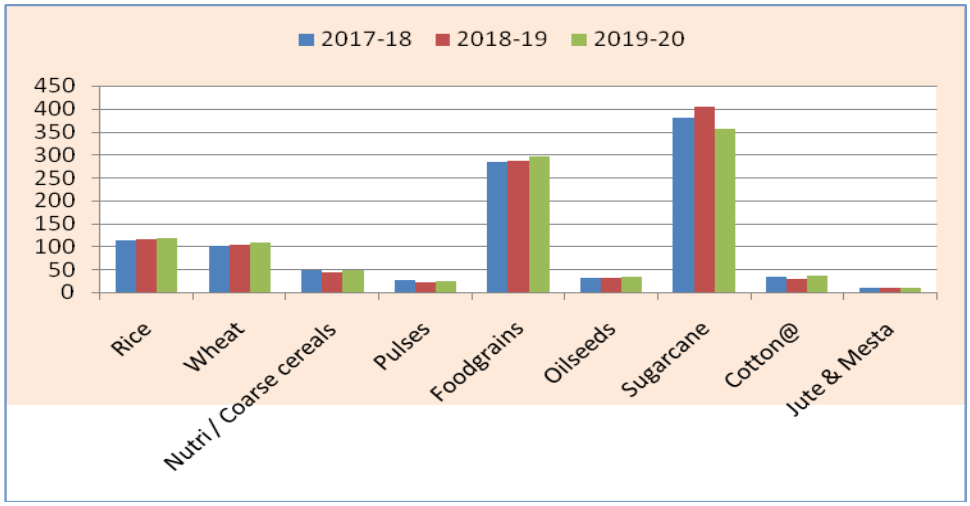
**Table – 1: Production Scenario in 2017-20**

| **Crops** | **Production (Million Tonnes)** | | |
|---|---|---|---|
| | **2017-18** | **2018-19** | **2019-20** |
| Rice | 112.8 | 116.5 | 118.4 |
| Wheat | 99.9 | 103.6 | 107.6 |
| Nutri / Coarse cereals | 47 | 43.1 | 47.5 |
| Pulses | 25.4 | 22.1 | 23.2 |
| Food grains | 285 | 285.2 | 296.6 |
| Oilseeds | 31.5 | 31.5 | 33.4 |
| Sugarcane | 379.9 | 405.4 | 355.7 |
| Cotton@ | 32.8 | 28 | 35.5 |
| Jute & Mesta | 10 | 9.8 | 9.9 |

**Source**: Annual Report 2020-21, Department of Agriculture, Cooperation & Farmers' Welfare Ministry of Agriculture & Farmers' Welfare, Government of India.

The total food grain production in the country is estimated at 296.65 million tonnes. The production during 2019-20 increased by 26.87 million tonnes compared to the previous five years (2014-15 to 2018-19) average production of food grain. The total production of rice during 2019-20 was 118.43 million tonnes. It is higher by 8.67 million tonnes than the five years average production of 109.76 million tonnes. Production of wheat was estimated at 107.59 million tonnes. It is higher by 11.43 million tonnes than the average wheat production of 96.16 million tonnes. Production of coarse cereals was estimated at 47.48 million tonnes which was more by 4.42 million tonnes than the production of 43.06 million tonnes achieved during 2018-19.

**Figure 1: Area, production and yield of major crops**




**Source:** Based on table 1.

**Table 2: GVA of agriculture and allied sectors and its share in totalGVA of the country at current prices**

| Items | Years | | | | |
|---|---|---|---|---|---|
| | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 |
| GVA of Agriculture and Allied Sectors (Rs. In Crore) | 22,27,533 | 25,18,662 | 27,96,908 | 29,22,846 | 32,57,443 |
| Per cent to total GVA | 17.7 | 18 | 18 | 17.1 | 17.8 |

**Source**: Central Statistics Office, Ministry of Statistics and Programme Implementation, Govt. of India.

As per the provisional estimates of Annual National Income released by the Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the agriculture and allied sectors contributed roughly 17.8% of India's GVA at current prices during 2019-20, which was marginally higher than 17.7% in 2015-16. GVA of agriculture and allied sectors and its share in total GVA of the country at current prices during the last 5 years.

**Table 3: Share of Agriculture and Allied Sectors in Total GVA at current prices**

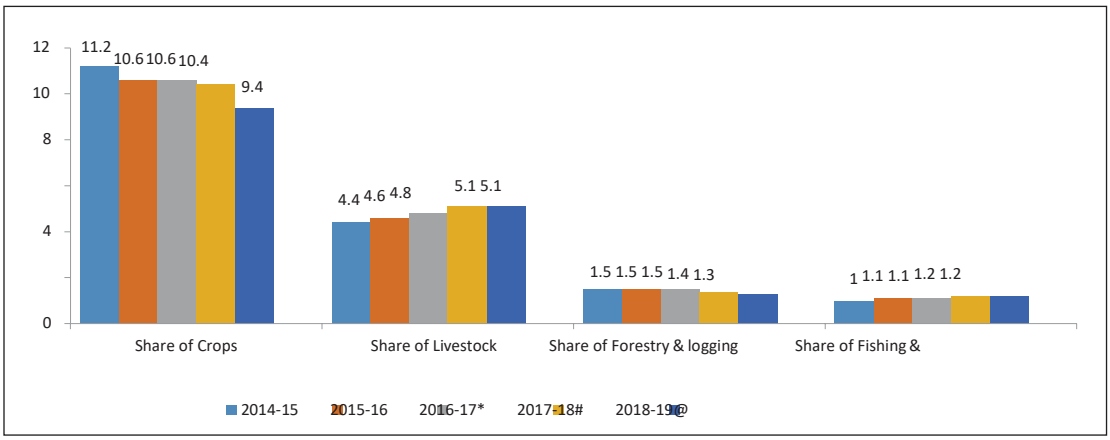
| Items | Year | | | | | |
|---|---|---|---|---|---|---|
| | 2014-15 | 2015-16 | 2016-17 | 2017-18 | 2018-19 | 2019-20 |
| Share of GVA of Agriculture & Allied Sector in GVA of Total Economy (per cent) | 18.2 | 17.7 | 18 | 18 | 17.1 | 17.8 |
| Share of Crops | 11.2 | 10.6 | 10.6 | 10.4 | 9.4 | NA |

| | | | | | | |
|---|---|---|---|---|---|---|
| Share of Livestock | 4.4 | 4.6 | 4.8 | 5.1 | 5.1 | NA |
| Share of Forestry & logging | 1.5 | 1.5 | 1.5 | 1.4 | 1.3 | NA |
| Share of Fishing & aquaculture | 1 | 1.1 | 1.1 | 1.2 | 1.2 | NA |

Source: Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW).

As per the provisional estimates of national income released by CSO on 29th May 2020, the share of agriculture and allied sectors in Gross Value Added (GVA) of the country at current prices is 17.8 per cent for the year 2019-20. GVA of agriculture and allied sectors and its share in total GVA of the country during the last six years at current prices. The share of agriculture and allied sectors in the GVA of the country has declined from 18.2 per cent in 2014-15 to 17.8 per cent in 2019-20 (Table 1), an inevitable outcome of a development process in which the relative performance of non-agricultural sectors becomes more dominant. Within the agriculture sector, the share of crops has fallen from 11.2 per cent in 2014-15 to 9.4 per cent in 2018-19. The decline in the share of crops has been made up by an increase in the share of livestock and fisheries sectors.

**Figure 2: Share of Agriculture and Allied Sectors in Total GVA of the Country at Current Prices (in per cent)**

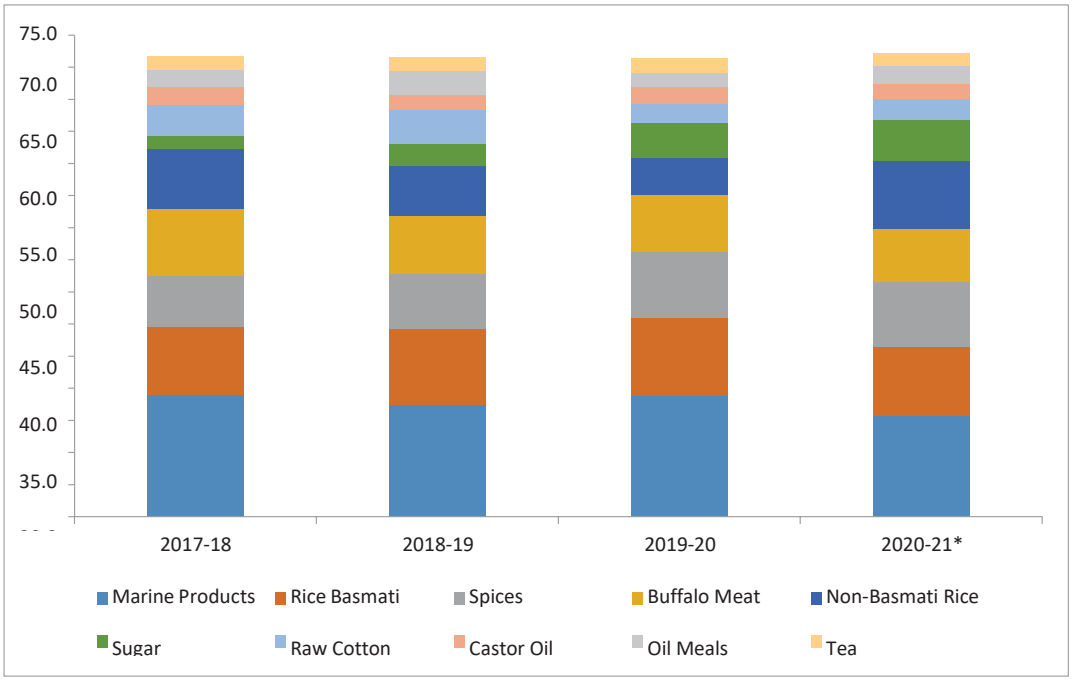



**Source**: Created from the data in Table 3.

## International Trade in Agricultural Commodities

In 2019-20, India's agricultural and allied exports amounted to approximately 252 thousand crores.

**Figure 3: Trend in the Share of Agricultural Commodities in Total Value of Agri-export (per cent)**



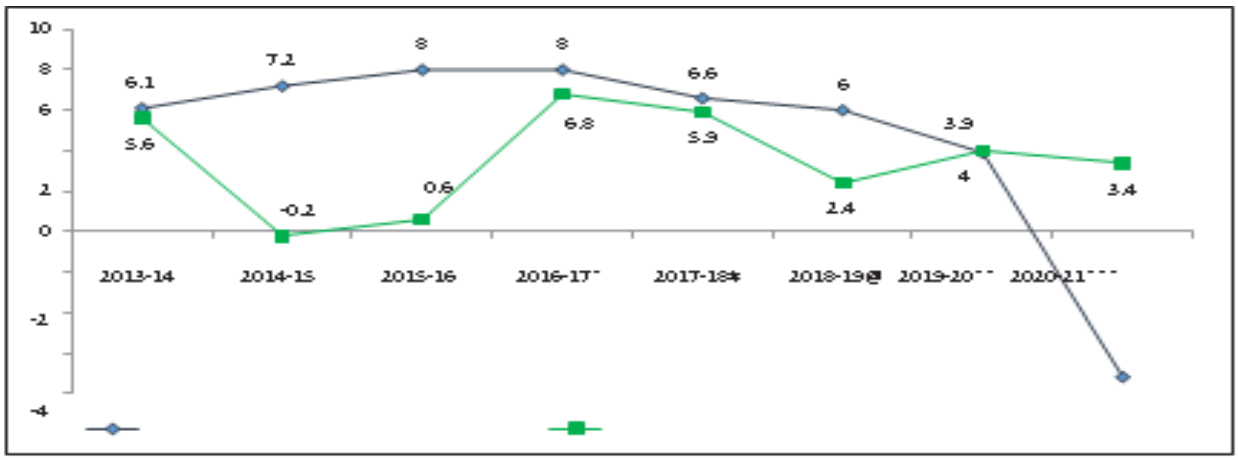

Source: Based on data received from DAC&FW.
* Up to November 2020.

The major export destinations were the USA, Saudi Arabia, Iran, Nepal and Bangladesh. The top agriculture and related products exported from India were marine products, basmati rice, buffalo meat, spices, non-basmati rice, cotton raw, oil meals, sugar, castor oil and tea. While India occupies a leading position in the global trade of aforementioned agriproducts, its total agri-export basket accounts for a little over 2.5 per cent of world agri trade. Since economic reforms began in 1991, India has remained a net exporter of agri-products, with agri-exports touching Rs 2.52 lakh crores and imports at Rs 1.47 lakh crores in FY 2019-20. An analysis of the last six years of the share of the top ten agricultural commodities in the total value of agricultural export shows that there have been significant changes in the composition of agri-exports (Figure 7). The share of marine products in total agricultural export value has remained the largest over the period. Its share in total agricultural export value increased from 14.5 per cent in 2015-16 to close to 19 per cent in 2019-20. The share of basmati rice in total agricultural export value has also shown an increasing trend during the period. Other commodities that have witnessed an increasing trend during the period are non-basmati rice, spices and sugar. The shares of the commodities such as buffalo meat and raw cotton in total agricultural export value have, however, declined during the period. The shares of the commodities such as castor oil and tea have remained more or less stable over this period.

**Growth in Agriculture and Allied Sectors**

The growth in GVA of agriculture and allied sectors has been fluctuating over time. However, during 2020-21, while the GVA for the entire economy contracted by 7.2 per cent, growth in GVA for agriculture maintained a positive growth of 3.4 per cent.

**Figure 4: Growth of GVA of Economy and Agriculture & Allied Sectors at Constant (2011-12) Prices (In per cent)**

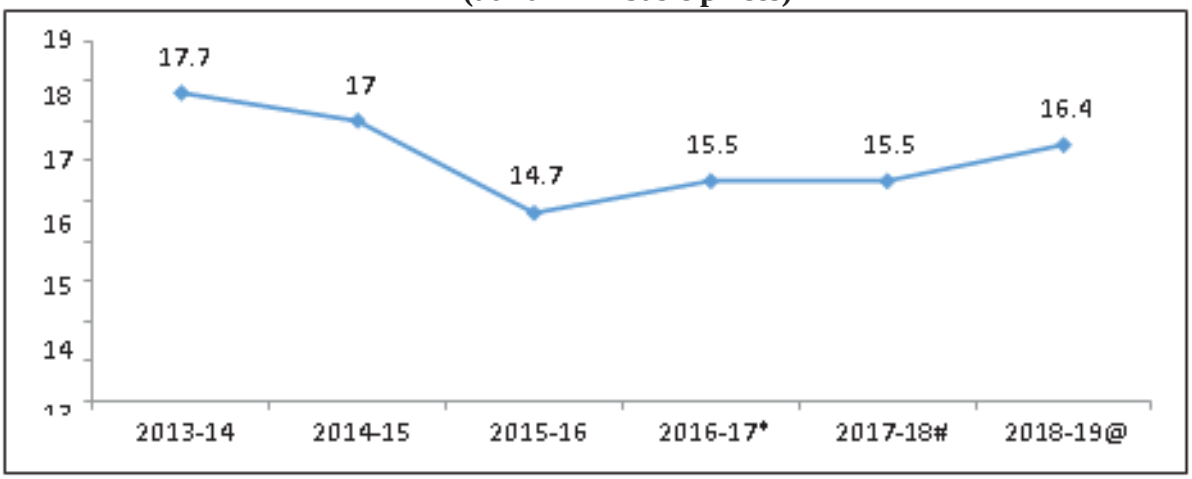



**Source**: Based on data received from DAC&FW.

**Gross Capital Formation**

Gross Capital Formation (GCF) in the agriculture and allied sector as a proportion to GVA has been showing a fluctuating trend from 17.7 per cent in 2013-14 to 16.4 per cent in 2018-19, with a dip to 14.7 per cent in 2015-16. The share of GCF of the agriculture & allied sector to GVA of agriculture & allied sector for the years 2013-14 to 2018-19 at 2011-12 basic prices are shown in Figure 4.

**Figure 5: GCF of Agriculture & Allied Sector as percentage of GVA of Agriculture & Allied Sector (at 2011-12 basic prices)**




**Source:** Based on data received from DAC&FW.

*@As per the First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation for 2018-19 released on 31st January 2020. # Second Revised Estimate. * Third Revised Estimate.*

**Agricultural Credit**

Given the large proportion of resource constraints of small and marginal farmers in India, timely availability of adequate credit is fundamental for the success of farming activities. The agricultural credit flow target for the year 2019-20 was fixed at Rs 13,50,000 crores and against this target the achievement was Rs 13,92,469.81 crores. The agriculture credit flow target for 2020-21 was fixed at Rs 15,00,000 crores and till 30th November 2020, a sum of Rs 9,73,517.80 crores was disbursed.

During the year 2020-21, in the total disbursement as of 30th November 2020, the share of the southern region in agricultural credit was more than 40 per cent while it was less than 2 per cent for the north-eastern region (NER). This low coverage of the agricultural credit in NER is because the total cultivable area in the North Eastern States is only about 2.74 per cent of the total GCA of the country. Moreover, community ownership of land is prevalent in most of the NE States. These two factors affected the intake of Kisan Credit Card (KCC) loans in NER as these loans are given against land documents.

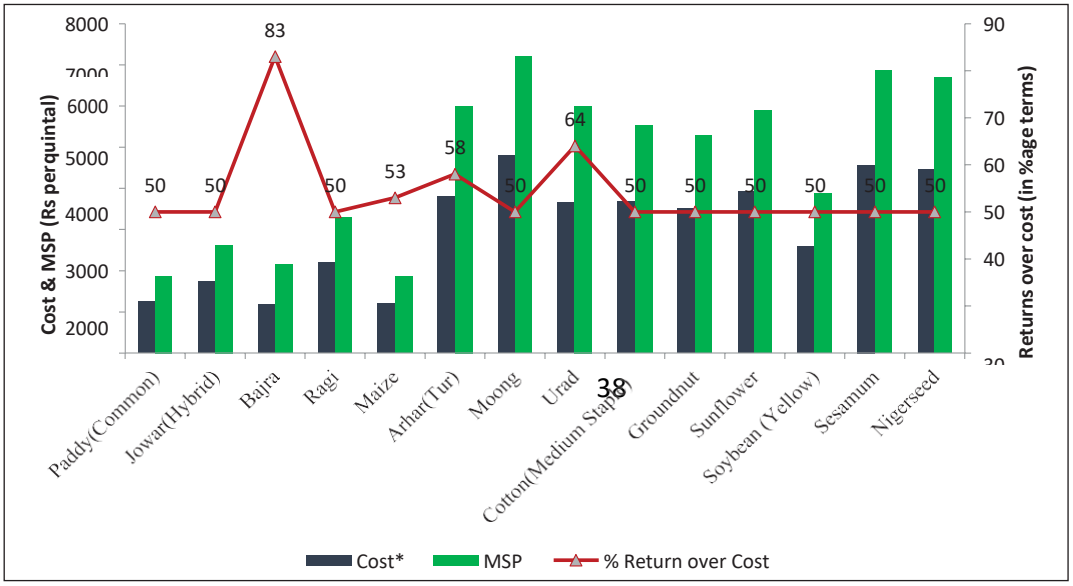
**Minimum Support Price (MSP)**

The Union Budget for 2018-19 had announced that MSPs would be kept at the level of 1.5 times the cost of production. Based on the above-mentioned principle, Government recently increased the MSPs for all mandated Kharif and rabi crops for the 2020-21 season.

**MSP of Kharif crops**

On 1st June 2020, the Government announced the increase in MSP for Kharif crops for marketing season 2020-21. The highest increase in MSP announced is for nigerseed (Rs 755 per quintal) followed by sesamum (Rs 370 per quintal), urad (Rs 300 per quintal) and cotton (long staple) (Rs 275 per quintal). The expected returns to the farmers over their cost of production are estimated to be highest in the case of bajra (83 per cent) followed by urad (64 per cent), tur (58 per cent) and maize (53 per cent). For the rest of the crops, the return to farmers over their cost of production is estimated to be at least 50 per cent (**Figure 6).**

**Figure 6: Cost, MSP & Returns of Kharif Crops for the year 2020-21**



seed

**Source**: DAC&FW

**Crop Insurance**

Pradhan Mantri Fasal Bima Yojana (PMFBY) is a milestone initiative to provide a comprehensive risk solution at the lowest uniform premium across the country for farmers. As an end-to-end risk mitigation mechanism for farmers, the scheme extends coverage for the entire cropping cycle from pre-sowing to post-harvest including coverage for losses arising out of prevented sowing and mid-season adversities. Individual farm-level losses arising out of localized calamities and post-harvest losses are also covered due to perils such as inundation, cloudburst and natural fire. The average sum insured per hectare has increased from Rs 15,100 during the pre-PMFBY Schemes to Rs 40,700 under PMFBY. The scheme completed five successful years of implementation on 13th January 2021

As an endeavour to constantly improve, the scheme was made voluntary for all farmers, post its revamp in February 2020. Further, the States have also been provided flexibility to rationalize the sum insured so that adequate benefits can be availed by farmers. The Scheme covers over 5.5 crore farmer applications year on year. As of 12$^{th}$ January 2021, claims worth 90,000 crores have already been paid out under the Scheme. During the COVID lockdown period, nearly 70 lakh farmers benefitted and claims worth Rs 8741.30 crores were transferred to the beneficiaries.

**Conclusion**

Indian Agriculture scaled new heights with record production of various food grains, and commercial and horticultural crops, exhibiting resilience and ensuring food security during the COVID period. The sector, however, confronted various challenges, mitigation of which requires a holistic policy approach. For instance, crop productivity in India is much lower than in other advanced and emerging market economies due to various factors, viz., fragmented landholdings, lower form mechanisation and lower public and private investment in agriculture.

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