



सत्यमेव जयते



Annual Report 2020-21

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS' WELFARE

Ministry of Agriculture & Farmers' Welfare
Government of India
Krishi Bhawan, New Delhi-110001
www.agricoop.nic.in

ANNUAL REPORT

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Chapter 1

Overview

1.1 Agriculture plays a vital role in India's economy. 54.6% of the total workforce is engaged in agricultural and allied sector activities (Census 2011) and accounts for 17.8% of the country's Gross Value Added (GVA) for the year 2019-20 (at current prices). Given the importance of the agriculture sector, Government of India has taken several steps for its development in a sustainable manner. Steps have been taken to improve the income of farmers. Further, to mitigate risk in the agriculture sector, a scheme "Pradhan Mantri Fasal Bima Yojana" (PMFBY) was also launched in 2016. Schemes such as Formation & promotion of 10,000 FPOs & the Agriculture Infrastructure Fund have also been launched recently to benefit the sector.

1.2 As per the Land Use Statistics 2016-17, the total geographical area of the country is

328.7 million hectares, of which 139.4 million hectares is the reported net sown area and 200.2 million hectares is the gross cropped area with a cropping intensity of 143.6%. The net area sown works out to 42.4% of the total geographical area. The net irrigated area is 68.6 million hectares.

1.3 Agriculture Gross Value Added (GVA):

As per the provisional estimates of Annual National Income released by Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the agriculture and allied sectors contributed approximately 17.8% of India's GVA at current prices during 2019-20, 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 is given in Table 1.

Chart1: Share of GVA of Agriculture and Allied Sectors in GVA of Total Economy

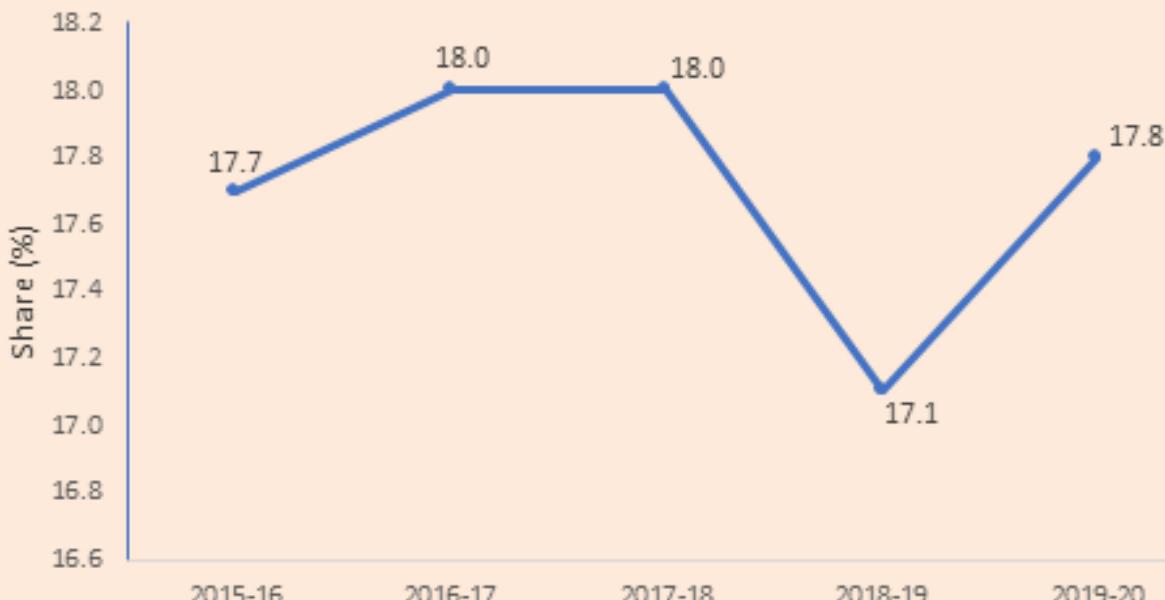


Table 1: GVA of agriculture and allied sectors and its share in total GVA of the country at current prices

Items	Years					(Rs. in Crore)
	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	18.0	18.0	17.1	17.8	

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

** As per the press note on Provisional Estimates of Annual National Income 2019-20 released by CSO on 29th May 2020.

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

Table 2: Growth (over the previous year) in the total GVA of the Economy and that in the GVA of Agriculture and Allied sectors at 2011-12 at base prices

Year	Total Economy	Agriculture & Allied Sector	Crops	Livestock	Forestry & Logging	Fishing	(in percent)
2015-16	8.0	0.6	-2.9	7.5	1.7		9.7
2016-17*	8.0	6.8	5.3	10.0	5.5		10.4
2017-18#	6.6	5.9	4.4	7.4	6.2		14.7
2018-19@	6.0	2.4	-1.0	8.1	0.4		12.0
2019-20**	3.9	4.0		Will be released in January, 2021.			

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

** As per the press note on Provisional Estimates of Annual National Income 2019-20 released by CSO on 29th May 2020.

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1.4 The Agriculture and Allied Sector witnessed marginal growth of 0.6 per cent in 2015-16 followed by a substantial recovery of 6.8 per cent in 2016-17 that fell by almost a per cent to 5.9 per cent in the following year, 2017-18. 2018-19 witnessed a sharp fall to 2.4 per cent that has since recovered to 4% in 2019-20 at 2011-12 base price. (Table-2)

1.5 Capital Formation in Agriculture and Allied Sectors:

Gross Capital Formation (GCF) is an indicator of level of investment activity in the sector. With respect to GVA in the sector, Gross Capital Formation in the sector has been fluctuating during the last 5 years with a major

fall experienced in 2015-16 to 14.7 percent from 17.7 per cent in 2013-14. The indicator has since recovered and has improved to 16.4 per cent in 2018-19.

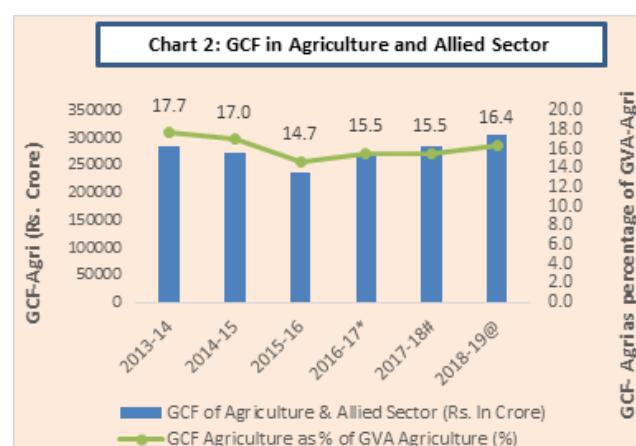


Table 3: Gross Capital Formation (GCF) in Agriculture and Allied Sectors relative to Gross Value Added (GVA) at 2011-12 base price

Year	GCF of Agriculture & Allied Sector	GVA of Agriculture & Allied Sector	GCF of Agriculture & Allied Sector as percentage of GVA of Agriculture & Allied Sector (in percentage)	(Rs. in Crore)
2013-14	2,84,424	16,09,198	17.7	
2014-15	2,72,663	16,05,715	17.0	
2015-16	2,37,648	16,16,146	14.7	
2016-17*	2,67,153	17,26,004	15.5	
2017-18#	2,83,922	18,28,329	15.5	
2018-19@	3,06,749	18,72,339	16.4	

Source: Central Statistics Office, Ministry of Statistics and Programme Implementation

@ 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

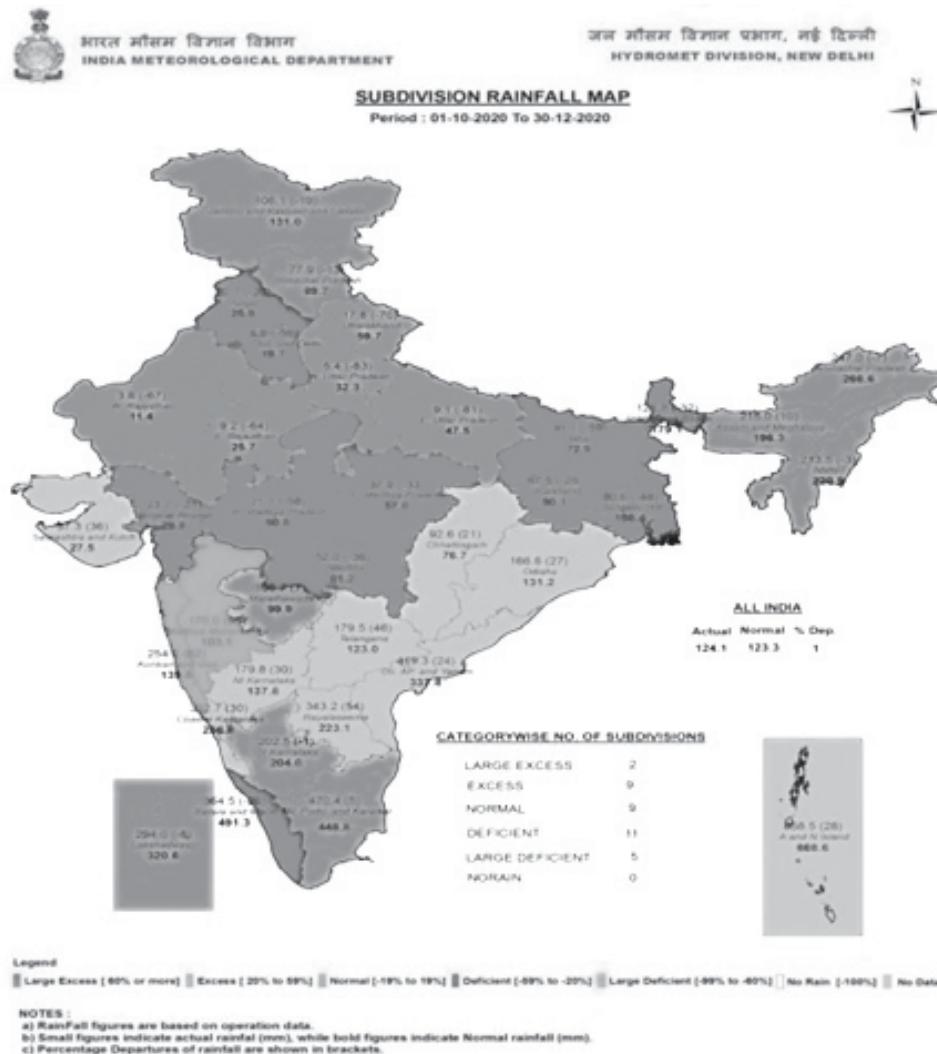
Profile of Agriculture Sector in India

- In 5 states viz. Andhra Pradesh, Arunachal Pradesh, Madhya Pradesh, Nagaland and Tripura, Agriculture and Allied activities contribute more than 30% in State Gross Value Added estimated for 2016-17 (at current prices). (Source: National Statistical Office)
- Number of operational holdings in the country is estimated at 14.64 Crore. (Agriculture Census 2015-16).
- The percentage share of Agricultural workers in Total workers is 54.6%. (Registrar General of India).
- 57.8% of rural households are engaged in agriculture (Situation Assessment Survey of Agricultural Households, NSO).
- Cropping Intensity for 2015-16 season has been estimated at 141.25%. (Source: DES)
- The small and marginal holdings taken together (0.00-2.00 ha) constituted 86.08% of the total land holdings in 2015-16. The all- India average size of holding is 1.08 ha. (Source: Agriculture Census, 2015-16)
- Position of women in agriculture-
 - 30.33% of total cultivators and 40.67% of agriculture labour are women.
 - Only 13.95% of total operational holdings are operated by women. (Source: Agriculture Census, 2015-16)
- Demand for foodgrains projected by Niti Aayog (2020-21) and domestic production (4th advance estimates for 2019-20, DES).

Commodity	Rice	Wheat	Cereals	Pulses	(million tones)
Demand projection	107.08	94.45	244.89	26.64	
Production	118.43	107.59	273.50	23.15	

1.6 Rainfall 2020-21

Monsoon Rainfall (June – September)



The **cumulative rainfall** in the country during the monsoon season i.e. 01st June to 30th September, 2020 has been higher by 9% than the Long Period Average (LPA). Rainfall in the four broad geographical divisions of the country during the above period has been higher than LPA by 29% in South Peninsula, by 15% in Central India and by 6% in East & North East India but lower than LPA by 16% in North-West India. Out of 36 meteorological subdivisions, 15 met subdivisions in the country had received large excess/excess rainfall, 16 met subdivisions received normal rainfall and

5 met subdivisions received deficient rainfall. Out of 685 districts for which rainfall data is available, 59(9%) districts received large excess rainfall, 164(24%) districts received excess rainfall, 290(42%) districts received normal rainfall, 155(23%) districts received deficient rainfall and 17(2%) districts received large deficient rainfall.

Post-Monsoon (October - December)

During the post-monsoon season (1st October to 30th December, 2020) the country

received rainfall which was 1% higher than the LPA. Out of 36 meteorological subdivisions, 11 received large excess/excess rainfall, 6 received normal rainfall and 19 met subdivisions received deficient/large deficient rainfall.

1.7 Production Scenario 2019-20

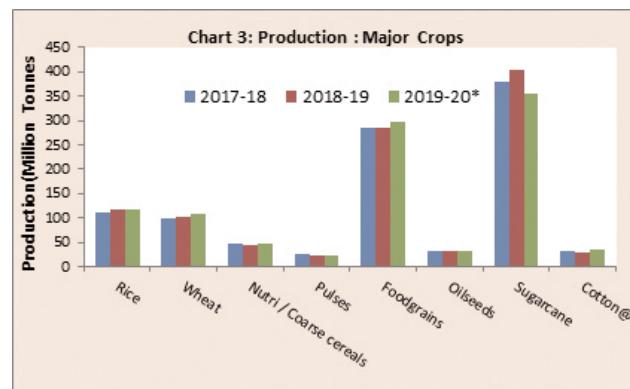
As per 4th Advance Estimates for 2019-20, total food grain production in the country is estimated at 296.65 million tonnes. The production during 2019-20 is also higher by 26.87 million tonnes than the previous five years' (2014-15 to 2018-19) average production of food grain. Total production of rice during 2019-20 is estimated at 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 is 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 nutri / coarse cereals is estimated at 47.48 million tonnes. It is higher by 4.42 million tonnes than the production of 43.06 million tonnes achieved during 2018-19. Further, it is also higher by 4.44 million tonnes than the average production.

Total pulses production during 2019-20 is estimated at 23.15 million tonnes which is higher by 2.33 million tonnes than the five

years' average production of 20.82 million tonnes. Total oilseeds production in the country during 2019-20 is estimated at 33.42 million tonnes which is higher by 1.90 million tonnes than the production of 31.52 million tonnes during 2018-19. Further, the production of oilseeds during 2019-20 is higher by 4.02 million tonnes than the average oilseeds production.

Total production of sugarcane in the country during 2019-20 is estimated at 355.70 million tonnes. Production of cotton is estimated at 35.49 million bales (of 170 kg each) is higher by 7.45 million bales than the production of 28.04 million bales during 2018-19. Production of jute & mesta is estimated at 9.91 million bales (180 kg each).

Table 4: Area, production and yield of major crops



Crops	Area (Lakh hectare)			Production (Million Tonnes)			Yield (kg/hectare)		
	2017-18	2018-19	2019-20*	2017-18	2018-19	2019-20*	2017-18	2018-19	2019-20*
Rice	437.7	441.6	437.8	112.8	116.5	118.4	2576	2638	2705
Wheat	296.5	293.2	314.5	99.9	103.6	107.6	3368	3533	3421
Nutri / Coarse cereals	242.9	221.5	240.2	47.0	43.1	47.5	1934	1944	1976
Pulses	298.1	291.6	283.4	25.4	22.1	23.2	853	757	817
Foodgrains	1275.2	1247.8	1275.9	285.0	285.2	296.6	2235	2286	2325

Oilseeds	245.1	247.9	270.4	31.5	31.5	33.4	1284	1271	1236
Sugarcane	47.4	50.6	45.7	379.9	405.4	355.7	80198	80105	77893
Cotton@	125.9	126.1	133.7	32.8	28.0	35.5	443	378	451
Jute & Mesta#	7.4	7.0	6.8	10.0	9.8	9.9	2435	2508	2641

* 4th advance estimates

@ Production in million bales of 170 kg each

Production in million bales of 180 Kg. each.

1.8 Production Scenario during Kharif 2020-21 (as per First Advance Estimates)

The First Advance Estimate of production of major Kharif crops for 2020-21 has been released by the Department of Agriculture, Cooperation and Farmers Welfare on 22nd September, 2020. The cumulative rainfall during this year's southwest monsoon season has been 7% higher than Long Period Average (LPA). Accordingly, most of the major crop producing states have witnessed normal rainfall. The production of most of the crops for the agricultural year 2020-21 has been estimated higher than their normal production.

The total area coverage under Kharif food grains during 2020-21 is estimated at 712.36 lakh hectares (as per 1st Advance Estimates). The area coverage under nutri / coarse cereals is estimated at 176.17 lakh hectares and under pulses it is estimated at 135.15 lakh hectares. The area under Kharif oilseeds during 2020-21 (as per 1st Advance Estimates) is estimated at 196.61 lakh hectares. A comparative position of production of food grains, oilseeds, sugarcane and cotton during 2020-21 vis-à-vis Normal Average (2014-15 to 2018-19) is given below:

Table 5: Production in Kharif 2020-21 and Average (2014-15 to 2018-19)

Crop	2020-21 (1 st Advance Estimates)	Average (2014-15 to 2018-19)	Absolute Difference (2020-21 over average)	Percentage Increase/decrease (+/-) in 2021 over average
Foodgrains	144.52	134.69	9.83	7.30
Oilseeds	25.73	19.83	5.90	29.75
Sugarcane	399.83	360.43	39.40	10.93
Cotton@	37.12	31.65	5.47	17.28
Jute& Mesta*	9.66	10.49	-0.83	-7.91

@ Production in million bales of 170 kg each.

* Production in million bales of 180 kg each

As per First Advance Estimates for 2020-21 (Kharif crops only), total food grain production in the country is estimated at 144.52 million tonnes. The production during 2020-21

is higher by 9.83 million tonnes than the average food grain production of previous five years' (2014-15 to 2018-19)

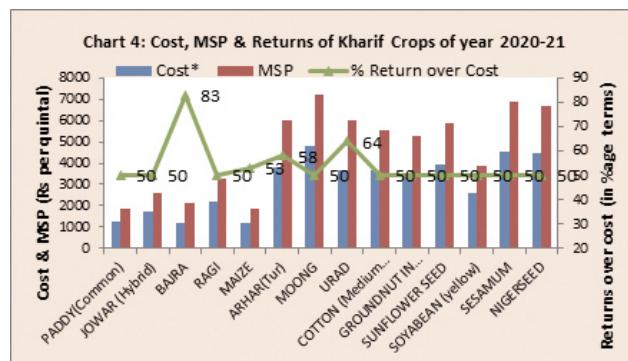
Total production of Kharif rice during 2020-21 is estimated at 102.36 million tonnes. It is higher by 6.70 million tonnes than the previous five years' average production of 95.66 million tonnes. Production of nutri / coarse cereals is estimated at 32.84 million tonnes which is higher by 1.45 million tonnes than the average production of 31.39 million tonnes. Total Kharif pulses production during 2020-21 is estimated at 9.31 million tonnes. It is higher by 1.59 million tonnes than Kharif pulses production of 7.72 million tonnes in 2019-20 (fourth advance estimate).

Total Kharif oilseeds production in the country during 2020-21 is estimated at 25.73 million tonnes which is higher by 3.41 million tonnes than the production during 2019-20. Moreover, the production of Kharif oilseeds during 2020-21 is higher by 5.90 million tonnes than the average Kharif oilseeds production. Total production of sugarcane in the country during 2020-21 is estimated at 399.83 million tonnes. The production of sugarcane during 2020-21 is higher by 39.40 million tonnes than the average sugarcane production of 360.43 million tonnes.

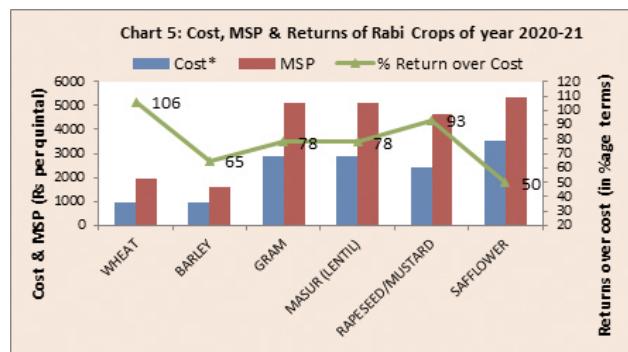
Production of cotton during 2020-21 is estimated at 37.12 million bales (of 170 kg each) which is higher by 1.63 million bales than the production of 35.49 million bales during 2019-20. Production of jute & mesta is estimated at 9.66 million bales (of 180 kg each).

1.9 Minimum Support Price

The Government's price policy for major agricultural commodities seeks to ensure remunerative prices to the growers for their produce with a view to encouraging higher investment and production and to safeguard the interest of consumers by making available supplies at reasonable prices. Towards this end, the Government



announces Minimum Support Prices (MSPs) for twenty three (23) mandated crops based on the recommendations of the Commission for Agricultural Costs & Prices (CACP) after considering the views of concerned State Governments and Central Ministries/ Departments. The 23 mandated crops include 15 Kharif crops viz. paddy, jowar, bajra, maize, ragi, tur (arhar), moong, urad, groundnut, soybean (yellow), sunflower seed, sesamum, nigerseed, cotton, sugarcane and 6 Rabi crops viz. wheat, barley, gram, masur (lentil), rapeseed/mustard, safflower and two commercial crops viz. jute and copra. In addition to that, MSP for toria and de-husked coconut are also fixed on the basis of MSPs of



rapeseed & mustard and copra respectively.

On 1st June, 2020, the Government has 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 farmers over their cost of production are estimated to be highest in case of bajra (83%) followed by urad (64%), tur (58%) and maize (53%). For rest of the crops, return to farmers over their cost of production is estimated to be at least 50%.

On 21st September, 2020 the Government had announced the MSPs for all mandated Rabi crops for marketing season 2021-22. In view of nutritional requirements and changing dietary pattern and to achieve self-sufficiency in pulses and oilseeds production, the Government has fixed relatively higher MSP for these crops. The highest increase in MSP has been announced for lentil (Rs. 300 per quintal) followed by gram, rapeseed & mustard (Rs. 225 per quintal each) and safflower (Rs. 112 per quintal). For barley and wheat, an increase of Rs. 75 per quintal and Rs 50 per quintal respectively has been announced. The expected returns to farmers over their cost of production are estimated to be highest in case of wheat (106%) followed by rapeseed/ mustard (93%), gram and lentil (78%). For barley, return to farmers over their cost of production is estimated at 65% and for safflower, it is 50%.

1.10 Doubling of Farmers' Income (DFI)

Government constituted an Inter-ministerial Committee in April, 2016 to examine issues relating to "Doubling of Farmers Income" and recommend strategies to achieve the same. The Committee submitted its Report to the Government in September, 2018 and thereafter, an Empowered Body was set up on 23.01.2019 to monitor and review the progress as per these recommendations. To achieve this, the Committee has identified seven sources of income growth viz., improvement in crop productivity; improvement in livestock productivity; resource use efficiency or savings in the cost of production; increase in the cropping intensity; diversification towards high value

crops; improvement in real prices received by farmers; and shift from farm to non-farm occupations.

The efforts of the Government of India are to supplement the efforts of the State Governments through various schemes/programmes and initiatives. These schemes/programmes of the Government of India are meant for the welfare of farmers by increasing production, remunerative returns and augmentation of farmers' income. The Government has adopted several developmental programmes, schemes, reforms and policies that focus on higher incomes for farmers. All these policies & programmes are being supported by higher budgetary allocations (from Rs. 52,655.00 crore during BE 2017-18 to Rs. 1,34,399.77 crore during BE 2020-21), non-budgetary financial resources by way of creating Corpus Funds and supplementary income transfers under PM-KISAN. MSP is being fixed at a predetermined principle to keep it at the level of one and half times of the cost of production. Government has increased MSPs for all mandated Kharif, Rabi and other Commercial crops with a return of atleast 50 % over all India weighted average cost of production for the season 2018-19 , 2019-20 and also recently for the 2020-21 season.

Besides, the latest major interventions include the 'Atma Nirbhar Bharat - Agriculture' which includes comprehensive market reforms and creation of 'Agricultural Infrastructure Fund (AIF)' worth Rs. 1 lakh crores including Rs 500 crores for the Bee-Keeping initiative. In addition to this several market reforms have been rolled out. These include

- a. Model APLMC (Promotion & Facilitation) Act, 2017
- b. Establishment of 22,000 number of Gramin Agriculture Markets (GrAMs) as aggregation platforms
- c. Agri-Export Policy, that targets to

- double agri-exports by 2022
- d. The Farmers Produce Trade and Commerce (Promotion & Facilitation) Act, 2020
- e. The Farmers (Empowerment & Protection) Agreement on Price Assurance and Farm Services Act, 2020
- f. Amendments to Essential Commodities Act, 1955, that deregulates various agri-commodities
- g. Promotion of 10,000 FPOs by 2024

The Government also created Corpus Funds for the benefit of farmers such as :

- a. Micro Irrigation Fund - Rs. 5,000 crores
- b. Agri-Marketing Fund to strengthen eNAM and GrAMs - Rs. 2,000 crores

1.11 Atmanirbhar Bharat Abhiyaan (ABA) is the vision of new India announced by the Hon'ble Prime Minister Shri Narendra Modi on May 12, 2020. In agriculture, ABA aims to strengthen Infrastructure, Logistics, Capacity Building, Governance and Administrative Reforms. The components of the ABA for DAC&FW are as follows –

1.11.1. Agriculture Infrastructure Fund (AIF) - Central Sector Scheme of financing facility under Agri Infrastructure Fund is operational from the year 2020-21 to 2029-30. The aim is creation of infrastructure at the farm gate. The scheme shall provide a medium - long term debt financing facility for investment in viable projects for post-harvest management Infrastructure and community farming assets through interest subvention and financial support. Under the scheme, Rs. 1 Lakh Crore will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer

Producers Organizations (FPOs), Self Help Group (SHG), Farmers, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups and Central/ State agency or Local Body sponsored Public Private Partnership Project.

All loans under this financing facility will have interest subvention of 3% per annum up to a limit of Rs. 2 crore. This subvention will be available for a maximum period of 7 years. Further, credit guarantee coverage will be available for eligible borrowers from this financing facility under Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme for a loan up to Rs. 2 crore.

1.11.2 The National Beekeeping and Honey Mission (NBHM) - Rs.500 crore from 2020-2021 to 2022-2023 is allocated for the sector. The scheme (NBHM) has following three Mini Missions under which main thrust will be given for setting up of infrastructural facilities, etc. for overall promotion and development of scientific beekeeping in the country:

A. Mini Mission-I: will concentrate on production & productivity improvements of various crops through promotion / development/ extension/ adoption of scientific beekeeping by the farmers/ beekeepers/ other stakeholders. Activities relating to HRD/ capacity building of farmers/ beekeepers and field functionaries/ officials, other extension activities, development of infrastructural facilities, including setting up of Integrated Beekeeping Developing Centres (IBDCs), development of quality nucleus stock, bee breeders, setting up of bee diseases diagnostic labs, honey & other beehive products testing labs, custom hiring centres, Api therapy centre, etc., will be promoted.

B. Mini Mission-II: will concentrate on post-harvest management of beekeeping/ beehive products, including collection, processing, storage, marketing, value addition, export,

promotion, etc., setting up of honey and other beehive products processing units, modernization/ up-gradation/ extension of old honey and other beehive products processing units/plants, setting up of in-house quality testing labs, facilitation for marketing/ export of honey and other beehive products, etc.

C. Mini Mission-III: will concentrate on research & technology generation in beekeeping for different regions/ states/ agro-climatic and socio-economic conditions.

1.12. The Farmers Produce Trade and Commerce (Promotion and Facilitation) Act 2020- This will allow liberal trade, provide more options to farmer for sale of their farming produce, promote barrier free inter-state and intra State trade.

This Act is an extremely important step to provide a more competitive and hassle free eco-system where farmers and traders have the choice to sell their produce in an efficient, transparent and competitive environment so as to realise remunerative prices. This will facilitate barrier free intra-state and inter-state trade of farmers' produce and enable farmers with freedom of choice to sell their produce at remunerative prices in trade area outside APMC regulated markets.

The mandate of "The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020" is not to replace the State APMC Act. This will motivate APMCs to improve their efficiency and provide better facilities to farmers. This will act as a additional channel while the existing APMCs already facilitating farmers in obtaining better remunerative prices for their produce. The provisions of the State Mandi Act and "The Farmers' Produce Trade and Commerce (Promotion and Facilitation) Act, 2020" will play together to yield remunerative prices to the farmers through successful enforcement of better marketing practices.

1.13. The Farmers' (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act, 2020 - "The Farmers' (Empowerment and Protection) Agreement on Price Assurance and Farm Services Act , 2020", has been enacted by the Government of India to provide for a national framework on farming agreements that protects and empowers farmers to engage with agri-business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce at a mutually agreed remunerative price framework in a fair and transparent manner.

Promotion of agreements for farming produce is an extension of the strategy of strengthening the process of monetization, whose primary objective is to de-risk agriculture at various stages. Such agreement will enable scaling of investment by industry for production and processing of high value agriculture produces and give fillip to exports. The farmers get to enjoy the additional benefits of operational efficiency. The framework will mitigate the risks for the farmers, enhance their income and will put in place an effective and conducive policy regime for agreements. By laying down of procedures and systems, an eco-system will be developed for the holistic development of the agriculture sector.

1.14. Kisan Credit Card (KCC):- The vision is to provide easy concessional institutional agri-credit to all the farmers for meeting the immediate requirements like buying of seeds and fertilizers, raising and marketing of crops, working capital and production needs through Kisan Credit Card (KCC).

Kisan Credit Card (KCC) was introduced in 1998 to provide timely credit to farmers to meet short term/long term cultivation requirement, post harvest expenses, consumption requirement etc. KCC is implemented by Commercial Banks, Cooperative Banks and Rural Regional Banks (RRBs). ISS is available to farmers availing

short term KCC loans upto Rs.3.00 lakh at an interest rate of 7% per annum for one year by providing 2% Interest Subvention(IS). Additional 3% Prompt Repayment Incentive (PRI) is also given to the farmers for prompt and timely repayment of loans. Thus the interest rate gets effectively reduced to 4% per annum. Interest subvention of 2% and prompt repayment incentive of 3% on restructured crop loans is also given to farmers affected by severe natural calamities for a maximum period of 5 years on the basis of report of Inter-Ministerial Central Team (IMCT) for grant of NDRF assistance and Sub-Committee of National Executive Committee (SC-NEC).

Universal Coverage under KCC

To cover all eligible farmers under KCC in a mission mode, KCC saturation drive was launched in 2019. To facilitate easy access to KCC, processing fees, inspection, ledger folio charges and all other service charges for fresh issue/ renewal of KCC was waived off, a time limit of 14 days fixed for issuing KCC after receipt of application and simplified application form were made available. The farmers engaged in activities relating to Animal Husbandry and Fisheries have been included in the KCC scheme and also have been extended the benefits of ISS and PRI with sub-limit of Rs.2.00 lakhs with the approval of Cabinet on 01.02.2019. As a result, the intake of KCC has increased.

Saturation drive of KCC (Phase-II)

Second Phase of KCC saturation drive was initiated by Department of Agriculture Cooperation & Farmers Welfare (DAC&FW) in mid February, 2020 in collaboration with Department of Financial Services (DFS) with the goal to provide universal access to institutional concessional credit to all farmers including Animal Husbandry, Dairy and Fisheries farmers with special focus on coverage of PM-KISAN beneficiaries. PM-KISAN

beneficiaries were allowed to submit KCC application with documents through Common Service Centers(CSCs) to banks. To facilitate KCC Saturation Drive in Mission Mode, Government has given directives and issued Circulars to all States & UTs, Banks, NABARD and CSCs and the progress is being monitored by DFS & DAC&FW jointly. Intensive monitoring and follow-up is being done on regular basis, along with regular video conferences with all Banks, SLBC conveners and State Governments.

Under the 'AATMA NIRBHAR BHARAT' campaign Government has set a target of issuing additional 2.5 crore KCCs by the end of year, as an important step in achieving this goal. This will ensure availability of cheap credit to farmers in the time of crisis and injection of nearly 2 lakh crore in rural economy.

1.15 PM-KISAN

PM Kisan is a Central Sector scheme with 100% funding from Government of India. It has become operational from 1.12.2018. Under the scheme an income support of 6,000/- per year in three equal installments will be provided to small and marginal farmer families having combined land holding/ ownership of upto 2 hectares. Definition of family for the scheme is husband, wife and minor children. State Government and UT administration will identify the farmer families which are eligible for support as per scheme guidelines. The fund will be directly transferred to the bank accounts of the beneficiaries. There are various Exclusion Categories for the scheme.

1.16 Farmer Producer Organization (FPO):
FPO is a generic name, which means and includes Farmer-Producers' Organization incorporated/ registered either under Part IXA of Companies Act or under Co-operative Societies Act of the concerned States

and formed for the purpose of leveraging collectives through economies of scale in production and marketing of agricultural and allied sector. However, FPOs registered under Co-operative Societies Act of the State (including Mutually Aided or Self-reliant Cooperative Societies Act by whatever name it is called) for the purpose of this Scheme, is to be insulated from all kinds of interference including in election process and day today management through suitable provisioning in their Memorandum of Association and Bye-laws with a view to encourage healthy growth and development of FPO.

Aims and Objectives of the Scheme

- o To provide holistic and broad based supportive ecosystem to form new 10,000 FPOs to facilitate development of vibrant and sustainable income oriented farming and for overall socio-economic development and well being of agrarian communities.
- o To enhance productivity through efficient, cost-effective and sustainable resource use and realize higher returns through better liquidity and market linkages for their produce and become sustainable through collective action.
- o To provide handholding and support to new FPOs up to 5 years from the year of creation in all aspects of management of FPO, inputs, production, processing and value addition, market linkages, credit linkages and use of technology etc.
- o To provide effective capacity building to FPOs to develop agriculture-entrepreneurship skills to become economically viable and self-sustaining beyond the period of support from government.

1.17 Commission for Agricultural Costs and Prices:

Commission for Agricultural Costs and Prices (CACP) was set up with a view to evolve a balanced and integrated price structure, is mandated to advice on the price policy (MSP) of 23 crops. These include seven cereal crops (paddy, wheat, jowar, bajra, maize, ragi and barley), five pulse crops (gram, tur, moong, urad and lentil), seven oilseeds (groundnut, sunflower seed, soybean, rapeseed-mustard, safflower, nigerseed and sesamum), copra (dried coconut), cotton, raw jute and sugarcane {Fair and Remunerative prices (FRP)}. CACP submits its recommendations to the government in the form of Price Policy Reports every year, separately for five groups of commodities namely Kharif crops, Rabi crops, Sugarcane, Raw Jute and Copra. Before preparing these five price policy reports, the Commission seeks views of various Central Ministries, State Governments, Farmers, Farmers Association, Research Institutes and other stakeholders.

1.18 Determinants of MSP:

Cost of production (CoP) is one of the important factors in the determination of MSP of mandated crops. Besides cost, the Commission considers other important factors such as demand and supply, price trends in the domestic and international markets, inter-crop price parity, the likely effect of the price policy on the rest of the economy, rational utilization of land, water and other production resources, and a minimum of 50 percent as the margin over the cost of production in case of MSPs and reasonable margin over cost of production in case of FRP.



Chapter 2

Functions and Organizational Structure

2.1 Structure: The Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) is one of the two constituent Departments of the Ministry of Agriculture & Farmers Welfare and the other being the Department of Agricultural Research and Education (DARE). This Department is headed by Agriculture & Farmers Welfare Minister and is assisted by two Ministers of State. The Secretary (DAC&FW) is the administrative head of the Department. The Secretary is assisted by one Principal Adviser, 4 Additional Secretaries including one Financial Adviser and 1 CEO, Pradhan Mantri Fasal Bima Yojana, Agriculture Commissioner, 12 Joint Secretaries including Mission Director (Mission on Integrated Development of Horticulture) & Mission Director (National Mission on Sustainable Agriculture), Horticulture Commissioner, Trade Advisor, Horticulture Statistical Advisor, Addl. Deputy Director General (Agri Census) and Deputy Director General (Agriculture Census). In addition, Chairman of Commission for Agriculture Costs and Prices (CACP) advises the Department on pricing policies for selected agricultural crops.

2.2 The DAC&FW is organized into 28 divisions (Annexure-2.1) and has five attached offices and twenty-one subordinate offices (Annexure-2.2) which are spread across the country for coordination with state level agencies and implementation of Central Sector Schemes in their respective fields. Further, one Public

Sector Undertaking, eight autonomous bodies, ten national-level cooperative organizations and two authorities (Annexure-2.3) are functioning under the administrative control of the Department.

2.3 Administrative Vigilance Unit (AVU) functions in the Department under a Joint Secretary, designated as Chief Vigilance Officer, to ensure a transparent clean and corruption free work environment through surveillance, preventive and punitive measures.

2.4 Administrative Vigilance Unit under the leadership of JS&CVO, is regularly monitoring all the pending complaints/ Regular Disciplinary Action cases in this Department and in attached, subordinate and autonomous organizations by way of regular review meetings and monthly reports. 78 new cases were received during the year. 81 cases were finalized during 2020. Further, 27 public grievance cases have been addressed/finalized. 19 RTI cases were processed within the prescribed time limit. 17 part time Vigilance Officers were appointed during the year.

2.5 Identification of sensitive posts in the DAC&FW has also been undertaken to enable periodical rotation of staff posted in sensitive posts. A List of Officers of Doubtful Integrity and the Agreed List in consultation with CBI were also finalized.

2.6 As per direction of CVC, Vigilance Awareness Week, 2020 was observed from 27th October to 2nd November, 2020

in the Department. The theme of the week was "Vigilant India, Prosperous India". During Vigilance Awareness Week, three day training sessions to sensitize officers/officials of DAC&FW and organizations under DAC&FW, were organized regarding vigilance related matters.

2.7 A Public Grievance Cell has been set up and is fully functional in the Department of Agriculture, Cooperation & Farmers Welfare under the Joint Secretary (Administration) who not only acts as Grievance Officer of the Department but is also nominated as nodal officer for monitoring redressal of public grievances received in the Department at Headquarters. One Director has been nominated as Staff Grievance Officer to deal with grievances of the employees working in the Department of Agriculture, Cooperation & Farmers Welfare for this purpose. Similar arrangements have been made at the level of all Attached and Subordinate Offices and all organizations under the administrative control of this Department in order to ensure expeditious redressal of grievances. During the year 2020-21 (from 01.04.2020 to 31.12.2020) 78800 public grievance petitions/suggestions have been received through CPGRAMS portal and 1679 cases were carried forward from previous year. Out of 80479 total cases, 58079 cases have been disposed of and 22400 cases were pending in this Department at the end of December, 2020.

2.8 Citizens'/Clients' Charter of this Department has been prepared as per the instructions/guidelines of Cabinet Secretariat and Department of Administrative Reforms and Public Grievances. The Citizens'/Clients' Charter is

available on the website of the Department (www.agricoop.nic.in).

2.9 Implementation of the Right to Information Act, 2005: During year 2020-21 (as on 01.04.2020 to 31.12.2020), 6842 physical & online RTI applications and 510 appeals seeking information under the Right to Information Act, 2005 were received in the RTI Cell and replies were sent to the applicants in time.

2.10 Information and Facilitation Counter: This counter provides information in respect of Department of Agriculture, Cooperation & Farmers Welfare. During the year 2020-21, various visitors from NGOs as well as general public visited the counter to obtain information. Numerous telephonic calls were also received in RTI Cell from the general public to obtain information pertaining to DAC&FW, Ministry of Agriculture and Farmers Welfare.

2.11 Progressive Use of Hindi: The Department has an Official Language Implementation Committee (OLIC), chaired by the Joint Secretary (Administration), to monitor the implementation of the Official Language Policy of the Union and progressive use of Hindi in the official work of the Department. During the year under report, quarterly meetings of the Official Language Implementation Committee were held regularly.

2.12 The Hindi Division continued to review the position of the progressive use of Hindi in the Department and subordinate offices regularly, through quarterly progress reports and inspections. Besides, officers of the Hindi Division also participated in the meetings of the Official Language Implementation Committees

of the Attached and Subordinate offices, Corporations, etc., and extended necessary guidance to them in the implementation of Official Language Act and Rules. In addition to this, 18 offices under the control of this Department, wherein 80 per cent of the officers and employees have acquired working knowledge of Hindi, were notified in the Gazette of India under Rule 10 (4) of the Official Language Rules, 1976.

2.13 Every year, the Department nominates clerks and stenographers for training in Hindi shorthand and typing, under the Hindi teaching Scheme of the Department of Official Language. Six entries have been received under the incentive scheme for noting/drafting done originally in Hindi. 02 Hindi workshops were organized by the Division wherein officers/officials of various divisions of DAC&FW were trained to carry out their work in Hindi.

2.14 With a view to create awareness regarding the use of Hindi in the official work of the Department, a Hindi Fortnight was held from the 1st - 15th September, 2020. On this occasion, the Hon'ble Agriculture and Farmers Welfare Minister issued an appeal to all officers and staff of the Department of Agriculture, Cooperation and Farmers' Welfare to carry out more official work in Hindi. During the Hindi Fortnight, various Hindi competitions such as essay writing, noting and drafting, translation and vocabulary, poetry recitation, speech and dictation were organized and interested officers and employees participated in these competitions. Cash awards and certificates of appreciation will be given to the winners of these competitions.

2.15 The Second Sub-Committee of the Committee of Parliament on Official Language conducted inspection of 02 offices under the control of the Department of Agriculture, Cooperation and Farmers Welfare to review the position regarding the progressive use of Hindi in official work during the year. The officers of this Department were also present in these inspection meetings. In addition to this, 10 subordinate/attached offices have been inspected by the officers of the Hindi Division of the Department of Agriculture, Cooperation and Farmers Welfare.

2.16 Reservation for Scheduled Castes/ Scheduled Tribes /Other Backward Castes: Department of Agriculture, Cooperation & Farmers Welfare continued its endeavour for strict implementation of the orders issued by the Government of India from time to time, regarding reservation in services for SCs, STs, OBCs, minorities, ex-servicemen and physically disabled persons.

2.17 Prevention of Harassment of Women Employees: An Internal Complaints Committee regarding prevention of Sexual Harassment of Women at their Workplace has been constituted by the Department. This Committee is chaired by a senior lady officer of the Department. This Committee is represented by 6 members (including Chairman), which comprises of 5 women members (2 of whom belong to 2 NGOs) and 1 male member of the Department.

The Internal Complaints Committee (ICC) of the Department has provided their report according to Section 21 of The Sexual Harassment of Women At Workplace (Prevention, Prohibition and Redressal) Act, 2013, as follows:

Number of complaints received during 2020	Number of complaints disposed of during 2020	No. of cases pending for more than 90 days	No. of workshops/programmes carried during 2020	Nature of action taken by the employer
07	07*	Nil	Due to covid pandemic, workshops etc. could not be organised	Not applicable

* Six complaints did not pertain to DAC&FW, therefore, these were sent back to Ministry of WCD. One complaint being pseudonymous was filed in terms of CVC's OM dated 25.11.2014.



* * *

Chapter 3

Directorate of Economics & Statistics

Overview

3.1 Directorate of Economics & Statistics (DES), an attached office of DAC&FW, is mandated to support work of the Ministry of Agriculture & Farmers Welfare through quality data and analysis towards appropriate policy formulation and execution of schemes in the interest of farmers and consumers. The Directorate is mandated to build and maintain a strong data base in partnership with the States on area, production, yield of principal crops and cost of production of mandated crops to arrive at Minimum Support Prices. DES collects price data through its regional offices and regularly analyses the same to identify trigger points for policy intervention towards stable food prices. DES is the knowledge bank of the Ministry that places a large volume of data and information in the public domain for multiple stakeholders and carries out agro-economic research / studies in the field of agriculture. In addition, the Directorate coordinates with international bodies such as the Food and Agriculture Organization (FAO) on global efforts to improve agricultural statistics. It is responsible for providing necessary data to the Central Statistics Office (CSO) for GDP compilation and also meets international obligation related to standards of data dissemination.

3.2 Major Programmes/Activities

3.2.1 Agricultural Statistics Division

The Directorate of Economics & Statistics (DES), under Department of Agriculture, Cooperation and Farmers' Welfare, releases four Advance Estimates (AEs) followed by Final Estimates of production of major

agricultural crops of the country. Each of these five estimates is available state-wise and at the national level for 28 major agricultural crops including rice, wheat, coarse cereals, pulses, oilseeds, sugarcane, jute & mesta. The First Advance Estimate covering only kharif crops are released in September, when kharif sowing is generally over. The Second Advance Estimates are normally released in February, the following year when rabi sowing is also over. The Second Advance Estimates cover kharif as well as rabi crops. The Third Advance Estimates incorporate revised data on area coverage for rabi crops and better yield estimates of kharif crops. These are released in April-May. The Fourth Advance Estimates are released in July-August. By this time fully firmed up data on area as well as yield of kharif crops and rabi crops are expected to be available with the states. Final Estimates are released after about seven months of the release of Fourth Advance Estimates i.e. in February of the following year. This allows sufficient time to the State Governments to take into account even delayed information while finalizing area and yield estimates of various crops. While finalizing all-India level estimates, the crop-wise data on area, production and yield received from State Governments are thoroughly scrutinized and validated on the basis of information from alternative sources such as remote sensing technology based forecast from the Mahalanobis National Crop Forecast Centre (MNCFC), econometric modeling based crop forecast provided by the Institute of Economic Growth (IEG), inputs

received from the weekly Crop Weather Watch Group (CWWG) meetings, trends in area, production and yield of crops during the last 5 years, rainfall conditions and trends in procurement and prices of respective commodities.

3.2.2 Cost Study (CS) Division

The Cost Study Division is mainly responsible for implementation and monitoring of Comprehensive Scheme for Studying the Cost of Cultivation of Principal Crops in India and other issues relating to this scheme including answering parliament questions, generating cost of cultivation and production estimates and providing to CACP for the purpose of arriving at the recommendations of the Minimum Support Prices (MSP) etc. Cost of cultivation surveys are an important data source for decision making on sectors of national importance. There are very intensive surveys wherein data are collected on the various inputs which are used for the cultivation of crop.

3.2.3 Food Economics Division

Food Economics Division of DES examines the Kharif and Rabi Price Policy Report of CACP. The Government's price policy for major agricultural commodities seeks to ensure remunerative prices to the growers for their produce with a view to encouraging higher investment and production and to safeguard the interest of consumers by making available supplies at reasonable prices. Towards this end, the Government announces Minimum Support Prices (MSPs) for twenty two (22) mandated crops based on the recommendations of the Commission for Agricultural Costs & Prices (CACP) after considering the views of concerned State Governments and Central Ministries/Departments. The 22 mandated crops include 14 Kharif crops viz. paddy, jowar,

bajra, maize, ragi, tur (arhar), moong, urad, groundnut, soybean (yellow), sunflower seed, sesamum, nigerseed, cotton and 6 Rabi crops viz. wheat, barley, gram, masur (lentil), rapeseed & mustard, safflower and two commercial crops viz. jute and copra. In addition to that, MSP for toria and de-husked coconut are also fixed on the basis of MSPs of rapeseed & mustard and copra respectively.

While recommending MSPs, CACP considers important factors like cost of production, overall demand-supply situation of various crops in domestic and world markets, domestic and international prices, inter-crop price parity, terms of trade between agricultural and the non-agricultural sector, likely effect of price policy on rest of the economy and a minimum of 50 percent as the margin over cost of production.

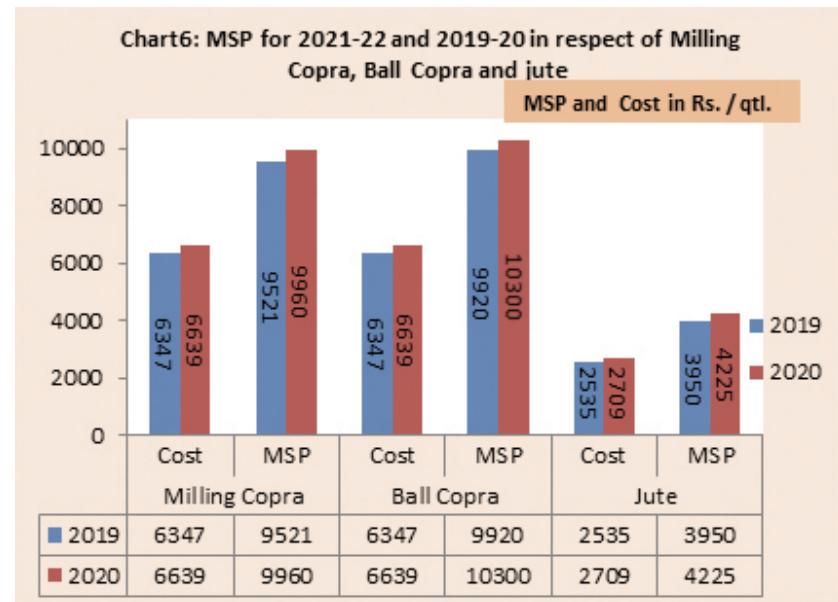
The Union Budget for 2018-19 had announced the pre-determined principle to keep MSPs at levels of one and half times of the cost of production. Accordingly, Government had increased MSPs for all mandated Kharif, Rabi and other Commercial crops with a return of atleast 1.5 times over all India weighted average cost of production from year 2018-19 onwards.

3.2.4 Commercial Crops Division

Commercial Crops Division examines Price Policy reports of raw jute and copra submitted by the Commission for Agricultural Costs and Prices (CACP) and prepares note for consideration of Cabinet Committee on Economic Affairs (CCEA) for declaration of Minimum Support Price (MSP). Details of MSP fixed for the year 2020-21 is given below:

- For 2020 season the MSP has been fixed at Rs. 9960/-per quintal of milling copra

and Rs. 10300/- per quintal of ball copra marking an increase of 4.61 percent over the last year's MSP for milling copra and an increase of 3.83 percent over the last year's MSP for ball copra. The MSP would yield returns of 50 percent for milling copra and 55% for ball copra over the all India weighted average cost of production of Rs 6639/- for 2020 season.



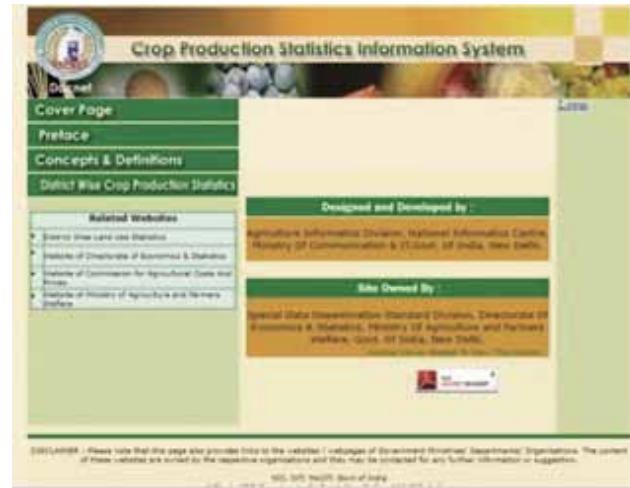
- For 2020-21 season the MSP for raw jute has been fixed at Rs. 4225/- per quintal for FAQ variety marking an increase of 6.96 percent over the last year's MSP. The MSP would yield returns of 55.96 percent over the all India weighted average cost of production

which is estimated at Rs. 2709/- per quintal.

- The MSP of toria of Fair Average quality (FAQ) for 2020-21 season to be marketed in 2021-22 season has been fixed at Rs 4650/-per quintal marking an increase of 5.08 percent over the last year's MSP.

3.2.5 Special Data Dissemination Standards (SDDS) Division

The Division is involved in collection and compilation of data relating to nine-fold classification of land, irrigated area (source-wise and crop-wise) and total area under crops for States and UTs. The compiled data is brought out in the Directorate's publication



'Land Use Statistics' and 'Agricultural Statistics at a Glance'. The compiled data on Land Use Statistics (District wise and State-wise) from 1998-99 onwards is available on the website. The URL of the website is <http://aps.dac.gov.in/LUS>. Similarly, the district wise compiled data on Area, Production and Yield (APY) from 1998-

99 onwards is also available on the website. The URL of the website is <http://aps.dac.gov.in/APY>. The Division also generates quarterly estimates of agricultural production for use in the compilation of quarterly National Accounts by the Central Statistics Office. This activity was undertaken in order to meet the obligations concerning supply of data to the International Monetary Fund. In the absence of direct data, quarterly production is estimated by using the estimates of Kharif and Rabi seasons in conjunction with the crop calendar.

3.2.6 Prices & Market Division

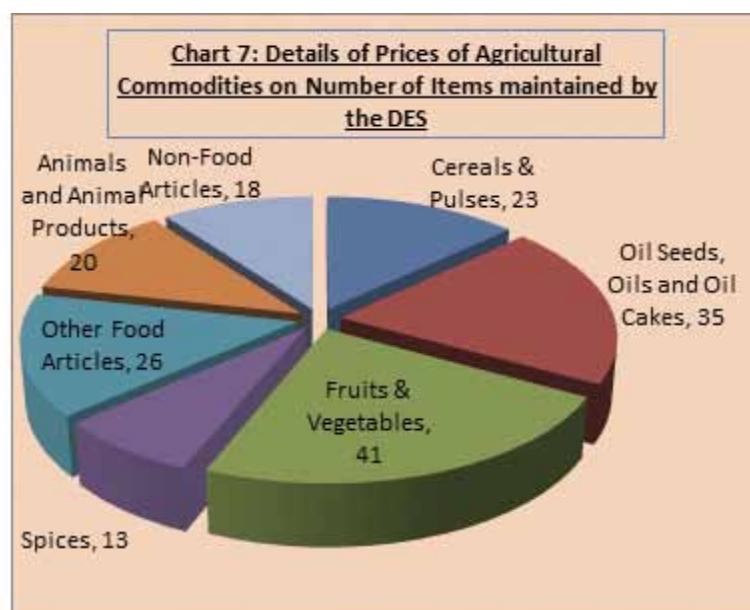
Prices & Market Division provides market intelligence to the Government and is involved in collection, compilation and dissemination of data/ information on prices - wholesale, retail, farm harvest and international prices of important agricultural commodities. Wholesale prices of 176 selected agricultural commodities from 719 market centres spread across the country and retail prices of 46 food items from 87 market centres are collected and compiled on a weekly basis. Weekly wholesale prices (905 price quotations) of 109 agricultural commodities from 237 markets centres spread across the country are provided by this division to the Department for the Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce and Industry for the computation of monthly Wholesale Price Index (WPI).

There are thirteen (13) field level Market Intelligence Units (MIUs) located across India reporting to this division which play a major role in data collection. A Working Group was constituted for the revision of Base Year of WPI series (base

2011-12) under the chairmanship of Shri. Ramesh Chand (Member, NITI Aayog). The Sub-group for Agricultural Commodities, one among the five sub groups constituted under this Working Group, was chaired by the Principal Adviser, DAC&FW. Presently, this division is finalizing the 'Sub-group Report on Agricultural Commodities' with respect to the revision of Base Year of the WPI series (base 2011-12).

This Division also compiles data on farm harvest prices of 35 principal crops from 30 States / Union Territories. Two annual publications "Agricultural Prices in India" and "Farm Harvest Prices of Principal Crops in India" are brought out by this division every year.

The Agricultural Market Information System (AMIS), hosted by Food & Agriculture Organisation of the United Nations, is an inter-agency platform launched in 2011 by the G20 Ministers of Agriculture, to enhance food market transparency and policy response for food security. AMIS-FAO prepares a Food Balance Sheet, where data on inputs of production, food, feed, seed use and trade of 4 agricultural commodities, i.e. wheat, rice,



maize and soyabean are maintained globally. As per government directive, Prices & Market Division provides the required data to AMIS-FAO at regular intervals.

3.2.7 International Agriculture & Compilation Division

International Agriculture and Compilation (IAC) Division is the nodal Division in the Directorate of Economics & Statistics for providing inputs/comments on international issues relating to agricultural economics and statistics. The Division also brings out the flagship publications of the Department, namely Agricultural Statistics at a Glance, Pocket Book of Agricultural Statistics and State of Indian Agriculture.

During 2020-21, IAC Division provided inputs and comments on international issues relating to food security & nutrition dealt by BRICS, G-20, WFP, etc. In addition, the Division published the latest 2019 issue of Agricultural Statistics at a Glance and Pocket Book of Agricultural Statistics. These publications are available on the website <http://eands.dacnet.nic.in>

The Division hosted the ‘Fourth India Agricultural Outlook Forum 2020’, a webinar, on 15-16 October 2020 through its web-centre at Krishi Bhawan. Shri Parshottam Rupala, Hon’ble Minister of State for Agriculture & Farmers Welfare and Shri Sanjay Agarwal, Secretary (DAC&FW) inaugurated the forum. The main topics for discussion were as follows :

- Current national and international agricultural economic situation dictated by the pandemic;
- Game-changer farm sector initiatives;
- Converging Indian agriculture with global commitments on SDGs;
- Decoding agri-tech potential;
- Exploring new channels for rationalizing cost structure of Govt. procurement agencies;
- Capacity building in the agriculture sector.

The forum was attended virtually by the officials from the central and state governments, national and international agriculture research institutes; Chief



4th India Agricultural Outlook Forum 2020, a webinar, on 15-16 October 2020 through its web-centre at Krishi Bhawan chaired by Shri Parshottam Rupala, Hon’ble Minister of State for Agriculture

Economist USDA; delegation from foreign embassies; International organizations like FAO, EU and OECD; scientists from ICAR; representatives from agro-industries, business and farmers associations.

3.2.8 Crop Forecasting Coordination Centre

- CFCC division is coordinating and holding the weekly Crop Weather Watch Group (CWWG) meeting every Friday and prepares minutes based on the data received at weekly CWWG meetings. The CWWG data (IMD, CWC and Crops) and Minutes of CWWG meeting are uploaded on the Directorate's website every week. Preparation of Crop Statement on weekly basis is done. The same is forwarded to different Ministries/ Departments.
- Crop Weather Watch Group (CWWG) in the Directorate of Economics & Statistics is an inter-departmental forum that undertakes weekly review of progress of crop sowing, weather conditions, reservoir levels, level of pest and disease, seeds and fertilizer availability, horticulture arrivals and prices. The purpose is to facilitate timely policy intervention and operational support by the concerned subject matter Divisions of the DAC&FW, IMD, CWC, Crops, Fertilizer, Prices, Plant Protection, Horticulture, Seeds etc. Departments/ Divisions give their inputs and participate in the meeting. The CWWG meeting is chaired by Sr. E.S.A.

3.2.9 Coordination Division

The Coordination Division's main work is to coordinate work between Department of Agriculture, Cooperation & Farmers Welfare and the Division of DES on all subject matters concerned. Its main activities includes preparing the Economic Survey Chapter on Agriculture & Food Management

and for routine matters wherein several Divisions of DES and those of DAC&FW are involved, preparation of material for annual report, providing information on release and utilization of fund under plan schemes, Parliament questions(**total 163 Questions in 2019-20 and 41 Questions in 2020-21 till last Parliament Session**), update e-Samiksha points and upload public grievance replies on CPGRAM portal, etc.

3.3 Schemes implemented by the DES

The DES implements the Plan Scheme "Integrated Scheme on Agriculture Census, Economics & Statistics". This scheme comprises six components, of which one component i.e.'Agriculture Census' pertains to the Agriculture Census Division of DAC&FW. The remaining five components are being implemented by the DES. The details of these five components are as follows:

(i) Comprehensive Scheme for studying Cost of Cultivation of Principal Crops in India

The Cost of Cultivation of principal crops in India is being implemented in India since 1970-71 as a Central Sector Plan Scheme. The main objectives of the Scheme are to collect and compile data on cost of cultivation and production in respect of principal crops and to generate crop-wise and State-wise cost of cultivation and production estimates of mandated crops. Comprehensive cost statistics are collected through 16 Agricultural/Central Universities/ Colleges in respect of Principal crop centers located in different States; cost of cultivation data is transmitted to CACP so as to enable them to recommend the MSPs of the crops under both Kharif and Rabi Seasons.

The cost estimates generated under the Scheme are also used for policy formulations by the Central Ministries

and State Governments, Agricultural/General Universities, Government/Non-Government Research Organizations, Individual Researchers (both at domestic and international levels) etc.

The Scheme is implemented in 19 states namely Andhra Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal. The studies in the states except the newly created States of Chhattisgarh, Jharkhand and Telangana are undertaken by the parent State's Agriculture Universities/Colleges.

During the block period 2020-21 to 2022-23, the scheme covers 25 principal crops, i.e., paddy, wheat, jowar, bajra, maize, ragi, barley, moong, urad, arhar, gram, lentil, groundnut, rapeseed and mustard, nigerseed, safflower, soybean, sunflower, sesamum, cotton, jute, sugarcane, onion, potato, and coconut. The combination of crops covered in each state (also known as crop complex) varies from state to state depending upon their importance in terms of its relative contribution in the production of the relevant crop at an all-India level.

The field data are collected on the basis of the Cost Accounting Method by the 16 State Implementing Agencies. Under the Scheme, daily entries of debit/credit for expenditure/income are made in order to assess the total cost/benefit incurred/accrued to each farmer. The field data is collected through a detailed questionnaire administered by a Fieldsman through direct interaction with the sample farmers of 10 selected farm holdings as per the sampling design. These consist of 2 each from 5 different size classes, viz., up to 1 hectare, 1-2 hectare, 2-4 hectare, 4-6

hectare and above 6 hectare allotted to each field man.

In the year 2019-20 (April-March), 193 cost estimates were generated and provided to CACP. Out of these estimates, 49 for Rabi, 113 for Kharif, 9 for sugarcane and 22 for others were generated in respect of 25 mandated crops.

(ii) Agro-Economic Research (AER) Scheme

The Agro-Economic Research (AER) Scheme was initiated in 1954-55 through a network of 15 AER Centres/Units to conduct research and evaluation studies on a yearly basis as per need of the Government of India on Agricultural Economy and Rural Development for meeting the needs of the Department of Agriculture, Cooperation & Farmers Welfare, other Ministries/Departments which have a bearing on the performance of the Agriculture Sector for policy formulation and provide a feedback for implementation of the various schemes. The Centers also cater to studies and economic analysis required by the State Governments on the agriculture sector and rural development. The 12 Agro-Economic Research Centres (AERCs) are located at Allahabad, Bhagalpur, Chennai, Delhi, Jabalpur, Jorhat, Ludhiana, Pune, Shimla, Vallabh-Vidyanagar, Visva-Bharati and Waltair and 3 Agro-Economic Research Units are located at IEG-Delhi, ISEC-Bangalore and IIM-Ahmedabad. These AER Centres/Units are functioning under the administrative control of their respective University/Institute. Agro-Economic Research Centre, Jorhat was set up in 1960 and is functioning under the administrative control of the Assam Agricultural University, Jorhat for conducting studies on various agricultural issues and problems of the North-Eastern States. The scheme is staff oriented and 100% funded through grants-in-aid by Government of India,

Ministry of Agriculture & Farmers Welfare.

On an average, annually 35 research studies are conducted by these Units/Centres, which relate to various economic problems in agriculture, animal husbandry, water management, fisheries & horticulture, food processing, rural development, non-farm sector employment, etc. During the last five years (2015-16 to 2019-20) 153 studies have been completed on the following important topics:

- Farmers' Suicides
- Neem Coated Urea
- Soil Health Card
- Kisan Call Centre
- Pradhan Mantri Fasal Bima Yojana (PMFBY)
- National Food Security Mission (NFSM)
- National Horticulture Mission (NHM)
- Livestock Feed and Fodder
- Jhum Cultivation
- Electronic- National Agricultural Market (e-NAM)
- Price Support and trade in Pulses and Oilseeds etc.

For the Current Financial Year 2020-2021, an amount of Rs 2850.00 lakhs is allocated as Budget Estimate (BE) (including Rs.350.00 lakhs for Northeast regions); out of which Rs.1818.00 lakhs has been released (including Rs.120.00 lakhs for Northeast regions) till 31st December, 2020 and a total of 16 studies have been completed by the AER Centres/ Units. The Details of the programmes for North-East region is enclosed at Annexure 3.1.

(iii) Planning, Management and Policy Formulation

In order to assess the impact of changes on

the farm economy with focus on the state of Indian farmers, Planning, Management and Policy Formulation, a Central Sector Scheme, was formulated during 1998-99. This was designed with a view to organizing conferences and seminars involving eminent economists, agricultural scientists, experts, etc. to conduct short term studies, engage consultancy services for preparation of a new decentralized strategy for development of crops, animals, diary, poultry, irrigation, soil and water conservation, etc. and to bring out papers/reports based on the recommendation received at these workshops, seminars, conferences etc. For the year 2020-21, the Budget Estimate under the scheme is Rs. 49 lakh and 11.37 lakh has been released up to 06th November, 2020.

(iv) Improvement of Agricultural Statistics

The basic objective of the Central Sector Scheme, Improvement of Agricultural Statistics, is to collect and improve agricultural statistics of principal agricultural crops. The Scheme has three components; (i) Timely Reporting Scheme (TRS), (ii) Improvement of Crop Statistics (ICS) and (iii) Establishment of an Agency for Reporting of Agricultural Statistics (EARAS). Since 2007-08, the scheme has been converted to a Central Sector Scheme from a Centrally Sponsored Scheme with 100 percent funding by the Central Government. The Component-wise details of the scheme are as under:-

1. Timely Reporting Scheme(TRS) : The objective of this component is to obtain estimates of area under principal crops in each season, with the breakup of area under irrigated/unirrigated and traditional/high yielding varieties of crops on the basis of a random sample of 20% of villages by a specific date. These estimates are used for generating advance estimates of production of principal crops. This component is being implemented in 16 land record States and

Union Territories of Delhi, Ladakh, Jammu & Kashmir and Puducherry.

2. Improvement of Crop Statistics(ICS):

The objective of this component is to improve the quality of statistics on area and production of crops through supervision and monitoring. Under this component, a sample check of area enumeration of 10,000 villages and approximately 30,000 crop cutting experiments at harvest stage are undertaken. These sample checks are equally shared by the Central Agency i.e. National Sample Survey Office; and the State Agricultural Authorities. These checks specifically relate to (a) Enumeration of crop-wise area covered in the selected villages as recorded by the Patwari; (b) Total Area under each crop recorded in Khasra Register of villages; and (c) Supervision of Crop Cutting Experiments at the harvest stage. The IAS scheme is being implemented in 25 TRS/EARAS states and the Union Territory of Delhi, Ladakh, Jammu & Kashmir and Puducherry. The performance of the implementation of this component is also being closely monitored through quarterly and seasonal progress Reports.

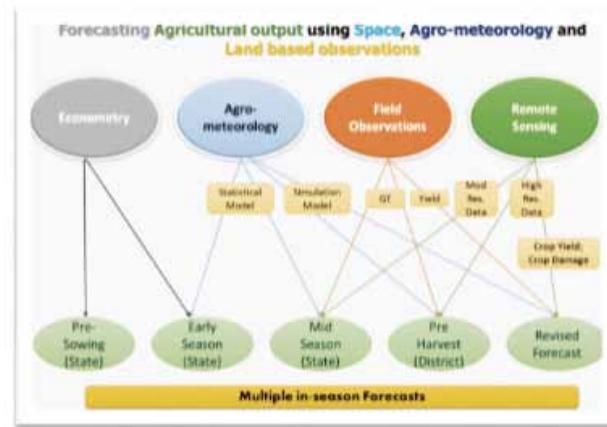
3. Establishment of an Agency for Reporting of Agricultural Statistics(EARAS):

This component is being implemented in the permanently settled States of Kerala, Odisha and West Bengal and North Eastern States of Nagaland, Sikkim, Arunachal Pradesh and Tripura. Under the component, an agency has been established in these states for generating estimates of area and production of principal crops and land use statistics, on the basis of complete enumeration of 20% villages in each year. The performance of the implementation of the component is being closely monitored through quarterly and seasonal progress reports.

For the financial year 2020-21 under Improvement of Agricultural Statistics Scheme, against a total allocation of **Rs. 143.69 Crores (BE)**, **Rs. 84.57 Crores have**

been released till 31st December, 2020

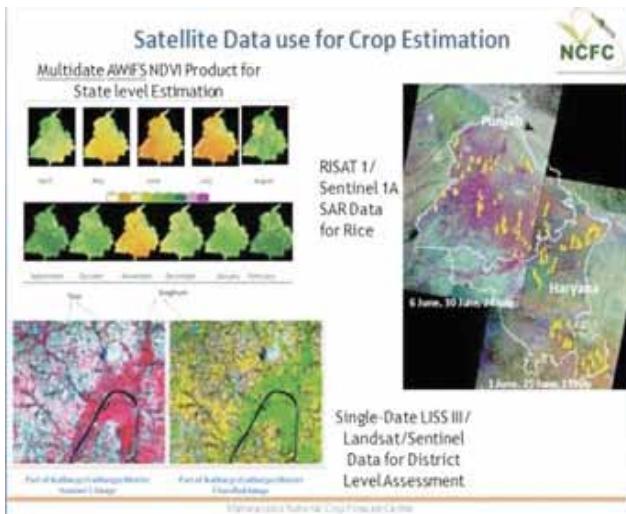
Activities Undertaken for Welfare of Women and North- Eastern States



As the main objective of the scheme is to collect and compile agricultural statistics and it is not a welfare oriented scheme, no specific activity either for women or for the North-eastern States are undertaken under the scheme. However, in North Eastern States (NES), the scheme is in operation in Arunachal Pradesh, Assam, Nagaland, Sikkim & Tripura. For the financial year 2020-21 upto 31st December, 2020, **Rs. 2.22 Crores** have been released to NES under the Scheme.

(v) Forecasting Agricultural Output using Space, Agro-Meteorology and Land Based Observations (FASAL):

The FASAL scheme was approved as a Central Sector Plan Scheme of the Directorate of Economics & Statistics, DAC&FW and is in operation since August 2006. Partner Organizations of the FASAL Scheme are India Meteorological Department (IMD), New Delhi, Institute of Economic Growth (IEG), New Delhi and Space Application Centre (SAC), Ahmedabad. Objective of the Scheme is to provide multiple-in-season forecast based on Agromet, Econometric and Remote Sensing based methodology. Multiple forecast of 11 major crops are envisaged at National/ State/District level depending on status of technology available. MNCFC has been



providing Remote Sensing based forecasts in respect of 8 crops namely rice (Kharif & Rabi), rabi jowar, jute, cotton, sugarcane, rapeseed, mustard and wheat. Forecast of pulses (combined) is also provided.

Role of India Meteorological Department (IMD) has been limited to developing crop yield forecasting models based on multiple correlation and regression techniques in collaboration with Agromet Field Units (AMFUs) using both Statistical and Crop Growth Simulation Models. Crop yield forecast of major crops is issued at mid-season and pre-harvest stage using agromet models during Kharif as well as Rabi season for crops. Presently, IMD has been providing crop yield forecast in respect of rice, jute, cotton and sugarcane during Kharif season and wheat, potato, mustard and sorghum during Rabi season to MNCFC for the preparation of forecasts based on Remote Sensing. IMD is working on simulation modeling of soybean, tur, chickpea and sorghum.

IEG is providing Econometric model based State level / National level forecast of Area, Yield and Production forecasts in respect of 13 crops on monthly basis. The Crops are:

Rice (Kharif & Rabi)	Wheat
Maize	Bajra
Jute	Moong
Rapeseed	Mustard
Groundnut	Urad
	Soyabean

The Model used for forecasting takes into account crop price (expected), substitute crop price (expected), irrigation, lagged area, pre-season rainfall, rainfall in sowing season at the meteorological sub-divisions, temperature and fertilizer price. The model is proposed to be refined by incorporating additional parameters such as data on reservoirs, soil moisture.

The objective is to validate the data on production, yield and area obtained from the States, so that forecast can be generated for use in formulating policy interventions, if need be.

Crop Simulation Model



Chapter 4

National e-Governance Plan in Agriculture (NeGP-A)

4.1 Overview

Ministry of Agriculture & Farmers' Welfare aims to improve awareness, knowledge and efficiency of farmers. A comprehensive ICT strategy has, therefore, been developed not only to reach out to farmers in an easy and better way to improve efficiency but also for planning and monitoring of schemes so that policy decisions can be taken at a faster pace and farmers can benefit. To empower different sections of rural society, ICT strategies have been devised.

Further, as per recommendations of Doubling Farmers Income (DFI) Committee guidelines of the scheme has been revised on 02.06.2020. Now, as per revised guidelines funds will be released to States only for the projects involving use of modern Information Technologies viz. Artificial Intelligence & Machine Learning, Block Chain Technology, Internet of Things, Robotics etc., and for customization / shifting of web & mobile applications already developed by the States, to the platform to be developed using digital technologies.

4.2 National e-Governance Plan - Agriculture:

Ministry of Agriculture & Farmers' Welfare is implementing the National e-Governance Plan - Agriculture (NeGP-A). Its aim is to achieve rapid development in India through use of Information & Communication Technology (ICT) for timely access to agriculture related information for farmers. In agriculture, availability of real time information at the correct time is a continuous challenge. Lack

of information at the proper time causes loss to farmers. NeGP-A aims to bridge this gap in communication by using technology.

National e-Governance Plan in Agriculture (NeGPA) was initially launched in seven selected States namely, Assam, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh and Maharashtra in the last quarter of 2010-11. This Scheme has subsequently been extended in the 2nd Phase to cover all the States and 7 UTs from 2014-15. NeGP-A aims to achieve rapid development in India through use of Information & Communication Technology (ICT) for timely access to agriculture related information for farmers.

4.3 MKisan-Use of basic mobile telephony:

Since the penetration of *smart phones with internet* in rural areas is around 18% only, mobile telephony is considered to be the alternative and the best option to deliver services to farmers. Mobile telephony has transformed the tenor of our lives. The Department has developed a portal - [mkisan\(mkisan.gov.in\)](http://mkisan.mkisan.gov.in), where around 5.2 crore farmers are registered and experts/scientists of different departments like India Meteorological Department (IMD), Indian Council of Agricultural Research (ICAR), State Government, State Agriculture Universities send information to farmers in 12 local languages on a regular basis.

Information related to the weather such as likelihood of rainfall, temperature, etc. enables farmers to make informed decisions in

choice of seed varieties and timing of sowing, harvesting etc. With market information, farmers are better informed regarding selling their produce, prevailing market prices and quantity demanded in the market. Thus, they can make informed decisions to sell produce

at the right price and at the right time. This helps in reducing distress sales by farmers due to market supply fluctuations. **More than 2462 crore SMSs** have been sent through mKisan since its inception in 2013.



4.4 Farmers' portal (www.farmer.gov.in):

Farmers' Portal is a one stop shop for farmers where a farmer can get relevant information on a range of topics including seeds, fertilizer, pesticides, credit, good practices, dealer network, availability of inputs, agromet advisory etc. This information can be drilled down through a pictorial view of the map of India placed on the Home Page as well.

This centralized repository is the back bone of all mobile apps and SMS advisories. This portal provides information across all stages of crop management right from sowing of seeds till post harvesting. An important feature of this web based portal is that one can drill down to the block level and get information of the particular block.



4.5 Development of Mobile Apps:

Disseminating agriculture related information to farmers in the poorest communities has been made easier by proliferation of mobile phones. Today, mobile apps and services are being designed and released in different parts of the world. Mobile apps help to fulfil the larger objective of farmers' empowerment and facilitates in dissemination of extension services to address food security issues. Various mobile apps have been developed for farmers. Details are as listed below:

Kisan Suvidha: It is an omnibus mobile app to help farmers by providing relevant information to them quickly. It has a simple interface and provides information on critical

parameters—weather, input dealers, market price, plant protection, expert advisories, Soil Health Card, cold stores & godowns, crop insurance, government schemes etc. An additional tab directly connects the farmer with the Kisan Call Centre where agriculture experts answer their queries. Unique features like extreme weather alerts and market prices of commodities in the nearest area and the maximum price in the State as well as in India have been added to empower farmers in the best possible manner. With the click of a button, farmers can obtain all this information in hand provided they have a smart phone and decent internet connectivity. Total downloads: 13,69,263 upto December 2020.



4.6 New application development in 2020-21 by Digital Agriculture Division:

- i. Agriculture Infrastructure Fund
- ii. Enhancement of Kisan Suvidha Mobile App: Addition of new service for Artificial Insemination and Agri Infra Fund.

4.7 DBT implementation in schemes of the Department

- 15 schemes of the Department have been identified for DBT implementation
- 14 schemes are already on-boarded (linked with Centralised DBT portal of DBT Bharat Mission).
- Management Information System of these schemes is linked with the Central Agriculture portal (dbtdacfw.gov.in).

Schemes on boarded on DBT

1	Agri Clinics and Agri Business Centres (ACABC) Scheme
2	Sub Mission on the Agriculture Mechanization (Two components – One Central Sector and other Centrally Sponsored)
3	Pradhan Mantri Krishi Sinchai Yojana
4	Mission for Integrated Development of Horticulture
5	Support to States for Extension Reforms ATMA Scheme (two components – one for farmers and other for functionaries)
6	Sub-Mission on Seeds and Planting Material
7	Crop Insurance Scheme
8	National Mission on Oilseeds & Oil Palm (NMOOP)
9	Integrated Scheme on Agriculture Cooperation
10	National Food Security Mission (NFSM)
11	Krishi Unnati Yojana (KUY)-MOVCDNER
12	NMSA-Rainfed Area Development
13	Interest Subsidy for Short Term Credit to Farmers
14	PM-KISAN

IndEA Digital Ecosystem of Agriculture (IDEA):

To create a coherent National Digital Agriculture Ecosystem, to improve the income and welfare of farmers and to make the Agriculture sector in India achieve higher levels of efficiency through value-added services across the agriculture lifecycle, better planning and implementation of Schemes, leveraging industry and start-ups, roping in emerging technologies and federated database of farmers that is based on land records the Department of Agriculture, Cooperation and Farmers Welfare has constituted a Task Force on 7th October, 2019 for IndEA Digital Ecosystem of Agriculture (IDEA). The design and development of IDEA Blueprint involves detailed work involving experts in areas like the agriculture domain, information technology and program planning.

Farmers Database

IDEA initiative includes Farmers Database which is for the development of a nationwide

Farmers Database linked with land records. A pilot project covering about 67,000 farmers taken from 10 villages each from six states viz., Andhra Pradesh, Maharashtra, Odisha, Tamil Nadu, Tripura and Uttar Pradesh has been completed and it has been decided to roll it out country wide.

In the 1st phase, data of 4.3 crore farmers from ten states viz., Andhra Pradesh, Gujarat, Haryana, Karnataka, Madhya Pradesh, Rajasthan, Tamil Nadu, Telangana, Tripura and Uttar Pradesh were taken up for creation of a Farmer Database. Further, integration of Farmer Database with two schemes viz., Pradhan Mantri Fasal Bima Yojna and Kisan Credit Card has been established against the beneficiary for identifying their benefits under these two schemes. For the 2nd phase, ten other states/UT viz., Uttarakhand, Himachal Pradesh, Punjab, Jammu & Kashmir, Bihar, Jharkhand, Kerala, Assam, Chhattisgarh and Goa, comprising of approx. 1.85 crore farmers have been identified and setting up of integration mechanism with these States is in progress.



Chapter 5

Mission for Integrated Development of Horticulture (MIDH)

Overview

5.1 Mission for Integrated Development of Horticulture (MIDH) is a Centrally Sponsored Scheme for the holistic growth of the horticulture sector covering fruits, vegetables, root & tuber crops, mushrooms, spices, flowers, aromatic plants, coconut, cashew and cocoa.

5.2 Major Schemes – Objectives

MIDH consists of 5 schemes on Horticulture viz. (i) National Horticulture Mission (NHM), (ii) Horticulture Mission for North East and Himalayan States (HMNEH), (iii) National Horticulture Board (NHB), (iv) Coconut Development Board (CDB), (v) Central Institute of Horticulture (CIH), Nagaland.

Under MIDH, Government of India (GOI) contributes 60% of total outlay for developmental programmes in all the states except states in North East and Himalayas, 40% share is contributed by State Governments. In the case of North Eastern and Himalayan States, GOI contributes 90%. In case of National Horticulture Board (NHB), Coconut Development Board (CDB), Central Institute for Horticulture (CIH), Nagaland and the National Level Agencies (NLA), GOI contributes 100%.

The budget allocation of Rs. 2160.25 crore has been earmarked for MIDH during 2020-21. As on 31st December, 2020, funds to the tune of Rs. 857.47 crores have been released for implementation of activities of MIDH i.e. Rs. 495.13 crore under NHM, Rs. 197.75 crore under HMNEH, Rs. 80.00 crore under CDB, 77.42 crore to NHB and Rs. 7.17 crore

to CIH, DCCD & DASD.

5.3 Brief of schemes under MIDH is as follows:

5.3.1 National Horticulture Mission (NHM):

This Centrally Sponsored Scheme was launched in the year 2005-06 and aims at the holistic development of the horticulture sector by ensuring forward and backward linkage through a cluster approach with the active participation of all stake holders. A total of 384 districts in 18 States and 6 Union Territories were covered under NHM. Sixteen (16) National Level Agencies (NLAs) have also been included for providing support for developmental efforts which require inputs at the national level.

Supply of quality planting material through establishment of nurseries and tissue culture units, production and productivity improvement programmes through area expansion and rejuvenation, technology promotion, technology dissemination, human resource development, creation of infrastructure for post harvest management and marketing in consonance with the comparative advantages of each State/region and their diverse agro-climatic conditions are major interventions under NHM.

5.3.2 Horticulture Mission for North East and Himalayan States (HMNEH)

Department is implementing a Centrally Sponsored Scheme - Horticulture Mission for North East and Himalayan States (HMNEH) earlier known as Technology Mission for

Integrated Development of Horticulture in North Eastern States since 2001-02. During the X Plan (2003-04), the scheme was further extended to three Himalayan States namely: Himachal Pradesh, Jammu and Kashmir and Uttarakhand. The Mission covers the entire spectrum of horticulture, right from planting to consumption with backward and forward linkages. With effect from 2014-15, HMNEH scheme has been subsumed under MIDH.

5.3.3 National Horticulture Board

The National Horticulture Board (NHB) was set up by the Government of India in 1984 as an Autonomous organization under the administrative control of Ministry of Agriculture and Farmers Welfare and registered under Societies Registration Act 1860, thereafter, re-registered under the Haryana Registration and Regulation of Societies Act, 2012. The NHB headquarters is presently in Gurugram, Haryana and has 29 field offices located all over the country. The broad aims and objectives of the Board are the creation of production hubs for commercial horticulture development, post harvest infrastructure and cold chain facilities, promotion of new crops and promotion of growers' associations.

The Board is implementing the following schemes:

- 1) Development of Commercial Horticulture through Production and Post Harvest Management
- 2) Capital Investment Subsidy Scheme for Construction/ Expansion/Modernization of Cold Storages for Horticulture Produce
- 3) Technology Development and Transfer for Promotion of Horticulture
- 4) Market Information Service for Horticulture Crops

- 5) Horticulture Promotion Services/ Expert Services and Strengthening Capability of NHB

5.3.4 Coconut Development Board

Coconut Development Board (CDB) Kochi, Kerala is a statutory body established by Govt. of India by an Act of Parliament (Coconut Development Board Act 1979) and came in to existence in January 1981. The thrust areas of the Coconut Development Board programmes under MIDH are production and distribution of quality planting material, expansion of area under coconut cultivation especially in potential and non-traditional areas, improving the productivity of coconut in major coconut producing states, developing technology in post-harvest processing and marketing activities, product diversification and by-product utilization of coconut for value addition, dissemination of information and capacity building in the coconut sector.

The major programmes that are being implemented by the Board are;

- A.1.Production and Distribution of Quality Planting Materials
 - (a) Demonstration cum-Seed Production Farm(DSP)
 - (b) Establishment of Regional Coconut Nurseries
 - (c) Establishment of Nucleus Coconut Seed Garden
 - (d) Establishment of Small Coconut Nursery
- A.2.Expansion of Area under Coconut
- A.3.Integrated Farming for Productivity Improvement
 - (a) Laying out of Demonstration Plots
 - (b) Aid to Organic Manure Units
- A.4.Technology Demonstration/Quality Testing Lab

- A.5. Marketing, Market Intelligence Services, Statistics and Strengthening of Export Promotion Council (EPC)
- A.6. Information & Information Technology
- A.7. Technical Service & Project Management
- B. Technology Mission on Coconut
- C. Replanting & Rejuvenation of Old Coconut Gardens

- D. Coconut Palm Insurance Scheme
- E. Kera Suraksha Insurance Scheme

5.4 Physical and Financial Progress

5.4.1 National Horticulture Mission (NHM):

A. Physical progress: The summary details of progress achieved during 2020-21 are given at **Table 1** below:

Table 1: Progress under NHM

S. No.	Components	Unit	Progress during 2020-21 (as on 31 st December, 2020)
1	Area Expansion	Ha.	80406
2	Rejuvenation	Ha.	6783
3	Protected Cultivation	Ha.	9450
4	Integrated Pest/ Nutrient Management	Ha.	35460
5	Nurseries	No.	14
6	Water Resources	No.	1213
7	Beekeeping	No.	49194
8	Horticulture Mechanization	No.	4081
9	Post Harvest Management		
	(i) Pack House	No.	661
	(ii) Cold Storage	No.	29
	(iii) Primary/mobile processing units	No.	117
10	Rural Market	No.	1

Source: as per the data uploaded by State Govt. on MIDH web portal

B. Financial progress: During 2019-20, as on 31st March, 2020, funds to the tune of Rs. 800.13 crore have been released to States/ UTs/NLAs for implementing NHM scheme against BE of Rs.1217.00 crore and RE of Rs 1065.00 crore. During 2020-21, an amount of Rs. 1363.62 crore has been allocated for NHM, against of which an amount of Rs. 495.13 crore has been released as on 31st December, 2020.

5.4.2 Area, Production & Productivity of Horticulture Crops

The comparative details of area, production and productivity of various horticulture crops during 2019-20(3rd Adv. Est) with reference to 2004-05, viz. pre and post NHM scenario are given in the following Table 3.

Table 3: Pre and Post NHM Scenario: Area, Production & Productivity

(Area: '000 Ha, Production: '000 MT, Productivity: MT/Ha)

Crop	Area			Production			Productivity		
	2004-05	2018-19	2019-20*	2004-05	2018-19	2019-20*	2004-05	2018-19	2019-20*
Fruits	5049	6597	6702	50867	97967	100448	10.07	14.85	14.99
Vegetables	6744	10073	10316	101246	183170	189464	15.01	18.18	18.37
Flowers	118	303	307	659	2910	2994	5.58	9.60	9.76
Aromatic & Medicinal crops	131	627	685	159	795	761	1.21	1.27	1.11
Plantation crops	3147	4069	4071	9835	16592	16031	3.13	4.08	3.94
Spices	3150	4067	4138	4001	9500	9754	1.27	2.37	2.36
Others	106			172	120	115			
Total	18445	25737	26219	166939	311052	319567	9.05	12.09	12.19

*3rd Advance Estimates of Horticulture Crops 2019-20-DAC&FW

The wide and varied nature of the horticulture sector covering fruits, vegetables, root and tuber crops, flowers, aromatics and medicinal crops, spices and plantation crops facilitates better returns per unit of area, besides opportunities for diversification in agriculture.

Horticulture crops cover an area of 26.22 Million Hectare at present; it has registered an increase of 25.59% as compared to 20.88 Million Hectare in 2009-10. However, with a

production of about 319.57 Million Tonnes, horticulture production has witnessed an increase of about 43.25% during the period 2009-10 to 2019-20 (3rd Advance Estimates). The significant feature is that there has been improvement of productivity of horticulture crops which increased by about 14.06% during this period.

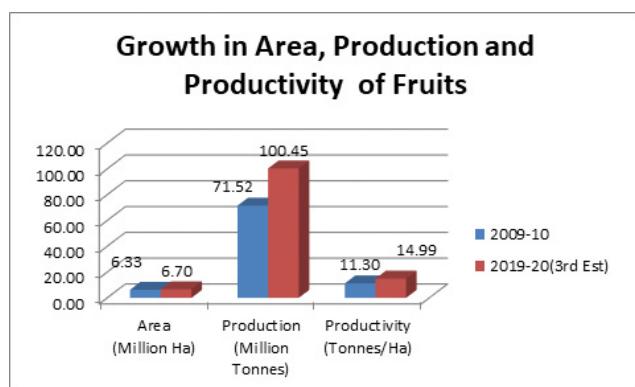
Area, Production & Productivity of Horticulture crops during the past 10 years are given in Table 4.

Table 4: Area, Production & Productivity of Horticulture crops**Area: Million Hectare, Prod: Million Tonnes, Productivity: Tonnes/Hectare**

Year	Area	Production	Productivity
2009-10	20.88	223.09	10.69
2010-11	21.83	240.53	11.02
2011-12	23.24	257.28	11.07
2012-13	23.69	268.85	11.35
2013-14	24.20	277.35	11.46
2014-15	23.41	280.99	12.00
2015-16	24.47	286.19	11.69
2016-17	24.85	300.64	12.10
2017-18	25.24	310.67	12.31
2018-19	25.74	311.05	12.09
2019-20(3 rd Advance Estimates)	26.22	319.57	12.19

The area under fruit crops during 2019-20(3rd Advance Estimate) is 6.70 Million Hectare, with a total production of 100.45 Million Tonnes. During the Period 2009-10 to 2019-20(3rd Adv. Est.), production of fruits increased by about 40.46%, while the area increased by about 6% [2009-10 to 2019-20 (3rd Adv. Est.)]. Comparative details of area, production and productivity of fruit crops are given in figure 1.

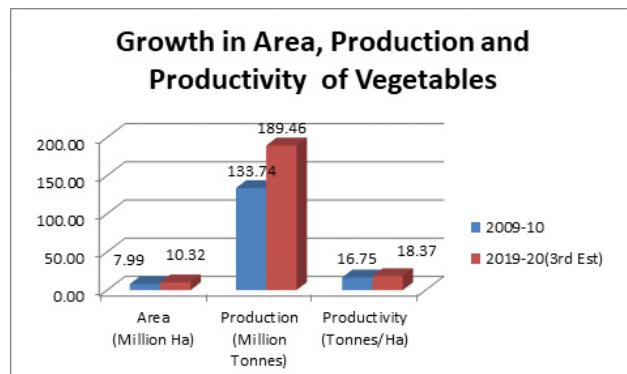
Figure 1: Area, Production & Productivity of Fruits



India has retained its status as the second largest producer of fruits in the world. The country is first in the production of fruits like mango, banana, papaya, lemon & lime.

Vegetables are an important crop in the horticulture sector, occupying an area of 10.32 Million Hectare as per 2019-20 (3rd Advance Estimates) with a total production of 189.46 Million Tonnes with average productivity of 18.4 Tonnes/Hectare. In fact, vegetables constitute about 59.3% of horticulture production. During the period [2009-10 to 2019-20 (3rd Advance Estimates)], area and production of vegetables increased by 29.2% and 41.7% respectively. The comparative details are depicted in the Figure 2.

Figure 2: Area, Production & Productivity of Vegetables



India continued to be second largest producer of vegetables after China. India is the leader in production of vegetables like okra. Besides, India occupies the second position in the world in production of potato, tomato, onion, cabbage, cauliflower and brinjal. Vegetables such as potato, tomato, okra and cucurbits are produced abundantly in the country.

Interventions in horticulture in the country, have led to an increase in per capita availability of fruits from 158 gm/person/day in 2007-08 to 209.8 gm/person/day in 2019-20(3rd Advance Estimates). Similarly, per capita availability of vegetables has increased from 309 gm/person/day in 2007-08 to 395.6 gm/person/day in 2019-20 (3rd Advance Estimates).

India has also made remarkable advancements in production of flowers, particularly cut flowers, which have a high potential for exports. Floriculture during 2019-20(3rd Advance Estimates) covered an area of 0.31 Million Hectare with a production of 2.99 Million Tonnes of flowers.

India is the largest producer, consumer and exporter of spices and spice products. The total production of spices during 2019-20(3rd Advance Estimates) was 9.75 Million Tonnes from an area of 4.14 Million Hectare.

5.4.3 Horticulture Mission for North East and Himalayan States (HMNEH)

A. Physical progress

The summary details of progress achieved so far under HMNEH during 2020-21 are given at Table 2 below:

Table 2: Progress under HMNEH

S. No.	Components	Unit	Progress during 2020-21 (as on 31 st December, 2020)
1	Area Expansion	Ha.	3843
2	Rejuvenation	Ha.	300
3	Protected Cultivation	Ha.	125
4	Integrated Pest/Nutrient Management	Ha.	6730
5	Nurseries	No.	5
6	Water Resources	No.	15
7	Beekeeping	No.	0
8	Horticulture Mechanization	No.	1067
9	Post Harvest Management		
	(i) Pack House	No.	32
	(ii) Cold Storage	No.	0
	(iii) Primary/Mobile Processing Units	No.	0
10	Rural Market	No.	0

Source: as per the data uploaded by State Govt. on MIDH web portal

B. Financial Progress021

During 2019-20, as on 31st March, 2020, funds to the tune of Rs. 326.74 crore have been released to States implementing HMNEH scheme against BE of Rs.415.00 crore. During 2020-21, an amount of Rs. 470.00 crore has been allocated for North Eastern States and Himalayan States(including PMDP), against which an amount of Rs. 197.75 crore has been released as on 31st December, 2020.

5.4.4 National Horticulture Board (NHB)

A. Physical Progress

1) Development of Commercial Horticulture through Production and Post Harvest Management

Under the scheme, the Board sanctioned 249 projects during the current financial

year (as on 31.12.2020) involving subsidy of Rs. 3219.50 lakh. The projects include Hi-Tech cultivation of perennial fruit crops in open field, vegetables & flowers in protected cultivation, tissue culture units, mushroom cultivation, establishment of pack house and grading centers, ripening chambers, refer van, retail outlets, pre-cooling units, primary processing units etc.

2) Capital investment subsidy scheme for construction/ expansion/modernization of cold storages for horticulture produce

Under the scheme, the Board sanctioned 06 projects of Cold Storages/CA Storages involving subsidy of Rs. 1289.22 lakh for creation of capacity of 32122 MT during the current financial year (as on 31.12.2020).

3) Technology Development and Transfer for Promotion of Horticulture

Under this scheme, NHB has assisted 04 projects for Introduction of New Technology, Visit of Progressive Farmers, Horti. Sangam, Organization/Participation in Seminars/Symposia/ Exhibitions, Technology Awareness, Mother Plant Nurseries, etc. and released financial assistance amounting to Rs. 11.21 lakh during the current financial year (as on 31.12.2020).

B. Financial Progress

During 2020-21, an amount of Rs 77.42 crore has been released (as on 31.12.2020) to NHB against a BE of Rs 170.00 crore.

5.4.5 Coconut Development Board (CDB)

A. Physical Progress: India being the largest coconut producing country in the world comprises of a 34.73% of global production. The coconut palm provides food security and livelihood opportunities to more than 12 million people in India. It is also a fiber-yielding crop for more than 15,000 coir-based industries which provides employment to nearly 6 lakhs people.

The crop contributes around Rs.2,66,350 million to the country's GDP and earns export revenue of around Rs.45200.77 million. There are 5 million coconut holdings in the country and the average size of these holdings is less than one hectare. As per the all India second advance estimate for the year 2019-20, the area and production of coconut in the country is 2.15 million hectares and 21,308.41 million nuts respectively. The four southern states of Kerala, Tamil Nadu, Karnataka and Andhra Pradesh accounted for 89.40% of the coconut area and 91.59% of the coconut production in

the country. The productivity of coconut at national level for 2019-20 is 9,898 nuts per hectare.

B. Financial Progress: During the current financial year, funds to the tune of Rs.80.00 crore has been released (as on 31.12.2020) to CDB against a BE of Rs. 141.67 crore.

5.4.6 Central Institute of Horticulture (CIH), Nagaland

Achievements/Initiatives of Central Institute of Horticulture (April 2020- December 2020)

Central Institute of Horticulture, Medziphema, Nagaland executes its programmes through capacity building by training of trainers and farmers/beneficiaries; On & off farm demonstration of Improved Production Technologies; production and supply of quality planting material; Accreditation and certification of nurseries in NE region; Promotion of organic cultivation of horticulture crops; Agri-business promotion through exhibitions, seminars, workshops, exposure trips, buyers & sellers meet; Post harvest management and value addition of horticultural crops; Skill development & certificate courses in horticulture; Transfer of technology through method & result demonstration, Publication of folders, manuals, leaflets (English & Hindi) etc and coordination with state horticulture departments of NER and other national organizations, NGOs, farmers' group and Self Help Groups. Details of various programmes under CIH are given below:

A. Demonstration of Production Technologies (on and off farm)

The various demonstration activities carried out in the Institute during the reported year are Demonstration on improved production technology of yardlong bean, french bean,

okra, bottle gourd, sponge gourd, cow pea, indian bean, cabbage, cauliflower, broccoli, onion garlic, radish, fenugreek; Plantation of tuber crops (cassava, sweet potato); Integrated model of drumstick, ginger, turmeric; establishment of herbal garden; Performance of high value vegetables under protected cultivation (tomato & capsicum, sponge gourd, bottle gourd); Preparation of organic input production units (compost, bio-enhancer & bio pesticides); Production of oyster mushroom; introduction of shiitake mushroom in the institute; Gap filling of loquat, carombola, ber & guava; plantation of khasi mandarin in terrace; the off farm demonstration carried out in the farmers field includes distribution of vegetable seed kits, vegetable seedlings raising and distribution to farmers in different districts of Nagaland, demonstration of papaya at Dimapur and Peren district, demonstration of onion in Punglwa village under Peren district, Nagaland.

B. Production Of Quality Planting Material

The numbers of rootstock raised at the Institute during the reported period are citrus var. acid lime seeds sown in 350 trays, Rangpur Lime (1900), guava (7155), mango (2930) and cashew nut local (3350). The numbers of crops propagated are Guava var. L-49, Allahabad Safeda (2860), Citrus var. Khasi mandarin & Acid lime (5735), Dragon fruit (1000) and Cashewnut var. V-4, VRI-3, BBSR-1 (1209). Besides these, 3 nursery units and 2 scion blocks in polyhouse & scion mother block in field is being maintained. During lockdown period, 14,376 saplings of Acid Lime, Cashew nut, Khasi Mandarin and Guava has been sold to various farmers/beneficiaries of the state.

C. Trainings

The Institute has organized 37 nos. of online training during lockdown period for farmers on

various aspects such as improved production technology of vegetables, fruits and flowers, post harvest management & value addition of horticultural crops, agri-business promotion, organic farming, mushroom production technology and bee-keeping. A total of 1569 participants attended the online training programmes conducted by the Institute.

D. PHM & Agri-Business Promotion

- Preparation of turmeric powder, strawberry RTS & candy, guava jam, peach squash King Chilli pickle, Dehydration of onion slices, Analysis of raw pineapple for TSS and acidity, Preparation of Mango Chunda, Preparation of pineapple chunda Analysis of plum parameters for Phek District Plums, Preparation of Aloe vera gel and hand sanitizers. Preparation of raw mango pickles, Dehydration of green chillies, Dehydration of carambola for candy, preparation of pineapple RTS, pineapple jam, tuitty fruity, ginger candy. Preparation and protocol development for kiwi fruits, protocol development for guava candy preparation, packaging and labeling of king chilli pickle.
- 1st Edition of E-Buyers Sellers Meet organized through online mode with 25 nos. participants.
- Organized online Horticulture Stakeholders Meet.
- Conducted meeting with FPC Molsang for marketing of pineapple during lockdown.
- Market linkage for pineapple during lockdown where more than 10000 nos. of pineapples were sold; On farm training on packaging to farmers at Bungsang village; Coordinated for 2 nos. of pineapple consignments to Delhi via train for promotion of marketing.
- Value Chain creation for kiwi fruit on 11.11.2020 at Krishi Bhawan, New Delhi.

- Market linkage on 9.11.2020 to Delhi and Surat for kiwi fruit.
- Online packaging development of FPC Molsang for pineapple fruit.
- Packaging concept development by CIH.

Glimpses of activities carried out in CIH, Nagaland

Demonstration activities



Fig No-1. Vegetable cultivation under poly mulch in the field

B. Quality planting material production.



Fig No.2. Rootstock of Rangpur lime, Guava local & Mango local

C. Post Harvest Management & Value addition of horticultural crops



5.5 Directorate of Areca nut and Spices Development, Calicut

The Directorate of Areca nut and Spices Development (DASD) is a subordinate office under the Ministry of Agriculture & Farmers Welfare, Government of India, entrusted with the responsibility of development of spices, arecanut, betel vine and aromatic plants at the national level. The Directorate monitors the development programmes implemented by the states in spices under MIDH.

5.5.1 The mandate of the Directorate is as follows:

- o Assessment of the developmental needs of the crops entrusted to it.
- o Formulation of Central Sector / Centrally Sponsored Schemes and implementation of the same either directly or through the State Governments, Agricultural Universities etc.
- o Monitoring the implementation of Central Sector / Centrally Sponsored Schemes and coordinating the development activities.
- o Rendering technical assistance to State Governments and other agencies on commodity development programmes.
- o Collection and compilation of statistics of area, production, export, import, prices etc. and dissemination of the same to the Central and State Governments and other agencies.
- o Keeping liaison with the research institutes and extension agencies and acting as a two-way channel in the transfer of technology.
- o Undertaking the publicity and propaganda works relating to these commodities.
- o Assisting the Central and State Governments on all matters relating to the development of these commodities.

5.5.2 Schemes implemented by the Directorate

i. Planting Material Production Programme:-

The NHM/MIDH programmes on spices implemented in different States such as area expansion, replanting/rejuvenation etc. require a sizeable quantity of quality planting materials of the respective spices crop. Non-availability of quality planting materials of high yielding varieties is identified as a major constraint in achieving the desired productivity of these crops as conceived in the Mission. Quite a good number of varieties of various spices and aromatic crops have been evolved in various research centres. However, for want of basic infrastructure and adequate funds, the required quantum of nucleus planting material are not being generated so that it can be made available for large scale multiplication and distribution to the farmers. In order to improve the situation, the Directorate had taken up the production of nucleus planting material in association with the SAUs and ICAR Institutes in different states of the country. The planting materials produced are made available for further multiplication and distribution to the farmers. Establishment of nursery infrastructure facilities and up gradation of existing facilities are also done under this programme.

ii. Accreditation of Spice Nurseries

To improve the quality of planting material produced in public and private nurseries, the Directorate is undertaking nursery accreditation programme.

iii. Establishment of Frontline Demonstrations

To promote adoption of high yielding/ disease tolerant/resistant varieties and advanced production / management technologies evolved for different spices and aromatic crops, assistance is provided to SAUs/ ICAR institutes for demonstration of these technologies. 100% assistance is provided

for promotion of different technologies like organic farming, micro irrigation of spices, varietal demonstrations etc.

iv. Innovative Programmes

Project based pilot programmes on proved technologies from SAUs/ ICAR institutes are supported by the Directorate based on the feasibility of the proposals. These technologies on successful demonstration are recommended for larger scale adoption at farmers fields.

v. Skill Development Training

The objective of the scheme is to enable and mobilize a large number of unemployed youth to take up outcome-based skill training. The scheme offers meaningful, industry relevant, skill-based training to enable youth to get wages or self-employment leading to increased earnings and/or improved working conditions such as getting formal certifications for informal skills. The schemes have training durations for 200 hours for fresh entrants. The Directorate is implementing such 200-hour training modules for skill sets like gardener/ coriander cultivator/ chilli cultivator/ vermicompost producer etc. The facilities and expertise of KVKS, State Agricultural Universities and authorized training centres are utilized for imparting skill training for selected job roles. The skill trainings and evaluation of the trainees are done as per the guidelines provided in ASCI National Occupational Standards.

vi. Transfer of Technology Programmes

New technologies in crop production developed at various Central Research Institutes and State Agricultural Universities can be effectively utilized in the field, only if the farmers are given required training in employing these technologies. In order to popularize the high yielding varieties and scientific technologies available from Research Institutes among the extension workers of the State Departments and

progressive farming community on the cultivation of arecanut, spices, medicinal and aromatic plants, National Level Seminars @ Rs 5 lakhs /event, State level Seminars @ Rs 3.00 lakhs/event, District level Seminars @ Rs 2.00 lakhs/event and Farmers training @ Rs. 75000 /training is implemented by the Directorate as per the cost norms provided in the operational guidelines of the MIDH.

vii. Collection and Compilation of data related to mandate crops.

Collection and compilation of reliable data are essential to assess the demand and supply of spices and arecanut and to address the problems and constraints in this sector. Since inception, the Directorate had been assigned with collection and compilation of statistics of area, production, export, import and prices etc. of various spices and arecanut and dissemination of the same. Efforts are being made by the Directorate to improve the quality of the statistics generated like area and production of various spices in consultation with the state departments concerned.

viii. Promotion and Publicity

In order to disseminate information on innovations and newer technologies to a larger audience of progressive farmers and researchers, the Directorate brought out several publications on mandatory crops in English, Hindi and vernacular languages and have also participated in various exhibitions.

5.5.3 Major Achievements of DASD during 2020-21

During the year 2020-21, the Directorate had an outlay of Rs. 12 crores for development and promotion of spices, arecanut, aromatic crops and betelvine. Following are the major activities of the Directorate in 2020-21.

- Planting material production programme**

The Directorate is directly involved in the production and distribution of quality planting material of high yielding varieties of spices and technology transfer programmes in association with State Agricultural Universities and Central Institutes across the country. Planting material production programmes worth Rs. 6.88 crores was implemented during the year. More than 970 tonnes of seeds/rhizomes and 36 Lakhs of seedlings of various spices were produced and distributed under this programme. A special programme on production of nucleus planting material of betelvine in Bundelkhand region of Uttar Pradesh was also implemented during the year.

- Accreditation of spice nurseries**

DASD is engaged in accreditation of nurseries to improve the quality of planting material disbursed through various nurseries across the nation. About 80 nurseries are recognised under DASD accreditation programme till date.

- Upgradation of spice nurseries**

Under the programme Upgradation of spice nurseries, financial assistance was given for improving the infrastructure facilities of spices nurseries established at different State Agri Universities to meet accreditation norms.

- Establishment of nursery infrastructure, storage infrastructure facilities**

Nursery infrastructure facilities for spices are established at 4 different SAUs under this programme, during 2020-21. Five seed processing and storage infrastructure facilities for spice crops were also established in selected centres.

- Skill development trainings**

Skill based certificate trainings on selected agri -based job roles are being provided

to unemployed rural youth. About 75 youth were trained and certified under this programme during the year.

- **Innovative programmes**

- Innovative technologies such as single bud planting and protray method of nursery raising in ginger and turmeric had been promoted by the Directorate. A special programme on micro-rhizome production has been undertaken in association with Kerala Agri University and Indian Institute of Spices Research to promote disease free seed material in these crops. The micro rhizome production was scaled up in 2020-21 through ten different implementing centres of Kerala Agricultural University.
- Established three distillation units for extraction of aromatic plants at different centres to encourage small and marginal farmers for extraction of essential oil, processing and marketing.

- **Webinar/ Seminars/ Farmers Training Programmes**

DASD had organised and participated in various training / webinars on Spices in the post-COVID scenario, Spice Business Opportunities in North-East States, High value spices production and export during the lock down period to reach out to spice farmers and different stakeholders of spice industries. Around 5,000 farmers were given training on different aspects of cultivation, management, post harvest management and processing of spice crops.

- **Frontline demonstrations**

- Demonstration on pesticide

free cumin production through popularization of Good Agricultural Practices (bio-agents and botanicals for plant health management) was undertaken in Nagour District (in 25 ha area) of Rajasthan.

- Demonstration on organic turmeric production and value addition was implemented in selected cluster of Waigaon area of Maharashtra (in 25 ha area) to improve the rural livelihood.
- Demonstration on organic black pepper production was implemented in selected cluster of Assam state (in 25 ha area) to improve the rural livelihood of the area.
- Demonstrated optimum and efficient drip irrigation technique in spices to improve productivity and quality in an area of 62 ha in selected SAUs and farmers fields.
- Established 53 ha area of demonstrations on cultivation of aromatic plants out of which 25 ha area is exclusively for tribal areas of Raipur, Kondagaon, Korea and Kanker districts in Chhattisgarh state, aiming at the livelihood security of the tribal population.
- To popularize Areca nut Based Multi Species Cropping System through farmers participatory approach among arecanut farmers in Assam and Karnataka, demonstration plots have been established with cocoa, black pepper and banana intercrops.
- Demonstrations on Intensive cultivation of cinnamon as intercrop in coconut gardens, EPN technology for management of white grub in arecanut and cultivation of

- arecanut dwarf hybrids, Arecaanut fruit rot disease management using Mandipropamid fungicide are also established in different locations through farmer participatory approach
- o Hi-tech, high density bush pepper (*Colubrinum* grafted) cultivation for improved productivity and income is demonstrated at different locations of Goa and at HRS, Pechiparai, Tamilnadu.
 - **Monitoring of MIDH Scheme progress through review meeting**
 - o Conducted fourteenth Annual Review meeting of the MIDH programmes implemented through the Directorate of Arecaanut and Spices Development in 2019-20, by using virtual platform during July 2020. Dr. BNS Murthy, Horti Commissioner, Govt of India, inaugurated the programme and Principal investigators of the scheme representing 46 State Agri Universities/ ICAR institutes participated in the meeting.
 - **Collection and compilation of data related to spices**
 - o Estimates on area and production of various spice crops and arecaanut were collected from all the State Depts. concerned and compiled to arrive at estimates at the National level. The All India estimates arrived for 22 spices and arecaanut were submitted to the Horticulture Statistics Division of DAC&FW for all India release along with the estimates of other horticulture crops. The same has been disseminated to different National/State level agencies engaged in research and planning.
 - o Conducted sample survey at major garlic growing areas of Madhya Pradesh (Ujjain, Ratlam and Neemuch) to verify the yield and area estimates of garlic reported by the Horticulture Department. The information was collected from the selected farmers from these Districts through an interview schedule and conducted crop cutting experiments in each plot to assess the yield of garlic.
 - **Publicity activities**
 - o Directorate published a quarterly journal Indian Journal of Arecaanut Spices and Medicinal Plants for the dissemination of information on various technologies related with arecaanut, spices and medicinal plants.
 - o Publications in English/Hindi and vernacular languages have been released for development of spices.
 - **Promotion of Hindi Language**
 - o To create awareness regarding the use of Hindi in official work, a Hindi Pakhwada was organised in September 2020. During the event, various Hindi competitions such as noting and drafting, typing, technical terminologies, essay writing and quiz were organized and all the officers and employees participated in these competitions. Cash prizes were given to the winners of these competitions.
 - o An online workshop on Official Language policy of GOI was conducted as a part of Hindi Pakhwada Samaroh 2020-21.

Photograph on DASD activities 2020-21



Large cardamom nursery established by DASD at Sikkim

5.6 Directorate of Cashewnut and Cocoa Development, Kochi

The Directorate of Cashewnut and Cocoa Development functioning at Kochi is a subordinate office of the Department of Agriculture, Cooperation & Farmers Welfare of the Union Ministry of Agriculture & Farmers Welfare. This was established in the year 1966 for the promotion of cashew cultivation in the country, bifurcating the erstwhile Indian Central Spices and Cashewnut Committee. The promotion of cocoa also was entrusted to this Directorate in the year 1997. The Directorate formulates and executes development programmes of cashew and cocoa in the country and monitors the implementation of development programmes formulated and executed by the State Governments under Mission for Integrated Development of Horticulture.

The DCCD also acts as a nodal agency for accreditation of existing cashew/cocoa nurseries and issues recognition.

5.6.1 Brief about the scheme with objectives

• New plantation development:

The main objective of the programme is to develop new plantations with high yielding varieties of cashew and cocoa in the farmers field. Financial assistance @ Rs.20, 000 per ha is provided for meeting the expenditure on planting materials and cost of materials for INM/IPM in three installments in 60:20:20 subject to survival rate of 75% in the 2nd year and 90% in the 3rd year. An area of 795 ha of cashew was achieved in the states of Andhra Pradesh, Karnataka and Kerala during the current financial year. Besides, an area of 150 ha of cocoa was established exclusively for tribal farmers.

- **Replanting of senile cashew plantations:**

The objective of the scheme is to increase the production and productivity of cashew by removal of senile plantations and replanting with high yielding varieties. Financial assistance @ Rs.20, 000 per ha is provided for meeting the expenditure on planting materials and cost of materials for INM/IPM in three installments in 60:20:20. An area of 500 ha for fresh planting and 700 for maintenance of cashew plantations replanted during 2019-20 has been undertaken during the current financial year.

- **Accreditation of cashew/cocoa nurseries**

The DCCD acts as a nodal agency for accreditation of existing cashew/cocoa nurseries based on the guidelines prepared by the DCCD and issues certificate of accreditation. This accreditation ensures the quality of planting materials of cashew and cocoa produced by nurseries in the private and public sector.

- **Nursery programmes**

The objective of the programme is production and distribution of good quality cashew grafts to meet the requirement of grafts in the state. The maximum financial assistance is limited to Rs.20.00 lakhs @ 40% of the total project cost for big model nursery and Rs.7.50 lakhs @ 50% of the total project cost for small nursery. For upgradation of nurseries, 50% of cost to private sector subject to a maximum of Rs. 5.00 lakh/nursery is admissible. Registered/approved private or public and specified cashew nursery owners who own suitable land and irrigation facility for raising cashew nursery can apply for availing assistance under this scheme.

- **Publicity for crop promotion:**

This programme is intended to take up intensive publicity measures for promotion of cashew and cocoa by dissemination of latest productive technologies to the farming community and other target groups coming under the fold of cultivation, processing, marketing and export by organizing District level seminar, fairs on cashew and cocoa in various states.

- **HRD programme**

The objective and focus of this programme is to bridge the gap of knowledge and skill of both officers and extension workers engaged in implementation of cashew and cocoa development programmes under NHM and farmers/entrepreneurs/unemployed women on cashew and cocoa farming and processing. The programme provides appropriate training to the farmers in various aspects of cashew and cocoa farming consisting of nursery management, management of diseases, canopy management, improved production technologies, post-harvest management and processing, drying and storage, preparation of primary and value added products.

5.6.2 Salient achievements -2020-21:

- New plantation of cashew in an area of 795 ha is completed in the states of Andhra Pradesh, Karnataka and Kerala.
- An area of 150 ha of cocoa was brought under new planting programme exclusively for tribal farmers.
- 1.59 lakh good quality cashew grafts were distributed to farmers from DCCD accredited nurseries.
- 75000 cocoa hybrid seedlings were distributed to tribal farmers as part of new planting programme.
- Under replanting programme, fresh

- planting has been done after removing senile plantations with high yielding varieties in an area of 500 ha in the state of Odisha.
- Forty cashew/cocoa nurseries in the states of Andhra Pradesh, Karnataka, Kerala, Maharashtra, Odisha and Tamil Nadu will be accredited by the Directorate based on the assessment made by the expert team constituted for the production and distribution of good quality cashew grafts and cocoa hybrid seedlings. This ensures quality of planting materials and increases the productivity of plantations in the country.
 - In order to ensure the availability of planting materials, 3 big/small nurseries will be established under MIDH by providing financial assistance.
 - As part of publicity and crop promotion activities, 20 district level seminars on cashew and cocoa will be organized in various states in association with State Agricultural Universities, KVK's, Corporations and ICAR institutes.
 - Under the HRD programme, 15 farmers training, 5 exposure visits and 20 cashew apple utilization trainings will be conducted in association with SAUs and ICAR institutes.

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Chapter 6

National Beekeeping and Honey Mission (NBHM) /National Bee Board (NBB)

6.1 Beekeeping:

Beekeeping is an agro-based activity which is being undertaken by farmers/ landless labourers in rural areas as a part of Integrated Farming Systems (IFS). Beekeeping has been useful in pollination of crops, thereby, increasing income of the farmers/beekeepers by way of increasing crop yield, providing honey and other high value beehive products, viz.; bees wax, bee pollen, propolis royal jelly, bee venom, etc., that serve as a source of livelihood for the rural poor. The diversified agro climatic conditions of India provide great potential and opportunities for beekeeping/honey production and export of honey.

6.2 Schemes of DAC&FW for promotion of Beekeeping:

A. Mission for Integrated Development of Horticulture (MIDH):

Keeping in view its' importance, beekeeping is being promoted by the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW), Ministry of Agriculture & Farmers Welfare, Government of India under the component of "**Pollination Support through Beekeeping**" under **Mission for Integrated Development of Horticulture (MIDH)**. The scheme is being implemented by the Departments of Horticulture/Agriculture of the State Governments. Under this scheme, assistance is provided for production of quality nucleus stock, production of bee colonies by bee breeders, distribution

of honey bee colonies, beehives, supers etc. and beekeeping equipments. Similarly, assistance for organising trainings/ exposure visits of the farmers/beekeepers, seminars/ workshops etc. is also provided under the scheme. Beekeeping is also being promoted under RKVY & other schemes of DAC&FW. NBB is one of the National Level Agencies (NLAs) under MIDH.

B. National Beekeeping & Honey Mission(NBHM):

Govt. of India also approved a new Central Sector Scheme entitled "**National Beekeeping & Honey Mission (NBHM)**" with a total budget outlay of Rs.300.00 crores for 2 years (2018-19 to 2019-20) for overall promotion and development of scientific beekeeping in mission mode to achieve the goal of "**Sweet Revolution**" in the country by implementing 3 Mini Missions (MMs)-MM-I, MM-II & MM-III under which thrust will be given on awareness, capacity building/ training, focus on women empowerment through beekeeping, setting up of requisite infrastructural facilities, viz.;Integrated Beekeeping Development Centres(IBDCs), Honeybees Disease Diagnostic Labs, Setting up of/ upgradation of Honey Testing labs, Beekeeping Equipment Manufacturing Units, Custom Hiring Centres, Api therapy Centres, Development of Quality Nucleus Stock Centres & Bee Breeders,

etc., Digitization/online registration, etc. under MM-I, processing, value addition, market support, etc. under MM-II and R&D under MM-III. An amount of Rs. 25.00 crores was released under NBHM during 2019-20.

NBHM has been revised & approved by the Govt. of India for its continuation for a further period of 3 years (2020-21 to 2022-23) for Rs. 500.00 crores allotted under Aatma Nirbhar Bharat. NBHM will be implemented through the National Bee Board (NBB). An amount of Rs. 150.00 crores has been allotted under NBHM for the year 2020-21.

C. National Bee Board(NBB):

The National Bee Board (NBB), a registered society under Societies Registration Act XXI of 1860 (19th July, 2000) was reconstituted under the Chairmanship of Secretary (A&C) in June, 2006. About 700 Beekeepers/ Beekeeping societies/firms/companies etc. are the permanent members of the National Bee Board. The main objective of NBB is overall development & promotion of scientific beekeeping in the country to increase the productivity of crops through pollination and increase honey production for increasing the income of the beekeepers/farmers. NBB has been designated/recognised as the Nodal Agency for overall development/ promotion of scientific beekeeping in the country.

6.3. Main activities implemented by NBB under NBHM during 2020-21:

Details of the main activities implemented during the year 2020-21 under NBHM, as on date, are given as under:

A. Quality Control in Honey:

- i. Two world class State of the Art Honey Testing Labs, one at NDDB, Anand, Gujarat & one at IIHR, Bengaluru, Karnataka, have been approved/ set up. The lab at Anand has been accredited by NABL and has been inaugurated by Hon'ble Union Minister of Agriculture & Farmers Welfare, Govt. of India on **24th July, 2020**. Now the lab has started testing of honey samples for all the parameters notified by FSSAI;
- ii. In addition to implementation of 15 parameters of honey standards, orders for implementation of standards/ tests of **SMR** and **Foreign Oligosaccharides**, which were previously deleted, **have also been issued by FSSAI**.
- iii. Proposal for **developing Traceability Source of Honey and other Beehive Products** has been approved and work initiated/ started. This will help in controlling adulteration in honey & other beehive products.

B. Human Resource Development/Capacity Building/ Awareness Programmes:

- i. **Trainings and Exposure Visits:** 4 trainings including, 2 physical & 2 online trainings of farmers/ beekeepers in scientific beekeeping were organized in which >100 farmers/ beekeepers have been trained during 2020-21.

C. Seminars/ Webinars on Beekeeping:

- i. One 2 days District Level Seminar on scientific beekeeping in the State of Uttar Pradesh has been conducted during 2020-21 in which >250 farmers/ beekeepers/ stake holders participated.
- ii. Six rounds of Meetings/ VCs were organized with the stakeholders viz.; concerned Ministries/ Departments/

- National Level Agencies, State Govts., Central & State Agril. Universities, etc. to discuss the details of scheme (NBHM) and popularize the scheme.
- iii. Two rounds of Meetings /Webinars to discuss the details of NBHM & implementation of honey standards with honey processors/ exporters & regulatory authorities organized.
 - iv. 1 Webinar conducted in coordination with Dr. YSR Horticulture University on Apiculture in Andhra Pradesh.
 - v. Awareness programme/ Webinar on Beekeeping organized in coordination with Agriculture Information Vadimalai Media Group, Bangalore for the farmers/ beekeepers of Andhra Pradesh, Karnataka, Tamil Nadu, etc.
 - vi. A Webinar to discuss the details of proposals received from State Govts. /CAUs/SAUs /Central Organizations, etc. has been organized on 04.12.2020 in which about 75 officials participated.
 - vii. Meeting/ VC with the stakeholders viz.; concerned Ministries/ Departments/ National Level Agencies/ Organizations to discuss the details of scheme (NBHM), etc. organized on 22.12.2020.

D. Induction of members:

25 new Beekeepers/ Societies/ Firms/ Companies/ Institutions/ organizations/ Departments/ Agencies, etc. have been inducted as member of NBB during 2019-20.

E. Registration of Beekeepers/ Beekeeping & Honey Societies/ Firms/ Companies involved in Beekeeping:

600 beekeepers/ societies/ firms/

companies with about 1.00 lakhs honeybee colonies have been registered with NBB till December, 2021. Insurance cover of Rs. 1.00 lakh is also given to registered beekeepers by NBB.

F. Formation of FPOs in 2020-21:

5 FPOs of beekeeper/honey producers in the States of Bihar, Uttar Pradesh, Madhya Pradesh, Rajasthan & West Bengal have been formed and launched by Hon'ble Minister of Agri. & FW on 26.11.2020.

G. Project Proposals approved under NBHM during 2020-21:

Executive Committee (EC), NBHM, in its meeting held on 14.12.2020, has considered & approved **11 project proposals**, recommended by PAC, for total assistance of **Rs. 2560.21 lakhs** for funding under NBHM. These proposals relates to Awareness/ Seminars & Capacity Building in scientific beekeeping, Empowerment of Women through beekeeping, Technology Demonstrations on Impact of Honeybees on yield enhancement & quality improvements of Agri./Hortl. Produce, Distribution of specialized Beekeeping equipments for production of high value products, viz. Royal Jelly, Bee Venom, Comb Honey, etc., Setting up honey testing lab, honey processing & bottling plant, Api-therapy centre, Bee disease diagnostic lab, Studies on exploring potential of High Altitude Honey, Production of special honey in Kannauj & Hathras Distts. of UP and Use of mustard honey to cure colon cancer, Developing Traceability Source of Honey and other Beehive Products for Rs. 35.00 lakhs etc.

6.4 Main achievements of NBB in beekeeping/ honey production since its

inception in DAC&FW/ during the last 14 years (2006-07 to 2019-20)

The main achievements of NBB in beekeeping/honey production during the last 14 years (2006-07 to 2019-20) are summarized as under:-

- **Honey production** has increased from 35,000 MTs (2005-06) to 1,20,000 MTs (2018-19) which is **242.86% increase**. Honey production has been estimated 1,15,000 MTs in 2019-20.
- **Export of honey** has increased from 16,769 MTs (2005-06) to 61333.91 MTs (2018-19) which is a **265.76% increase**. 59536.74 MTs of honey exported in 2019-20.
- Honey bee colonies have increased from about 8.00 lakhs in 2005-06 to 36.00 lakhs in 2019-20.
- Four training modules, viz.; (i) basic training on beekeeping (ii) training on scientific beekeeping (iii) training on post-harvest management, processing, etc. & (iv) training on production of high value beehive products viz.; royal jelly, pollen, propolis, bee venom, bees wax, bee bread, etc. prepared & circulated to all the stakeholders including ICAR, SAUs, State Govts., KVIC, etc. for training in beekeeping.
- **>30,000 farmers/beekeepers** have been trained in scientific beekeeping including production of high value beehive products, viz.; bee pollen, propolis, royal jelly, bee venom, etc.
- **>30 Bee Breeders** have been developed for multiplication/production of **quality honeybee colonies** along with queens for providing to the trained farmers/beekeepers. Each bee breeder produces at least 2000 bee colonies every year.
- **10,000 Beekeepers/Beekeeping & Honey Societies/Firms/Companies with 16.00 lakh honeybee colonies** have been registered with NBB.
- **16 Integrated Beekeeping Development Centres (IBDCs)** as role model for beekeeping have been commissioned, one each in the States of Haryana, Delhi, Bihar, Punjab, Madhya Pradesh, Uttar Pradesh, Manipur, Uttarakhand, Tamil Nadu, Karnataka, Himachal Pradesh, West Bengal, Tripura, Andhra Pradesh, Arunachal Pradesh and UT of Jammu & Kashmir
- **35 Issues of Quarterly Magazine "Bee World"** containing information on scientific beekeeping and other related issues published.
- Have prepared & got approved projects under RKVY and other schemes of DAC&FW. Two types of project proposals/ models: (i) **Model-I:-** For adoption of scientific beekeeping by farmer as an enterprise; and (ii) **Model-II:-** Providing pollination support by beekeepers/beekeeping entrepreneurs on custom hiring basis for promoting scientific beekeeping under RKVY, NFSM & other schemes of DAC&FW .
- **Advisories on Good Beekeeping Practices (GBPs)** published & circulated to all State Govts. & concerned agencies/ stakeholders.
- Technically feasible and economically viable scheme for overall promotion & development of scientific beekeeping & adoption by the farmers/ beekeepers under

- NHM/HMNEH/MIDH/RKVV/NFSM, etc. prepared and got approved under these schemes.
- Projects for **Integrated Development of Scientific Beekeeping (IDSB)** on cluster/ area/ District development approach for enhancing crop productivity & income of farmers/ beekeepers and generating employment in rural areas formulated/implemented.
 - Designed technical standards for food grade plastic containers for storing honey, which helped in minimizing the problem of presence of lead in honey.
 - **Standards of Honey, Bees Wax & Royal Jelly notified by FSSAI.**
 - Prepared 5 year Vision Document for overall development of beekeeping.
 - Requested Ministry of Finance and NABARD for instructing the financial institutions for financing beekeeping activities by providing credit limits /Kisan Credit Cards etc. In pursuance to this, NABARD has already directed all commercial banks to finance beekeeping on a priority basis.
 - Awareness created about role of honeybees/beekeeping in pollination support of various crops.
 - Beekeeping/honeybee has been recognized/ incorporated as an input in agriculture under various schemes of this Department (RKVV, NFSM, MIDH, etc.).
 - Convinced NDDB/GCMMF/ Dairy Cooperative System for beekeeping and marketing of honey to explore the possibilities for utilizing milk routes/ NDDB's infrastructure/ cooperative network in the field.
 - **Safal Brand of Honey** launched by Mother Dairy under technical guidance/advice & support of NBB and honey is being sold at Safal Outlets in NCR.
 - **150** officials / representatives / members / farmers of Banas Dairy Union and Kolhapur Dairy Cooperative trained in beekeeping by NBB. Trained farmers/beekeepers have started beekeeping.
 - **Banas Brand of Honey** launched by the Hon'ble Minister on 10th December, 2016 at Palanpur, Gujarat.
 - Setting up of **Honey Testing Lab by NDDB** in Anand.
 - Participated in various Horti/Agro Expos and disseminated information on scientific beekeeping. Last years, NBB participated in **Krishi Unnati Mela, 2016 & 2018** and demonstrated world class State of the Art technologies on scientific beekeeping for which **NBB was awarded (First Award- in 2016) & appreciated by Hon'ble PM in 2018.**
 - Formulated National Beekeeping & Honey Mission (NBHM)- a new central sector scheme.
 - **Beekeeping Development Committee (BDC):**
 - ❖ **In pursuance of NBB, a Beekeeping Development Committee (BDC)** under the Chairmanship of Dr. Bibek Debroy, Chairman EAC to PM was constituted with seven members, including ED,NBB to take the lead in pro-

moting & coordinating activities involved in the Beekeeping Industry so that “**Sweet /Golden Revolution**” in the country may be achieved.

- ❖ Draft report alongwith input was prepared & given by NBB to BDC.

Report was submitted by the Chairman, **BDC to Hon'ble PM**. BDC Report was released by the **Hon'ble Minister of Agri. & FW**, Govt. of India on 28.01.2020 at Ahmadabad, Gujarat. Report is placed on the public portal.

A. Inauguration of Honey Testing Lab at NDDB, Anand, Gujarat by Hon'ble Minister of Agriculture & Famers Welfare, Govt. of India on 24th July, 2020



B. Virtual launching of Formation and Promotion of FPOs of Beekeepers/Honey Producers of the Districts of Morena, MP, Mathura (UP) Bharatpur (Rajasthan) East Champaran (Bihar) and Sundarban (West Bengal) by Hon'ble Union Minister of Agri. &FW held on 26.11.2020 in Krishi Bhawan



C. Two days State Level Seminar on scientific beekeeping at Sevapuri, Varanasi, UP from 22.10.2020 to 23.10.2020



Chapter 7

National Food Security Mission (NFSM)

Overview

7.1 National Food Security Mission was launched in 2007-08 to increase the production of rice, wheat and pulses by 10, 8 and 2 million tonnes respectively by the end of the 11th Plan through area expansion and productivity enhancement; restoring soil fertility and productivity; creating employment opportunities and enhancing the farm level economy. The Mission was continued during the 12th Plan with new targets of additional production of 25 million tonnes of foodgrains comprising of 10 million tonnes of rice, 8 million tonnes of wheat, 4 million tonnes of pulses and 3 million tonnes of coarse cereals by the end of the 12th Plan. Beyond the 12th Plan (2017-18 to 2019-20), it was decided to continue the programme with new targets to achieve 13 million tonnes of additional foodgrains production comprising of rice-5 million tonnes, wheat- 3 million tonnes, pulses-3 million tonnes and nutri-cum-coarse cereals-2 million tonnes by 2019-20 with an additional objective to enhance post-harvest value addition at farm gate for better price realization to farmers through efficient market linkages. The target for the year 2020-21 is rice-1.7 million tonnes, wheat-1 million tonnes, pulses-1 million tonnes and nutri-cum-coarse cereals-0.7 million tonnes.

7.2 The basic strategy of the Mission is to promote and extend improved technologies of package of practices of crops through various types of demonstrations (FLDs/ Cluster FLDs), distribution of HYVs/Hybrid seeds, production of seeds, distribution of micro-nutrients/ soil ameliorants/bio-fertilizers, plant protection chemicals/bio-

pesticides, improved resource management tools/ machineries /implements, efficient water application devices, capacity building of farmers and local initiatives; award for best performing states etc. From the year, 2020-21, primary processing units/small storage bins/flexibility interventions has been added as per local requirement.

7.3 Currently, NFSM is being implemented in identified districts of 28 states & 2 Union Territories (UTs) viz. Jammu & Kashmir and Ladakh in the country. **NFSM-Rice** in 193 districts of 24 states & UT of Jammu & Kashmir, **NFSM-Wheat** in 124 districts of 10 states & 2 UTs viz. Jammu & Kashmir and Ladakh, **NFSM-Pulses** in 644 districts of 28 states & 2 UTs viz. Jammu & Kashmir and Ladakh and **NFSM-Coarse Cereals** in 269 districts of 26 states & 2 UTs viz. Jammu & Kashmir and Ladakh.

NFSM-Nutri-Cereals is being implemented in 212 districts of 14 states (jowar in 100 districts of 10 states, bajra in 89 districts of 9 states, ragi in 43 districts of 8 states and other millets in 43 districts of 7 states). Under **NFSM-Coarse Cereals**, maize is being implemented in 237 districts of 26 states & 2 UTs viz. Jammu & Kashmir and Ladakh and barley in 39 districts of 4 states of the country. The North Eastern States, Himachal Pradesh, & 2 UTs viz. Jammu & Kashmir and Ladakh have been given flexibility to implement the programme on nutri-cereals.

7.4 Monitoring & Evaluation at National level: A three-tier monitoring mechanism was inbuilt in NFSM at National, State and

District levels. At National level, NFSM-General Council (GC) under the chairmanship of the Union Minister of Agriculture and Farmers Welfare was constituted to oversee the implementation of NFSM and take policy decisions for mid-term corrections. National Food Security Mission- Executive Committee (NFSMEC) under the chairmanship of Secretary (AC & FW) periodically reviewed the State Action Plans and the progress of the programme of each state. National Level Monitoring Teams (NLMTs) were reconstituted for monitoring the National Food Security Mission activities in respect of NFSM States. Each team is comprised of experts in the field of rice, wheat, pulses, coarse cereals and nutri-cereals as per requirement and the respective Directors of the Crops Development Directorates of Ministry of Agriculture and Farmers Welfare as Coordinator. Altogether, there are eight (8) National Level Monitoring Teams (NLMTs).

7.5 At state level, the monitoring is undertaken by the State Food Security Mission- Executive Committee (SFSMEC) under the Chairmanship of Chief Secretary. At district level, the monitoring is undertaken by District Food Security Mission- Executive Committee(DFSMEC) under the chairmanship of District Collector.

7.6 The Mid-Term Evaluation and the Impact Evaluation study of NFSM for the 11th and 12th plans were conducted by independent agencies to assess the impact of the programme in increasing the production and productivity of foodgrain crops. NITI Aayog has conducted an evaluation study through Deloitte Touch Tohmatsu India LLP from 2017-18 to 2019-20.

- The evaluation report covered all the aspects of the NFSM scheme.
- The performance of NFSM during the above said period was satisfactory in

most of the cases as per the report.

- The recommendations and way forward for NFSM is for greater focus on pulses, nutri-cereals and bio-fortification which is already being done and promoted under NFSM.
- Suggestions from any institutions/states responsible for increasing production and productivity of foodgrain crops would be incorporated under NFSM.

7.7 Funding pattern: The programme is being implemented on 60:40 sharing basis between GOI and state government in general states and 90:10 sharing basis for North Eastern states and 3 Himalayan states from 2015-16. As per the operational guidelines of NFSM, at least 30% of funds are to be allocated for women farmers, 33% allocation of the fund is to be made for small and marginal farmers.

7.8 Achievement during 2019-20: Recommended agronomic practices have been encouraged through various demonstrations of rice, wheat, pulses & nutri-cum-coarse cereals in 12.39 lakh ha area. Nearly, 10.91 lakh quintals of high yielding varieties/hybrids of rice, wheat, pulses and nutri-cum-coarse Cereals have been distributed. 16.40 lakh ha area has been treated with micronutrients, bio-fertilizers, soil ameliorants/ (gypsum/ lime/others) and 23.71 lakh ha area has been covered under Integrated Pest Management (IPM). Nearly 3.61 lakh numbers of improved farm machineries including pumpset & mobile raingun have been distributed. 0.19 lakh ha area has been covered under sprinkler system, 104.02 lakh meters water carrying pipes have been distributed. About 12030 cropping system based trainings were conducted for capacity building of farmers.

7.9 New initiatives taken for increasing production and productivity of pulses from 2016-17 onwards:-

- Breeder seed production of pulses was introduced under NFSM-Pulses programme.
- 150 Seed Hubs are being implemented for increasing certified seeds of indigenous production of pulses in India through the ICAR-Indian Institute of Pulses Research (IIPR), Kanpur and their centres.
- Supplying of Seed Minikits of pulses not older than 10 years free of the cost (100% share) to the farmers. During 2020-21, 4,61,602 numbers of seed minikits of pulses have been allocated to different states for Kharif, Rabi and summer seasons.
- In addition to State Governments, the ICAR/KVKs/SAUs are also involved in conducting demonstrations on improved latest package of practices of pulses. During 2020-21, 20,000 numbers (one ha. each) of cluster frontline demonstrations have been sanctioned to 583 Krishi Vigyan Kendras coming under 11 ATARIs of ICAR in the country for demonstrating latest technologies of pulses at farmers field. The 3350 numbers of (one ha. each) FLDs have been sanctioned to different ICAR Institutes on barley, pulses, maize, small millets, pearl millet and sorghum crops during 2020-21 for demonstrating latest technologies at farmers field.
- 15% allocation is earmarked for pulses under NFSM for production of quality seeds through State Governments.
- The government created a buffer stock of pulses to control fluctuation of prices of pulses.
- Certified seed production.
- Seed minikits allocation.
- Establishment of Centers of Excellence.
- Publicity of nutri-cereals.
- FAO considered the proposal of DAC&FW to celebrate 2023 as the **International Year of Millets**.

7.10 Special Action Plan:

(a) Special Action Plan for better production of Nutri Cereals (Millets): Special Action Plan for increasing the production and productivity of Nutri Cereals (Millets) is under implementation during Rabi / summer season of 2020-21 in the country. Accordingly, as per the proposals received from Andhra Pradesh, Odisha, Karnataka and Telangana, the special action plan for Nutri Cereals has been approved with an amount of Rs. 4054.341 lakhs comprising of Rs. 2432.605 lakhs as Central share and Rs. 1621.736 lakhs as State share. Targets are allocated as per the request of state governments for interventions suited to them for increasing production and productivity of Nutri Cereals in these states.

(b) Targeting Rice Fallow Areas (TRFA): The TRFA is a sub-scheme of the National Food Security Mission (NFSM) programme which gives emphasis on land that remains underutilized after harvesting of Kharif paddy crops. The aim is to bring a change in the cropping pattern during the Rabi season by introducing appropriate varieties of pulses that can be cultivated by using available moisture. It is being implemented through a combination of innovative technological interventions and provision of essential agri-inputs including extension services in 11 TRFA implementing States of the country. Targeting Rice Fallow Area Programme was implemented as a sub scheme of NFSM from

New initiatives taken for increasing production and productivity of Nutri-Cereals from 2018-19 onwards:

- Breeder seed production of nutri-cereals.
- Creation of seed hubs.

2017-18 in 6 states namely, Assam, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal. However, this was extended to 5 new states namely, Gujarat, Maharashtra, Madhya Pradesh, Karnataka and Tamil Nadu during 2019-20.

From 2017-18 to 2019-20, an area of 26.01 lakh ha was covered under rice fallow for cultivation of pulses. During 2020-21, the TRFA is being implemented in 11416 villages of 103 districts in 11 states with the targeted

area of 12.50 lakh ha. The allocation of TRFA during 2020-21 is Rs. 391.89 crore comprising of Rs. 247.14 crore as central share and Rs. 144.76 crore as state share for 11 states.

7.11 Production of foodgrain: The production of foodgrain has increased substantially during the XI Plan and XII Plan. The production during 2018-19 to Kharif 2020-21 is as under:

(in Million tonnes)				
Crops	Rabi/ Kharif	2018-19	2019-20 (4 th Advance Estimates)	2020-21 (1 st Advance Estimates)
Rice	Kharif	102.04	101.98	102.36
	Rabi	14.44	16.45	-
	Total	116.48	118.43	102.36
Wheat	Rabi	103.60	107.59	-
Pulses	Kharif	8.09	7.72	9.31
	Rabi	13.98	15.44	-
	Total	22.08	23.15	9.31
Nutri/Coarse Cereals	Kharif	31.38	33.69	32.84
	Rabi	11.67	13.79	-
	Total	43.06	47.48	32.84
Total Foodgrains	Kharif	141.52	143.38	144.52
	Rabi	143.70	153.27	-
	Total	285.21	296.65	144.52

7.12 Bringing Green Revolution to Eastern India (BGREI)

Bringing Green Revolution to Eastern India (BGREI), a sub scheme of the Rashtriya Krishi Vikas Yojana was initiated in 2010-11 to address the constraints limiting the productivity of “rice based cropping systems” in Eastern India comprising seven (7) States namely; Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Eastern Uttar Pradesh and West Bengal. The programme is being implemented on a 60:40 sharing basis between GOI and States for general states

and 90:10 sharing basis in NE State (Assam). An amount of Rs. 327.00 crore as central share has been earmarked for implementation of the programme during 2020-21.

Under this programme, interventions like (i) block demonstrations on rice and wheat in cluster mode; (ii) asset building activities such as construction of shallow tube wells, dug wells / bore wells etc. (iii) need based site-specific activities for facilitating petty works such as constructing/ renovation of irrigation channels/electricity for agricultural purposes and (iv) marketing support are also included.

During 2019-20, demonstrations on rice were conducted in 2.20 lakh ha area under line transplanting, SRI, stress tolerant varieties, hybrid rice and cropping system based demonstrations. Similarly, 0.45 lakh ha area was covered under wheat demonstration. Under asset building component, 2629 bore wells were installed, 778 self propelled paddy transplanters, 9439 pump sets, 5582 conoweeders, 24876 manual sprayers, 3355 power knapsack sprayers, 1253 paddy threshers, 784 multi crop threshers, 3835

rotavators, 2456 power tillers and 5.12 lakh meter of water carrying pipes were distributed. For site-specific activities, 104 check dams, 2 minor irrigation tank and 170 waterharvesting structures were constructed. For post harvest & marketing support, one marketing shed (100 % assistance), 28 godowns, 1564 improved low cost paddy and grain storage structures were constructed and 1563 farm family level paddy processing units and 154 mini rice mills were distributed among the farmers.



Chapter 8

National Food Security Mission (Oilseeds & Oilpalm) – NFSM (OS&OP) Erstwhile scheme National Mission on Oilseeds and Oil palm (NMOOP)

8.1 Overview of Edible Oil Production:

India is heavily dependent on imports to meet its edible oil requirements and is the largest importer of vegetable oils in the world followed by China and USA. Of all the imported edible oils, the share of palm oil is about 60% followed by soybean oil with a share of 25% and sunflower at 12%. Import growth in respect of edible oils during the last decades is about 174%. The import figure of edible oils during 2019-20 reveals that India imported a total of 13.35 million tonnes of vegetable oils costing Rs. 61,559 crore. The per capita consumption is around 19.00 to

19.80 kg per person per annum over the last five years. The year wise production, import and export of edible oils in the country is given in Table -1.

Domestic edible oil production has not been able to keep pace with the growth in consumption. During 2019-20, domestic production of edible oils was 10.65 million tonnes from both primary (oilseeds) and secondary sources (coconut, oil palm, rice bran oil, cotton seed oil and TBOs). The year wise demand and supply of edible oil during the last three years in the country are given below.

Table-1 Demand and Supply of Vegetable Oils in India

Year	Total domestic demand	Domestic availability	Import	Import (%) of total domestic demand	Value of import (Rs. Cr)	Per capita availability (kg/yr)	Million tonne
2015-16	23.48	8.63	14.85	63.24	68677	19.10	
2016-17	25.42	10.10	15.32	60.35	73048	18.75	
2017-18	24.97	10.38	14.59	58.43	74996	19.30	
2018-19	25.92	10.35	15.57	60.06	64852	19.80	
2019-20	24.00	10.65	13.35	55.63	61559	19.70	

Source: Directorate General of Commercial Intelligence & Statistics (Department of Commerce)

8.2 Overview of Oilseeds Production:

Oilseed cultivation is undertaken across the country in about 27.04 Million ha, largely under rainfed areas covering 72% and producing around 33.42 million tonnes of oilseeds during 2019-20. Nine oilseeds are the major source of vegetable oil in the

country. Among nine major oilseeds soybean (33.5%), groundnut (30%) and rapeseed & mustard (27%), contribute to more than 90% of total oilseeds production in the country. However, in terms of vegetable oil production mustard, soybean and groundnut contribute 27%, 34% and 30% respectively.

Due to the concerted efforts of the Government of India (GOI), the production of oilseeds has been maintained at around 31 million tonnes with increased productivity. During 2019-20, the highest production of 33.42 million tonnes was recorded from an area of 27.04 million ha yielding 1236 kg

per ha (Table-2) which was largely driven by productivity increase.

Madhya Pradesh, Rajasthan, Maharashtra and Gujarat are the major oilseeds producing states contributing more than 78% of oilseeds production in the country.

Table-2 Area Production and Yield of Oilseed Crops in India

Year	Area (Million ha)	Production (Million tonnes)	Yield (Kg/ha)
2012-13	26.48	30.94	1168
2013-14	28.05	32.74	1167
2014-15	25.59	27.51	1074
2015-16	26.08	25.25	968
2016-17	26.17	31.27	1194
2017-18	24.51	31.46	1284
2018-19	24.79	31.52	1271
2019-20*	27.04	33.42	1236

*4th advance estimate

The Oilseeds Division is mandated with the activities related to increasing production and productivity of oilseeds and area expansion under oil palm & TBOs for increasing domestic availability of edible oils.

8.3 On-going Scheme: National Food Security Mission (Oilseeds & Oil Palm) – NFSM (OS&OP)

With effect from 2018-19, the NFSM (OS&OP) is a part of NFSM. This scheme comprises of three sub-missions namely, NFSM-Oilseeds, NFSM-Oil Palm and NFSM-TBOs. The scheme is being implemented through the State Department of Agriculture/Horticulture in 28 States. Assistance under the various interventions of the scheme is focused to benefit the farmers and has direct impact on increasing farmers income involved in oilseed and oil palm cultivation. Most of the components are in the ratio of 60:40 %

(GOI : State) sharing for general states and 90:10 % for North East and Hilly states. A few components are 100 % funded by GOI to Central agencies, ICAR, KVKs/SAUs. The following is the action plan for 2020-21.

Oilseeds Production Target 2020-21

- I. To augment the availability of vegetable oils and to reduce the import of edible oils by increasing the production and productivity of oilseeds to 36.47 million tonnes and an yield of 1309 kg/ha.
- II. An area of around 70 lakh ha to be covered under Special Programme on rapeseed and mustard during Rabi 2020-21.
- III. An area of around 23000 ha to be covered under oil palm.
- IV. An area of around 2900 ha to be covered under TBOs namely olive, mahua, kokum, wild apricot.

8.4 Strategies of Oilseeds production

Strategies for enhancing the productivity (and profitability) of oilseed based production systems are prepared annually for oilseeds and oil palm in the country. The interventions/ strategies proposed in oilseeds are time tested with scale neutrality that can be grounded for enhancing the productivity of the oilseed based production system with necessary institutional support/ hand holding. The proposed strategies are categorized as follows.

- i. Horizontal (area expansion) and vertical (productivity increase) expansion of oilseeds crop.
- ii. Increasing seed production and distribution of newly released varieties.
- iii. Low cost technologies with high impact on productivity resulting in higher income.
- iv. Technologies with high impact that involve reasonable investment with high return on investment (ROI), with emphasis on eco-friendliness and high input use efficiency.
- v. Strategies with emphasis on quality improvement and value addition, leveraging technologies with a bearing on employment through skill/ entrepreneurship development.
- vi. Strategies to increase additional area and production of oilseeds through rice fallow, intercropping and crop diversification and in non traditional areas with focussed district/cluster approach.

8.5 Annual Action Plan of NFSM (OS&OP) during 2020-21:

NFSM (OS&OP) programme is being implemented in 28 states comprising of NFSM-Oilseeds in 28 states, NFSM-

Oilpalm in 14 states and NFSM-TBOs (Tree Borne Oilseeds) in 8 states involving 5 (five) Central seed producing agencies and, 6 (six) need based R&D projects through 5 R&D institutions with Budgetary Estimate (BE) of Rs.500 crore. The sub mission wise salient features are given below:

8.5.1 NFSM-Oilseeds:

Under this Mission, financial assistance is being provided for Seed Components (production & distribution of certified seeds, seed hubs and minikits,); Inputs (Plant Protection Equipments, bio-pesticides, distribution of micro-nutrients, bio-fertilizers, improved farm implements, pipes, sprinklers, seed storage bins, seed treatment drums) and Transfer of Technology through Block Demonstrations, Frontline Demonstrations (FLDs), Cluster Frontline Demonstrations (CFLDs), farmers and extension workers training etc. The scheme is being implemented through State Department of Agriculture. NFSM-Oilseeds is also supporting ICAR institutes for undertaking FLDs on oilseeds crops and ICAR-KVKs for organizing cluster demonstration on oilseeds.

The major interventions targeted under the oilseeds programme during the year 2020-21 are as follows:

- A total of 1.95 lakh qtls of seed production of oilseed crops.
- More than 1.56 lakh qtls of certified seed distribution.
- 1.89 lakh ha block demonstrations.
- 0.86 lakh ha Front Line Demonstration (FLD) & Cluster FLDs through ICAR and KVKs.
- 2686 farmers & officers training.
- Supply of soil ameliorants over an area of 4.33 lakh ha.

- Supply of PP chemicals/ Bio-pesticides/ weedicides/ micronutrient over an area of 2.61 lakh ha.
- Distribution of 0.50 lakh farm implements and PP equipments.
- Distribution of 3017 sprinklers and 60.92 lakh mt water carrying pipes.
- 35 oilseeds hubs have been established with a target of producing 60825 qtls of certified seeds through ICAR, SAUs and KVks.
- Oilseeds production of 25.73 million tonnes has been achieved in Kharif 2020-21 (1st Advance estimate, DES).

Year and Season wise oilseeds production target and achievement during 2014-15 to 2020-21						
Year	Target			Achievement		
	Kharif	Rabi	Total	Kharif	Rabi	Total
2014-15	22.00	11.00	33.00	19.22	8.29	27.51
2015-16	22.00	11.00	33.00	16.70	8.55	25.25
2016-17	23.50	11.50	35.00	21.53	9.75	31.28
2017-18	25.40	10.10	35.50	21.01	10.45	31.46
2018-19	25.50	10.50	36.00	20.67	10.84	31.52
2019-20*	25.84	10.26	36.10	22.32	11.11	33.43
2020-21** (Kharif)	26.06	10.42	36.48	25.73	-	25.73

* 4th Advance estimate, DES

**1st Advance estimate, DES

8.5.2 Seed Production, Minikits and FLDs during 2020-21:

In order to encourage the adoption of newly released varieties and improved agro-techniques in oilseed crops, support is provided under NFSM-Oilseeds to Central Agencies viz. National Seed Corporation Limited (NSC), Krishak Bharati Cooperative Limited (KRIBHCO), Hindustan Insecticides Limited (HIL) [includes National Fertilisers Limited (NFL)], National Agricultural Cooperative Marketing Federation of India Ltd. (NAFED), National Cooperative Consumer Federation (NCCF), Indian Farm Forestry Development Co-operative Ltd. (IFFDC) & KVSSL for procurement of breeder seed (B/S), production of foundation seed (F/S) and production certified seed (C/S),

and supply of seed minikits (Kharif/Rabi/Summer) during 2020-21. In addition, support is also provided for conduct of Front Line Demonstrations (FLDs) through ICAR/SAUs network. Seed minikits of oilseeds crops totaling 18,53,050 nos. (were supplied during Kharif and Rabi 2020-21, through Central Seed Producing Agencies.

A total of 9510 FLDs on improved varieties and agro-techniques of nine oilseeds crop (groundnut, soybean, castor, niger, sesame, rapeseed-mustard, linseed, safflower and sunflower) during Kharif-2020 and Rabi 2020-21 respectively, were conducted through ICAR-AICRP network. During Kharif/ Rabi/ Summer 2020-21, total of 86775 cluster FLDs have been planned through 592 KVks of ICAR in different states covering (groundnut,

soybean, rapeseed-mustard, sunflower, safflower, linseed, sesame, niger and castor) Kharif/Rabi/Summer 2020-21 oilseeds. 35

Oilseed Hubs have been established with a target of producing 60825 qtls. of certified seeds through ICAR, SAUs and KVks.

8.5.3 Targeting Rice Fallow Areas (TRFA) in six Eastern states and four other states:

The scheme of TRFA was launched in 15 districts of 6 Eastern states in Rabi, 2016-17 for utilization of rice fallows for cultivation of oilseeds in six Eastern states namely Assam, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal. During 2019-20, 4 new states namely Andhra Pradesh, Maharashtra, Karnataka & Tamil Nadu have been included under TRFA covering 75 districts and 7500 villages in 10 states with a production target of 3.50 lakh tonnes of oilseeds in the current year in 2 lakh hectare of area.

8.5.4 NFSM-(Oil Palm)

National Food Security Mission-Oil Palm (NFSM-OP) is dedicated to oil palm area expansion and productivity enhancement. NFSM-OP is being implemented in 14 states. Andhra Pradesh, Karnataka, Tamil Nadu, Odisha and Mizoram are major oil palm growing states.

Under NFSM-Oilpalm, financial assistance is being provided to the farmers @ 85% cost of planting material and @ 50% cost of other components such as maintenance cost of new plantations for four years, installation of drip-irrigation systems, diesel/electric pump-sets, bore-well/water harvesting structures/ponds, inputs for inter-cropping in oil palm (during gestation period), construction of vermi-compost units and purchasing of machinery & tools etc.

R&D: 100% support is being provided to Indian Institute of Oil Palm Research (IIOPR),

Pedavegi, Andhra Pradesh for Research & Development on oil palm for the following projects:

- Capacity building programs to extension officials and farmers for oil palm production technology
- Dissemination of oil palm production technology in vernacular languages through digital video films
- Design & development of oil palm crop doctor in vernacular language for dissemination of technology
- Optimization of procedure for sprout production and seed storage in oil palm for indigenous seed gardens
- Development of planting material for high oil yield by utilizing Elite Dura Mother Palms in Thodupuzha.
- Enhancing profitability of oil palm farmers through diagnostic advisory in nutrient management.

Major interventions of NFSM-Oil palm during 2020-21 are as follows:

- Additional area coverage of oil palm plantation of about 23000 ha.
- About 98814 ha area under maintenance and intercropping.
- Coverage of 3350 ha under drip irrigation
- Distribution of 786 pump sets & 419 bore wells.
- Farmers and officers training to 598 nos.

All these developmental efforts have resulted in area expansion under oil palm from 8585 ha in 1991-92 to 3.59 lakh ha by the end of March 2020. Similarly, the Fresh Fruit Bunches (FFBs) production and Crude Palm Oil (CPO) have increased from 21,233 MT and 1,134 MT respectively (1992-93) to 10.34 lakh (Provisional) and 1.63 lakh MT (Provisional)

respectively during the year 2019-20. At present, Andhra Pradesh, Karnataka, Tamil Nadu, Mizoram and Odisha are major oil palm growing states.

8.5.5 NFSM-Tree Borne Oilseeds (TBOs)

Assistance under NFSM-TBOs is provided to promote various TBOs namely simarouba, neem, jojoba, karanja, mahua, wild apricot, cheura, kokum, tung and olive having capability to grow and establish in varied agro-climatic conditions as well in the waste land of the country.

The interventions under NFSM-TBOs are integrated development of nurseries & plantation on wasteland, maintenance of TBOs plantation, incentives for undertaking intercropping with TBOs, Research and Development, distribution of pre-processing,

processing and oil extraction equipment, training of farmers, training of extension workers and local initiatives/contingency.

During 2020-21 NFSM-TBOs programme is being implemented in 8 states i.e Chhattisgarh, Jammu & Kashmir, Maharashtra, Mizoram, Rajasthan, Tamil Nadu, Tripura and Uttar Pradesh with plantation of TBOs in 2845 ha. area.

8.6. Budgetary Estimate (BE) and release:

During 2020-21, against the Budgetary Allocation of Rs.500.00.crore an amount of Rs. 377.36 crore has been released to the programme implementing states, Central agencies and R&D institutions as on 02.12.2020. The programme-wise allocation and release is given below:

(Rs. in crore)			
S.No.	NFSM (OS&OP)	Allocation (2020-21)	Release of fund
	States	3800	323.68
1.	i. NFSM-Oilseeds		112.51
	ii. NFSM-TRFA		38.33
	iii. NFSM- Special Programme R&M		143.04
	Total		293.88
2.	NFSM-Oil Palm		27.63
3.	NFSM-TBOs		2.17
	B. Central agencies/ R&D institutions	120.00	53.67
		500.00	377.36

8.7. Implementation of Direct Benefit Transfer (DBT)

Notifications for implementation of Direct Benefit Transfer (DBT) has been published vide SO 1343(E) dated 24th April, 2017. The portal has been created to facilitate the implementing states for updating the beneficiary details. The portal is used by the implementing states for uploading of the DBT

linked beneficiary details in the main NFSM DBT Portal. As on 02.12.2020, 2,89,442 no. of benefices are enrolled in DBT Portal.

8.8 Fund flow (%) under SCSP and TSP:

The release of fund under NFSM (OS&OP) programme is made to the states with category wise break-up for SC/ST and also there is a special mention in the release letter

that the funds earmarked for SC/ST category cannot be diverted for General category. Even while conveying the re-validation of previous years' unspent balance of fund to the states it has the specific mention of category-wise (SC/ST) break-up of amount that is to be utilized by the state.

8.9 Women beneficiaries:

While conveying the Budgetary allocation for Annual Action Plan to the States, 30% of allocation has been earmarked for women

beneficiaries/farmers at the level of state Government implementing the Scheme.

8.10 Extension activities

The Department is also organizing Kisan Melas, seminar, workshop, brain storming sessions, exhibitions for mass awareness of NFSM programme and activities among the stakeholders, including farmers. The details of major events and Agriculture Fairs (Kisan Mela) during 2018-19 & 2019-20 are as follows:

S. No.	Event	States
1	Farmers Fair-cum Exhibition on Groundnut 10.10.2019	Gujarat
2	Kisan Mela by NSC 29.02.2020	Bihar



Chapter 9

National Mission for Sustainable Agriculture (NMSA) & Pradhan Mantri Krishi Sinchayee Yojana (PMKSY)

9.1 Overview

National Mission for Sustainable Agriculture (NMSA) is one of the eight Missions outlined under the National Action Plan on Climate Change (NAPCC) and aims at promoting sustainable agriculture by devising appropriate adaptation strategies/dimensions. During the 12th Five Year Plan, these strategies/dimensions were embedded and mainstreamed into Missions/ Progammes /Schemes of the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) through a process of restructuring and convergence. NMSA as a programmatic intervention made operational from the year 2014-15 aims at making agriculture more productive, sustainable, remunerative and climate resilient by promoting location specific integrated/composite farming systems; soil and moisture conservation measures; comprehensive soil health management; efficient water management practices and mainstreaming rainfed technologies.

NMSA aims at promoting Sustainable Agriculture through climate change adaptation measures. The major thrust is enhancing agriculture productivity especially in rainfed areas focusing on integrated farming, soil health management and synergizing resource conservation. From the year 2018-19, NMSA is being implemented as a sub-mission/sub-umbrella scheme under the Umbrella Scheme of 'Green Revolution-Krishnernati Yojana'. The Centrally Sponsored and Central Sector Schemes of NMSA are as under:

A) Centrally Sponsored Schemes:

- Rainfed Area Development (RAD)
- Sub Mission on Agro Forestry (SMAF)
- National Bamboo Mission (NBM)
- Soil Health Management (SHM)
- Paramparagat Krishi Vikas Yojana (PKVY)

B) Central Sector Schemes:

- Soil and Land Use Survey of India (SLUSI)
- National Rainfed Area Authority (NRAA)
- Mission Organic Value Chain Development in North Eastern Region (MOVCDNER)
- National Centre of Organic Farming (NCOF)
- Central Fertilizer Quality Control and Training Institute (CFQC&TI)

9.2 Rainfed Farming System

Food grain production in the country accrues from approximately 139.50 million hectare of net area sown. Of this, 67.30 million hectare is net irrigated and the remaining area of about 72.20 million hectare is under rainfed conditions (as per Land Use Statistics at a Glance 2006-07 to 2015-16). Rainfed agriculture is complex, diverse and risk prone characterized by low levels of productivity and low input usage. Rainfed areas if managed properly have the potential to contribute

a larger share in the overall production of food grains in the country. In view of this, the Government of India has accorded very high priority to the holistic and sustainable development of rainfed areas through efficient use of water management at farm level and appropriate farming systems etc. In this context, the RFS division is implementing the Per Drop More Crop Component of the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY-PDMC) and Rainfed Area Development (RAD) component of the National Mission for Sustainable Agriculture (NMSA).

9.2.1 Per Drop More Crop Component of Pradhan Mantri Krishi Sinchayee Yojana (PMKSY-PDMC) Department of Agriculture, Cooperation & Farmers' Welfare is implementing the Per Drop More Crop component of the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY-PDMC), which is operational from 2015-16 in the country. The PMKSY- PDMC focuses on enhancing water use efficiency at farm level through Micro Irrigation viz Drip and Sprinkler Irrigation System. Besides promoting micro irrigation, this component also supports micro level water storage or water conservation/management activities as Other Interventions to supplement Micro Irrigation. From 2015-16, Central Assistance of Rs. 13332.23 crore has been released to States for implementation of PMKSY- PDMC which includes Rs. 1346.38 crore released during 2020-21 up to 30.12.2020. From 2015-16, Micro Irrigation area of 50.11 lakh ha has been covered in the country under PMKSY- PDMC which includes 2.22 lakh ha during 2020-21 till December 2020. During the year 2019-20, 11.72 lakh ha was brought under Micro Irrigation which is the highest coverage in a calendar year so far.

9.2.2 Micro Irrigation Fund (MIF) Union Finance Minister in the Union Budget 2017-

18 announced setting up of a dedicated Micro Irrigation Fund (MIF) to be instituted with NABARD with an initial corpus of Rs. 5000 crore. The objective of the fund is to facilitate the States in mobilizing resources for expanding coverage of Micro Irrigation by taking up special and innovative projects and also for incentivising micro irrigation beyond the provisions available under PMKSY-PDMC to encourage farmers to install micro irrigation systems. The Operational Guidelines including Memorandum of Agreement (MoA) of MIF have been circulated to the States to enable them to submit project proposals. The States have been encouraged to submit proposals for availing funds under MIF. The Steering Committee of MIF & NABARD has approved Grant of Loan of Rs 3955.33 crore to the Governments of Andhra Pradesh, Tamil Nadu, Haryana, Gujarat, West Bengal and Punjab during 2020-21 NABARD has released an amount of Rs. 1754.6 crores to the States of Tamil Nadu, Andhra Pradesh, Haryana and Gujarat. In addition, Steering Committee of MIF has approved the project proposal of Uttarakhand amounting to Rs 15.63 crores and submitted the loan application to NABARD for further necessary action. Interest Subvention of Rs. 21.58 cr has been released to NABARD till quarter ending December, 2020.

9.2.3 Rainfed Area Development (RAD) RAD is being implemented as a component of the National Mission for Sustainable Agriculture (NMSA) from the year 2014-15. RAD adopts an area based approach for development and conservation of natural resources through promoting Integrated Farming Systems (IFS). IFS focuses on multi cropping, rotational cropping, inter-cropping and mixed cropping practices with allied activities like horticulture, livestock, fishery, apiculture etc. to enable farmers not only in maximizing farm returns

for sustaining livelihood, but also to mitigate the impact of drought, flood or other extreme weather events. The benefits of Integrated Farming System (IFS) are as under: (a) Increasing agricultural productivity of rainfed areas in a sustainable manner by adopting an appropriate farming system based approach (b) To minimize the adverse impact of possible crop failure due to drought, flood or un-even rainfall distribution through diversified and composite farming systems (c) Enhancement of farmer's income and livelihood support for reduction of poverty in rainfed areas. The total area covered under NMSA-RAD since inception upto 31st March, 2020 is 4.97 lakh ha. As on 30.12.2020, an amount of Rs.80.29 crore has been released to the States for implementation of the programme during the current year. Since inception and up to 30.12.2020, an amount of Rs. 1387.13 crore has been released to States under RAD.

9.3 National Rainfed Area Authority (NRAA): NRAA was established as an attached office of DAC&FW on 3rd November, 2006. It is an 'Advisory Body' for policy and programme formulation and monitoring of programmes/activities relating to integrated development of degraded/rainfed areas which dominates the agricultural system of the country. On the recommendations of the Group of Secretaries, NRAA has also been given an additional mandate to provide technical inputs in planning and implementation of Pradhan Mantri Krishi Sinchayee Yojna (PMKSY) in rainfed areas for rain water conservation, watershed development, etc. and their management and suggest development plans for 150 most vulnerable rainfed districts. NRAA was allocated Rs. 3.85 crores during 2019-20.

Some of the major activities undertaken during the year 2020-21 by NRAA are:

- NRAA has brought out a Report, "Prioritization of Districts for Development Planning in India - A Composite Index based Approach". The Report has successfully ranked all the 670 rural districts of the country based on a composite index, and identified 168 districts (25% of the districts studied) as "high priority" rainfed districts" for intervention. The report has also identified priority districts based on natural resource index which are primarily highly water-stressed districts and require focused development strategies by the Government.
- So far NRAA has prepared drought proofing action plans for 24 most critical drought prone districts in consultation with the State governments of Rajasthan, Karnataka & Andhra Pradesh. As a precursor to rolling out of the drought proofing action plans in the states, training programmes for lead farmers and district officials in 14 districts have been organized so that the action plans could be rolled out smoothly. Piloting of drought proofing action plans have been taken up in 7 clusters of Andhra Pradesh and Karnataka with funding from RKVY-RAFTAR under supervision of NRAA.
- Being mandated with the idea of bringing global and international experiences for development of rainfed agriculture, NRAA with support from FAO rolled out three Technical Cooperation Projects. The three projects being implemented are: (i) Reviving traditional pasture routes in dry & arid parts of the country; (ii) Landscape based integrated rainfed agriculture systems for improved income and nutritional security through convergence; and (iii) Climate resilient sugarbeet based cropping system model for higher income in rainfed areas.

- It is observed that trees on farm land are completely damaged due to extreme climatic events like cyclone, flood, droughts etc. which are livelihood of many farmers, but no specific compensation exists for losses due to complete damage/uprooting of the trees. In order to cover "Tree on Farms" for assistance under SDRF/NDRF, a detailed proposal has been formulated involving various stake holders and eminent experts and submitted to DAC&FW for taking up with MHA for consideration.
- Project on identification of suitable genotypes for "Neem" based agroforestry systems, has been taken up with ICAR-CAFRI. This will help in scientific promotion of neem plantations in rainfed ecosystemstomeetcountry'srequirement for different usage including the Neem Coating of Urea. Optimization of DNA isolation from Neem Germplasm has been completed and the standardization of protocol for marker analysis to assess the neem genetic diversity is in progress.
- Watershed programmes being the primary tool for rainfed areas, on the request of DoLR, NRAA has revised the guidelines for new generation watershed projects. The draft guideline has been submitted to DoLR.
- NRAA has launched a learning course on "Optimising Available Water in Rainfed Agriculture" in collaboration with CSIRO, Australia and Revitalising Rainfed Agriculture Network (RRA-N). The Course intends to take the scientific tools and learnings of over a decade of Australian research and development experiences to mainstream development projects dealing with water management in rainfed areas. The Course is for 2 (two) years in half-yearly intervals. A 'Three

day Module' will be conducted every half year (4 such modules in 2 years) and after each session, the participants need to adopt/ use the tools in their fields, and report results and share with their Project teams. This course has been kicked off with first module on 10.12.2020 and around 50 participants from states of Odisha, Karnataka and Andhra Pradesh have been enrolled in the programme.

NRAA is engaged with ICAR institutes, state agricultural universities and other national institutes to drive the research agenda for rainfed agriculture and capacity building of stake holders. NRAA is also undertaking a study to suggest vulnerability ranking of districts across the country from the perspective of risk coverage; identifying compatible and non-compatible crops based on agroecology; and examining complications witnessed in implementation of agriculture insurance with suggestions for reforms.

9.4 Central Sector Scheme of Soil Conservation Training Centre Damodar Valley Corporation (DVC), Hazaribag (Non Plan): This Central Sector Scheme was created under Non-Plan for conducting training and capacity building including short orientation courses for soil & water conservation, land degradation, crop management, livelihood support through off farm activities, agro forestry, Integrated Farming System, Soil Health Management and Climate Change Adaptation and Mitigation in agriculture and allied sectors which are essential for strengthening capabilities of field functionaries. During the year 2019-20, thirteen training courses in the aforementioned areas have been conducted and 405 participants have been trained. Participants for the above training courses include officials of various State/ UT governments, Central Government Organisations, NGOs, leading farmers,

students & volunteers. During 2020-21, thirteen training programmes were planned with an outlay of Rs 60.00 lakh. However, no training programme could be conducted due to the prevailing COVID19 pandemic.

Natural Resource Management

9.5 National Bamboo Mission (NBM)

National Bamboo Mission was launched as a Centrally Sponsored Scheme in the year 2006-07 and continued till 2015-16. The NBM was limited to propagation and cultivation of bamboo species. Thereafter, NBM was restructured and launched during the year 2018-2019 for development of complete value chain, including focus on value addition, product development and market linkages.

9.5.1 Objectives:

- i. To increase the area under bamboo plantation in non-forest Government and private lands to supplement farm income and contribute towards resilience to climate change as well as availability of quality raw material requirement of industries. Bamboo plantations are to be promoted predominantly in farmers' fields, homesteads, community lands, arable wasteland and along irrigation canals, water bodies etc.
- ii. To improve post-harvest management through establishment of innovative primary processing units near the source of production, primary treatment and seasoning plants, preservation technologies and market infrastructure.
- iii. To promote product development keeping in view market demand, by assisting R&D, entrepreneurship & business models at micro, small and medium levels and feed bigger industry.

- iv. To rejuvenate the under developed bamboo industry in India.
- v. To promote skill development, capacity building and awareness generation for development of bamboo sector from production to market demand.
- vi. To realign efforts so as to reduce dependency on import of bamboo and bamboo products by way of improved productivity and suitability of domestic raw material for industry, so as to enhance income of the primary producers.

9.5.2 Salient Features

This scheme is an exclusive initiative focusing on the complete value chain to link bamboo growers to industry, starting from quality planting material, cultivation, seasoning, processing, product development to marketing etc. in an integrated manner. 14 Ministries/ Departments are associated in various aspects as per their allocation of business.

9.5.3 Coverage

The scheme is being implemented in 23 States: Arunachal Pradesh, Assam, Mizoram, Meghalaya, Tripura, Manipur, Sikkim, Nagaland, Madhya Pradesh, Maharashtra, Chhattisgarh, Odisha, Karnataka, Uttrakhand, Bihar, Jharkhand, Andhra Pradesh, Telangana, Gujarat, Tamil Nadu, Kerala, Himachal Pradesh and Uttar Pradesh.

9.5.4 Structure for monitoring and implementation

An Inter Ministerial Executive Committee (EC) chaired by Secretary (DAC&FW) oversees the implementation & monitoring of the Mission at the national level. It approves the Annual Action Plan (AAP) of the States and coordinates partnership, convergence & synergy among various Ministries/ Departments. 2 non official experts are also

members of the EC. State Level Executive Committee (SLEC) is constituted in the implementing states to oversee effective implementation of the programme.

9.5.5 Funding Pattern and release of funds

The funding pattern is 60:40 between Centre: State Govt. for all States except states of

NER and the hilly states of Uttrakhand and Himachal Pradesh where it is 90:10 fund sharing. It is 100% in case of UTs/ National Level Agencies viz. Bamboo Technology Support Groups.

The budget allocation and releases are summarized as follows:

(Rs. in crore)			
Year	BE	RE	Expenditure
2018-19	300.00	153.30	150.03
2019-20	150.00	87.00	84.51
2020-21 (31.12.2020)	110.00	94.00	51.18
Projection for January – March, 2021:			31.02

9.5.6 Mission Interventions & Physical Progress

The scheme covers all important aspects of the bamboo sector including Propagation and Cultivation of Bamboo, Promotion of bamboo treatment and preservation, Product Development and Processing, Promotion and Development of Infrastructure for Bamboo Market, Development of tools, equipment & machinery, Skill Development and awareness

campaign, Research & Development etc. These initiatives can help small and medium scale industries and entrepreneurs besides large scale industries such as construction, biofuel, fibre and textiles etc. 10 most important species from the commercial (industry) perspective have been identified for being raised by farmers to facilitate easy marketing. As per the information received from respective states the physical progress for the year 2019-20 has been as follows:

Sr. No.	Components		Achievement (as on 31.12.2020)		Projection for January – March, 2021
			2019-20	2020-21	
1	Propagation and Cultivation	Nursery (in nos.)	54	0	20
		Plantation (in ha)	7141	355	3216
2	Promotion of bamboo treatment and preservation (in nos.)		12	3	6
3	Product Development and Processing (in nos.)		47	10	28
4	Promotion and Development of Infrastructure for Bamboo Market (in nos.)		20	3	9
5	Development of tools, equipment & machinery (in nos.)		509	1	280
6	Skill Development and awareness campaign	Capacity Building Training (in no. of persons)	3275	1274	1375
		Workshop/ seminar/ trade fairs/exhibition (in nos.)	64	7	8
7	Research & Development (in nos.)		62	3	9

9.5.7 Initiatives Taken

Quality Planting Material

- 10 major commercially important bamboo species namely *Bambusa tulda*, *B. bambos*, *B. balcooa*, *B. cacharensis*, *B. polymorpha*, *B. nutans*, *Dendrocalamus asper*, *D. hamiltonii*, *Thyrostachys oliveri*, *Melocanna baccifera* have been identified so as to have market ready plantations and to supply raw material to industry. States can also take up plantations of other locally important species like *D. stocksii* in Tripura.
- For Quality Planting Material, NBM has formulated Guidelines for Accreditation of Bamboo Nurseries and Certification of Planting Material of Bamboo. North Eastern States have taken a lead in forming committees for the same and have started the accreditation of nurseries. Tripura has already documented all nurseries for accreditation. Madhya Pradesh has also made significant progress in accreditation of nurseries. This process will ensure availability of quality saplings, instill confidence in the growers of bamboo and help enhance productivity.
- Rain Forest Research Institute, Jorhat has been actively involved in providing quality mother plants, both vegetative and tissue culture, of known source and quality to the States for its mass multiplication. 5 years license agreement has been signed by Assam with RFRI for supply of QPM for multiplication in 9 Krishi Vigyan Kendras. RFRI has also given Tissue Culture planting material to Madhya Pradesh (to be mass propagated by a private lab Reva Floriculture in Indore), Chhattisgarh and the Indian Institute of Forest Genetics and Tree Breeding, Coimbatore.

Plantation

- A total area of 14980 ha bamboo plantations have been achieved so far since the launch of the restructured NBM. States have been directed to complete all plantations approved during 2020-21 and the spillover of previous years in the current monsoon, with due care for hygiene and community distancing in view of the Covid 19 pandemic.
- Arunachal Pradesh has taken a remarkable initiative by going for plantation of Moso bamboo over 600 Ha. This is the species China has been using for dominating raw material supply for the agarbatti industry. Moso can also be grown in Sikkim, Mizoram and Himachal Pradesh.
- 33 FPOs are proposed for formation under the recently approved scheme of DACFW for formation of 10,000 FPOs in the coming 5 years. Assam has innovated by engaging FPOs of SFAC for raising 585 ha of plantations.

Agarbatti Sector

- One of the objectives of NBM is to reduce dependency on import of bamboo and bamboo products. Two reports on the agarbatti sector (i) an in house study by NBM was submitted to PMO in 2018 and (ii) a study commissioned to IIFT gave an in-depth analysis of the agarbatti industry together with recommendations for revival. The report finds that agarbattis have huge potential as a manufacturing business because its demand is at an all-time high and specially during festivals. This finding was also shared with D/o Commerce and has apparently helped in a major policy decision, on 31st August, 2019 whereby the import policy for "Agarbatti" and other odoriferous preparations which operate by burning

(HS Code 33074100) and "Others" under Exim Code 33074900 of ITC (HS) 2017 – Schedule— 1 (Import Policy) was revised by placing it from the 'Free' to 'Restricted' category. Import Duty/ Tariff on HS Code 14011000 (Bamboos) was also uniformly raised to 25% under the Customs Tariff Act in June 2020. NBM States have been urged to take this as an opportunity to revive domestic units.

- NBM had taken note of this major concern much earlier with a 2-day intense deliberation involving 2 major players ITC and Cycle Brand and 5 major States namely Tripura, Assam, Madhya Pradesh, Maharashtra and Karnataka to deliberate and prepare business plans for agarbatti on 30/6/2019 & 1/7/2019. Further to bring States and industries on one plane to meet requirements a number of meetings have been held, the last one being a webinar on 26/6/2020 in which former Indian Ambassador to Vietnam also shared his experience and perspective on the issue.
- Tripura has established depots and set up new agarbatti stick factories with combined capacities of 5 tonnes per day. Another cluster and depot is being set up at Chakmaghat near the river head. Industry is partnering with NBM and States proactively to convert to complete Make in India shortly e.g Cycle Brand has entered into an agreement with the Assam Bamboo Mission. The traditional Kumarghat cluster of Tripura has been revived. The logistics issue is being overcome by the potential use of inland waterways, discussions for which were initiated with the Ministry of Shipping and Inland Waterways Authority of India, including cutting across Bangladesh.
- BIS is also in the process of formulation

of Standards for agarbatti sticks (traditionally hand rolled and machine rolled), premixed and white agarbatti.

Construction Sector

- For promotion of bamboo in the construction sector, BIS has formulated standards on structural use of bamboo, namely, IS 15912:2012 "Structural Design using bamboo-Code of Practice". The reference to this standard has also been incorporated in the National Building Code of India 2016. Revised and updated version of IS 15912 -2018 has been published. Provisions for use of bamboo based materials/panel products as walling, flooring, roofing and panels for walls and common roof covering/cladding materials have been included.
- NBM has requested Railways, CPWD, NBCC, Ministry of Rural Development, Ministry of Defence, Ministry of Civil Aviation to enhance use of bamboo in construction sectors. A webinar was also held to introduce NBCC, CPWD and MES to this new age material using bamboo as construction material.

Manufacture of Bamboo Wood and Boards

- Four major private firms for manufacturing of bamboo based construction material are operating from the North East namely Mutha Industries in Agartala, Timpack in Nongpoh Meghalaya, Biowalth ESES, Jagiroad Assam and Nanosteel Ltd Guwahati. There is tremendous scope for scaling up production if the demand increases and percolating the benefit down to bamboo growers and those associated with it at the primary processing stage. There is need of scaling up the use of the bamboo based construction material for different Government schemes.

- NBM has been discussing constantly with different stakeholders to understand the gaps and ways and means to promote this sector. NBM is also in close discussions with the Inland Waterways Authority of India for use of national waterways for transport of bamboo and bamboo produce from NER to rest of the country. The voyage from Sonamura cutting across Bangladesh has commenced. These routes will be very useful for transport of all nonperishable agri produce and in this instance bamboo and bamboo products.

Credit Linked back ended subsidy:

- To augment credit facility to the entrepreneurs associated with the bamboo sector and requiring financial assistance under NBM, guidelines on credit linked back ended subsidy have been communicated to all States so that financial institutions can be approached for credit facilities.

Research & Development under NBM

- Kerala Forest Research Institute (KFRI) is working on promoting indigenous supply of Litsea, a base raw material for preparation of jigget.
- Selection & development of superior culms for quality planting material was submitted by the Indian Council of Forestry Research and Education (ICFRE).
- A project on Development of Value Chain for Bamboo for mass multiplication, popularization in farmers field and industrial linkages in Central India was submitted by ICFRE.
- Geographic accessions of potentially important bamboo species collected for assessment of genetic diversity and selection of superior genotypes was submitted by KFRI.

- Generation of DNA barcodes for identification of commercially important bamboo species was submitted by KFRI.
- Northern India Textile Research Association (NITRA) project on Development of regenerated cellulosic fibre from Indian bamboo.

Skill Development

- Premier institutions like the National Institute of Design Bengaluru and Ahmedabad; North East Cane and Bamboo Development Council Assam, Rain Forest Research Institute (RFRI) Jorhat, Bamboo and Cane Development Institute Agartala, Export Promotion Council for Handicrafts etc are associating with National Bamboo Mission nationally and/ or State level in Skill Development.
- MoU is in the offing with the Handicraft Sector Skill Council and Furniture and Fittings SSC under the Skill India Mission. Discussions have also been held with Construction, Retail and Beauty Wellness SSCs also.

Other Initiatives

- A Workshop on Incubation Centres under NBM was organized on 11.06.19 at PUSA Krishi Incubator for participants from NBM implementing States so as to build capacity for the establishment of incubation centres in the states approved under NBM.
- A National Conference on Bamboo was organized on 22.10.2019 in NASC Complex, New Delhi. The conference was attended by the State Mission Directors (NBM), Research Institutes, industry and entrepreneurs in the bamboo sector. The conference covered aspects like investment and industrial development in the bamboo sector, access to credit facilities for bamboo

stakeholders, emerging markets for bamboo based products and use of inland waterways for transport. Sectoral discussions to premeditate and formulate recommendations on agarbatti, construction, fibre & paper, beauty & wellness and quality planting material sectors were also undertaken during the conference. An exhibition on different bamboo products was also organized as a side event to show case innovative products made by artisans of different states.

- Further, the National Bamboo Mission has been organizing webinars and consultations on various subjects such as strengthening of the agarbatti value chain, construction using bamboo building material, innovations in bamboo, new age construction using bamboo, bamboo based fibre, paper & pulp involving stakeholders including the representatives from industries to mobilize a synergetic effort to take the bamboo sector forward.
- A five year holistic Bamboo Development Plan for North Eastern States was prepared in consultation with States and shared with MoDoNER and NITI Aayog.
- A proposal for training the trainers of Afghanistan through the National Institute of Design (NID, Hyderabad) in topics viz., handicrafts, furniture, lifestyle products, structures and construction was submitted.
- The National Bamboo Mission conducted sectoral discussions pertaining to various aspects of bamboo based industry and farming with participation of subject experts, key persons in Ministries/ Departments/ Institutes/ States and progressive entrepreneurs and farmers, which are as follows:
 - ✓ A webinar on Strengthening of

Agarbatti Value Chain was held on 26-06-2020 by the National Bamboo Mission.

- ✓ A webinar (virtual) on Construction using Bamboo Building Material was held on 30-7-2020.
- ✓ A webinar on Innovations in Bamboo was held on 7-8-2020.
- ✓ A webinar on New Age Construction using Bamboo was held on October, 2020.
- ✓ An online (virtual) meeting was convened on 20.10.2020 to discuss and decide a broad roadmap and line of action for bamboo fiber, pulp and paper in India.

Externally Aided Initiatives

- On the recommendations of DEA and in consultation with NITI Aayog, a proposal of the Asian Development Bank (ADB) assisted umbrella project anchored in DACFW is being formulated as a part of their study of the North East Economic Corridor. Officers from M/o DONER were also part of the discussions in the meetings convened by NITI Aayog to discuss the outline of the proposal. Consultation with the states is in process by the ADB to tentatively identify the locations.
- A Preliminary Project Report (PPR) has been submitted through Department of Economic Affairs for the development of the Bamboo Sector in the North Eastern States through Technical Cooperation under JICA. It aims at bringing Japanese expertise on design, product development and branding in the bamboo sector and a create transformational impact on the whole bamboo sector in the North East. It includes design, product development and branding, skill development and

hand holding of artisans etc. States and premier institutions of the region such as Rain Forest Research Institute (RFRI), Export Promotion Council for Handicrafts (EPCH), Cane and Bamboo Technology Centre (CBTC), Indian Institute of Technology (IIT) Guwahati, Indian Institute of Management (IIM) Shillong, National Institute of Design (NID) Jorhat, Bamboo & Cane Development Institute (BCDI) Agartala are to be partnered in different activities appropriately.

- NITI Forum for the North East in its 2nd Meeting has made five key recommendations for boosting the economy including Bamboo, Tea, Tourism, Pisciculture and Dairy. Recommendations

related to links of the value chain viz. primary processing centres, incubation centres, treatment plants, common facility centres, clusters etc. to align with requirement of industry with forward linkages to bamboo plantations in the region taking into account a regional perspective are being addressed by NBM.

Gender Perspectives

- Women are equally encouraged for benefitting from the implementation of all components of the National Bamboo Mission. However, states are advised to earmark 30% of the allocated budget for women beneficiaries / farmers under the NBM.





9.6 Sub-Mission on Agroforestry (SMAF)

Agroforestry is known to have the potential to mitigate the effects of climate change through microclimate moderation, conservation of natural resources and creation of additional sources of livelihood and income opportunities. In order to make agriculture less vulnerable to climatic aberrations, the Government of India formulated the National Agroforestry Policy in 2014. The policy recommends for setting up of a Mission or Board to address development of the agroforestry sector in an organized manner. The Sub-Mission on Agroforestry (SMAF) under NMSA is an initiative to this end. The Sub-Mission on Agroforestry (SMAF) has been launched in 2016-17 to encourage and expand tree plantation on farm land, with the motto of "**Har Medh Par Ped**", along with crops/ cropping system. The Sub-Mission has the following broad objectives:

- To encourage and expand tree plantation in farm land
- To ensure availability of quality planting material
- To popularise various Agroforestry practices/models
- To create a database, information and knowledge support in the area of agroforestry.
- To provide extension and capacity building support to the agroforestry sector.

The scheme is being implemented in the States which have liberalized transit regulations for selected tree species, a pre requisite for Central assistance to facilitate an enabling environment for farmers to adopt tree plantation on their farm land along with crops. At present, the scheme is being implemented in 20 States namely Meghalaya, Mizoram, Nagaland, Andhra Pradesh, Bihar, Chhattisgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala,

Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and two UTs i.e Jammu & Kashmir and Ladakh.

The Mission is focused to increase tree cover to enhance carbon sequestration, climate resilience & risk management, enrichment of soil organic matter, availability of planting material etc. to help in creating additional sources of income to farmers and better livelihoods.

Under the Mission, multipurpose tree species with short, medium and long term returns are encouraged, so that farmers may get additional income at regular intervals from fruits, fodder, medicinal, timber, etc. species. Linkages with organizations like the National Medicinal Plant Board (NMPB), Central Silk Board, ICAR, wood based paper and plywood industries, etc. to explore the development of agroforestry in new sectors are being established. During the year, 20 demonstration units with location specific agroforestry models were established at KVKs to impart training and skill in various aspects of agroforestry to farmers and other stakeholders.

In order to create greater acceptance of the Mission among the farmers, DAC&FW is associated with the Indian Council of Forestry Research and Education (ICFRE) and Central Agroforestry Research Institute (CAFRI) for sharing their knowledge base and research findings in the context of production of quality planting material of commercially important species, good cultivation and harvesting practices supported with R&D interventions, product development, value addition and primary processing through market (industry) linkages and appropriate capacity building. The network of ICAR and ICFRE Institutes across the country would also enable partnering with States in reaching out to the farmers.

9.6.1 Financial Progress: (as on 31.12.2020):

Since 2016-17, total ₹121.04 Crore has been released to the implementing States/agencies. During the current year 2020-21, a sum of ₹ 16.08 Crore has been released as on 31.12.2020.

9.6.2 Physical Progress:

Under this scheme, an area of 68852.08 Ha has been brought under plantation, 706 nos. of nurseries have been established and about 302.508 lakh trees have been planted during the last four years (2016-17 to 2019-20) across 20 states & two UTs in which the SMAF

scheme is being implemented. The majority of species being planted include *Santalum album* (Sandal wood/Chandan), *Aegle marmelos* (Bael), *Azadirachta indica* (Neem), *Litsea glutinosa* (Bollygum), Poplar, Eucalyptus, *Dalbergia sissoo* (Indian rosewood/Shisham), *Terminalia arjuna* (Arjuna) etc.

Women Self Help Groups of Odisha: The women Self Help Group members in the backward regions of Odisha are being involved in the management of SMAF nurseries. Investment in skilling of women in best practices of raising quality planting materials is being done.



Training on Best Practices of SMAF Nursery Management at Kundra Block, Koraput District.



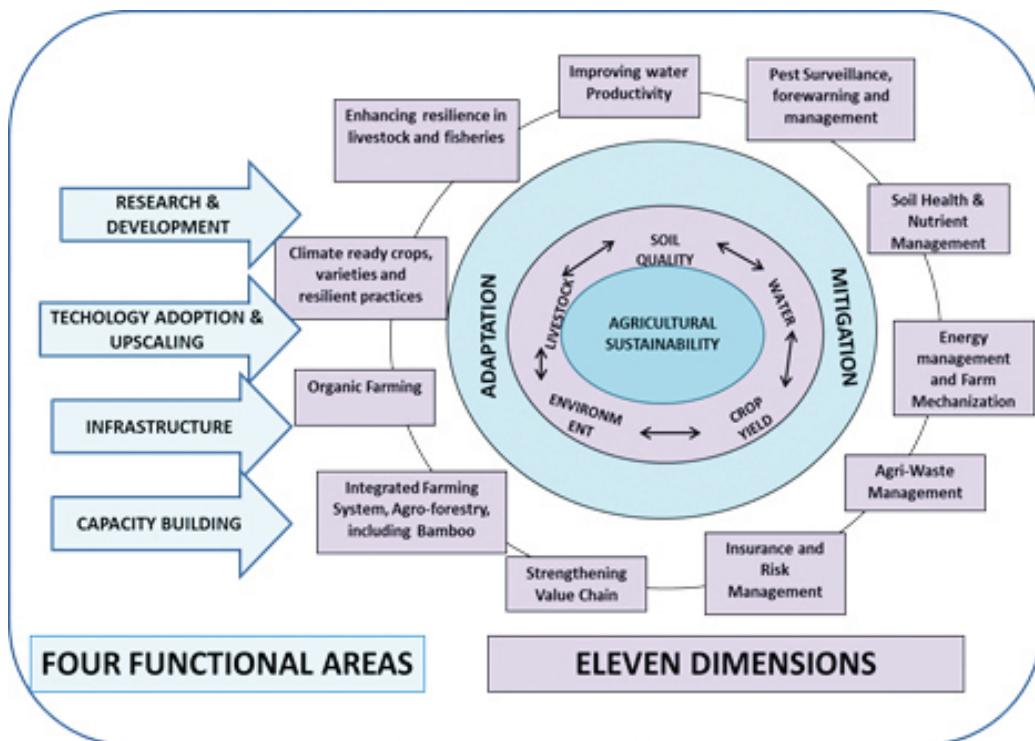
Image showing success story of Agroforestry (SMAF) in State of Gujarat:

9.6.3 Climate Change

Many national and international developments have taken place since the launch of NMSA. Understanding on the impact of climate change on Indian agriculture has improved and promising adaptation and mitigation strategies have been identified, which can help farmers to cope with climate change. However, agriculture in India as elsewhere globally continues to face challenges posed by climate variability including aberrant monsoons, heat waves, extreme weather events and degradation of natural resources. Climate resilience is being promoted through the research & technologies being developed by ICAR and disseminated by programmatic interventions of DAC&FW and DAHD&F.

The NMSA Strategy document was revised for the period 2018 to 2030 and has adopted

an integrated holistic approach focusing more on vulnerable regions, deploying the best bet technologies and practices for adaptation and mitigation and empowering farmers through capacity building and financial support. Implementation strategies are designed with a time frame up to 2030. Eleven key priority areas have been identified for programmatic interventions which can minimize the impact of climatic change and reduce risk. Each of these priority areas has to be analysed in the context of four functional areas, viz., Research and Development, Technology Adoption, Infrastructure and Capacity Building for identifying adaptation and mitigation measures in a multi-dimensional and cross sectoral matrix.



NMSA Strategy Document (2018-2030)

The programmatic interventions in these four functional areas covering eleven priority items will effectively address adaptation and mitigation needs of the complete value chain from production to marketing in agriculture and allied sectors.

Under NMSA progress on the following ten deliverables are periodically monitored and submitted to the Ministry of Environment, Forest and Climate Change (MoEF&CC).

S.No.	Deliverables	Achievement (2012-13 to 2020)
1	Area under organic farming (lakh ha)	31.62
2	Production of biofertilizers (lakh MT)	7.29
3	Precision Irrigation (Lakh ha)	64.40
4	SRI/ Direct Seeded Rice from Transplantation (lakh ha)	10.965
5	Crop diversification (lakh ha)	3.584
6	Additional area under plantation in arable land (lakh ha)	10.701
7	Climate Resilient Varieties (CRV) Identified/ Released (No.)	467.00
8 (a)	Identification of genotypes of crops with enhanced CO2 fixation potential and less water consumption & nutrients (No.)	137.00
8 (b)	Climate Resilient Genotypes with greater adaptation to drought, flood, salinity and high temperature (No.)	156.00
9	Coverage of milch animals under ration balancing programme (lakh No.)	29.581
10	Establishment of bypass protein feed making unit (Capacity of 50 MT per day) (No.)	700

*Achievement as reported by implementing programme Division/Department as on 30th November, 2020

Biennial Update Reports (BUR) is a mandatory requirement for submission to the United Nations Framework Convention on Climate Change (UNFCCC). BUR consists of updates of National Greenhouse Gas (GHG) inventories, including a National Inventory report and information on mitigation actions etc. It provides updates on actions undertaken by the country including the status of its GHG emissions and removals by sinks as well as on the actions to reduce emissions or enhance sinks. Ministry of Environment, Forests & Climate Change (MoEF&CC) has been entrusted with the task of preparation of Biennial Update Reports (BURs) and National Communication (NATCOM) which are submitted to the Secretariat of the UNFCCC at specific time intervals. Agriculture is one of the most important sectors for reporting under BUR. The first and second Biennial Updated Reports were submitted on 22nd January 2016 and 31st December 2018, respectively and included data on activities such as Micro-irrigation, Horticulture plantation, System of Rice Intensification etc. Climate Change cell at Natural Resource Management Division collates the data and input material from the implementing Divisions and the same is furnished to MoEF&CC for inclusion in the National GHG Inventory. The Third Biennial Update report has been finalized for submission to UNFCCC.

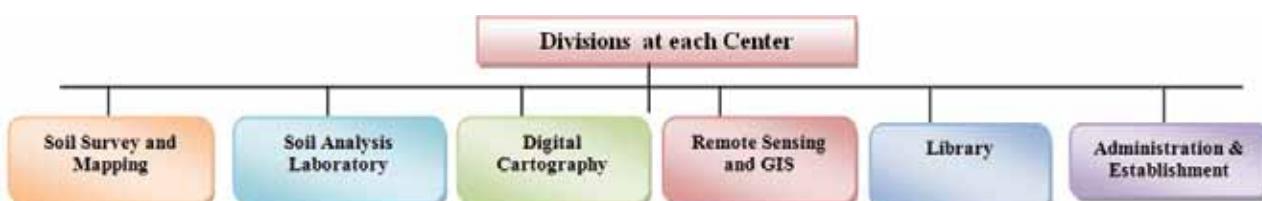
9.7 Soil and Land Use Survey of India (SLUSI)

Soil and Land Use Survey of India (SLUSI) was

established in 1958 is an apex organization in the country, which deals with Soil Survey and Land Resource Mapping. It is a subordinate office under the INM Division, Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture and Farmers Welfare.

The organization is primarily engaged in conducting soil survey of different intensities in order to provide scientific database for developmental programmes encompassing soil and water conservation planning, watershed development, scientific land use planning etc. The database generation of the organization is commensurate with the requirement of soil and land use information of various land-based development programmes.

The organization is well-equipped with Remote Sensing & Geographic Information System (GIS) laboratories for Image Analysis/ On-screen Image Interpretation along with modern facilities of soil analysis and cartography laboratories for acquisition of soil and land information for the development and management of digital spatial database. It operates soil survey activities from its Headquarters at New Delhi and seven centres located at Ahmedabad, Bengaluru, Hyderabad, Kolkata, Nagpur, Noida and Ranchi. SLUSI has also established a Remote Sensing Cell (RSC) at Noida for leveraging applications of advanced technologies in soil survey programmes.

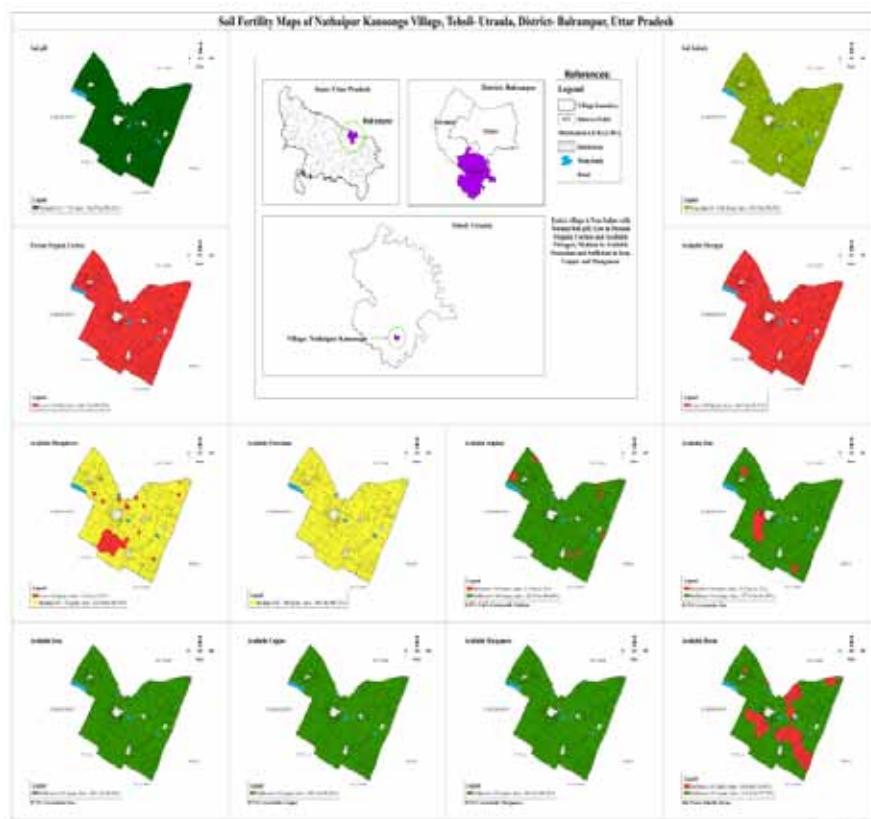


Achievements of SLUSI-

The organization has required information on soil & land characteristics for demarcation of priority areas in 261.150 million ha areas in various catchments of the country on reconnaissance level and has also acquired data in 19.65 million ha area under detailed soil survey in various states at 1:4,000 to 15,000 scale (presently at 1:10,000 Scale) using cadastral maps/ satellite data / aerial photographs. Similarly, SLUSI has also carried out Soil Resource Mapping (SRM) at 1:50,000 scale in area of 130.27 million ha areas in 265 districts of the country.

As a core component of the National Mission for Sustainable Agriculture (NMSA), SLUSI provides technical support for monitoring and evaluation of various national developmental programmes namely the **Soil Health Card Scheme and PMKSY**.

Village wise Soil Fertility Maps generated by SLUSI is as given below:



Major Activities during 2020-21 (as on 31st December, 2020)

➤ Generation of Soil Fertility Maps under the Soil Health Card (SHC) Scheme:

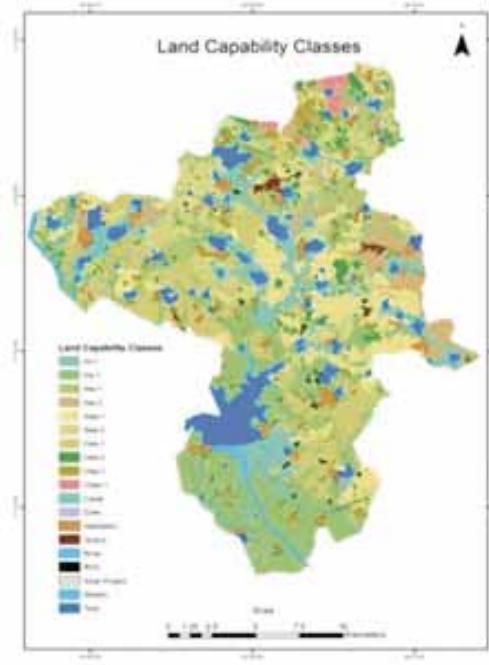
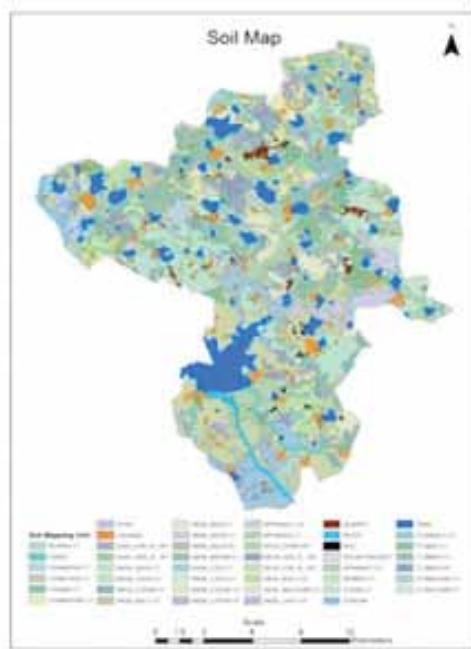
SLUSI is entrusted with the work of preparation of Soil Fertility Maps from Soil Health Card data in villages of 37 aspirational districts (NITI AYOG) in the country under Krishi Kalyan Abhiyan (KKA-I & II). So far, Soil Fertility Maps of 842 villages have been completed and submitted to the INM Division, DAC&FW. The soil fertility maps developed will be displayed in villages for spreading awareness about SHC and motivate farmers to use fertilizers judiciously. The work of preparation of soil fertility mapping of the remaining villages is under progress with collaboration of State Agriculture department and with SHC data provided by NIC.

➤ **Development of Detailed Soil Database in 37 Aspirational Districts:**

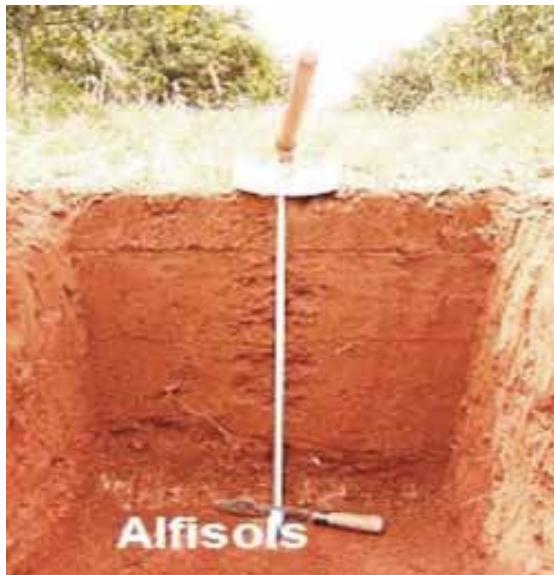
The organization is also entrusted with development of detailed soil database through Detailed Soil Survey and integrating the basic soil properties with Soil Survey Data and other aspects about the integration of Soil Data with Soil Fertility attributes to prepare integrated /comprehensive Maps of Villages in 37 aspirational districts of the country under the Krishi Kalyan Abhiyan

(KKA- I & II). The field work of 17 districts i.e. Narmada (Gujarat), Washim (Maharashtra), Khamman (Telangana), Fatehpur, Chitrakoot, Sonbhadra, Chandauli (U.P), Virudhnagar (Tamilnadu), Kalahandi, Koraput, Dhenkanal, Gajapati, Bolangir (Odisha), Dumka, Chatra, Giridih (Jharkhand) covering 17.95 lakh ha has been completed.

The soil map and land capability class map generated in the report published under Krishi Kalyan Abhiyan is given below:



Photographs below are showing the field survey work, i.e. digging of soil profile and studying of soil profile

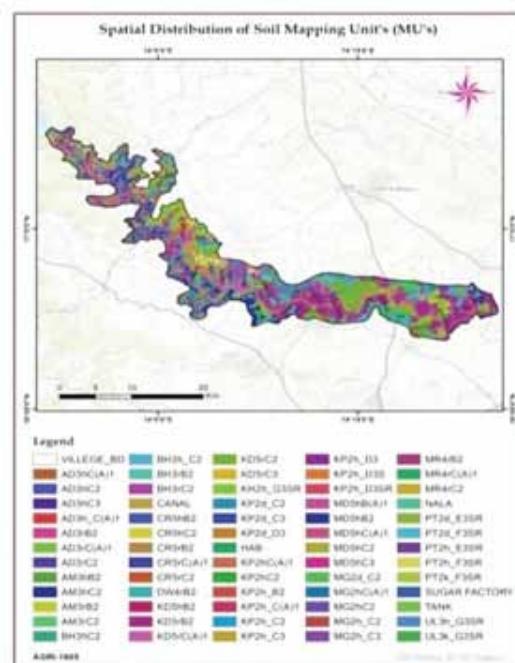
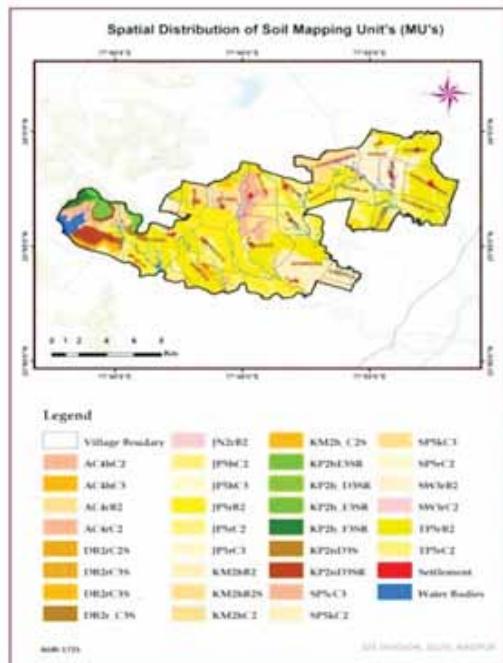


➤ **Pradhan Mantri Krishi Sinchai Yojana (PMKSY) Mission:**

Soil & Land Use Survey of India (SLUSI) has carried out Detailed Soil Survey along with monitoring & collating information on the preparation of crop plan in command areas of

completed irrigation projects under PMKSY (AIBP) mission. So far, SLUSI has completed the work of detailed soil data base generation for development of crop plan in 46 irrigation projects. The report generation work has been completed for 23 projects.

The soil map of some irrigation projects generated under PMKSY is as given below:



➤ **Outreach Program on Farmers Awareness on recently enacted Farm Act for Agriculture Reforms through Webinars:**

Soil & Land Use Survey of India (SLUSI) entrusted for creating awareness about the provisions of Farm Acts among large number of farmers across the country. For this, all centres of SLUSI are actively participating in an outreach program on Farmers Awareness by conducting webinars in different states of the country. Till now, the organization has established contact with 66498 number of farmers in states like Assam, Dadar & Nagar Haveli, Jharkhand, Karnataka, Maharashtra, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh, Gujarat, Kerala via Whats App/ Webinar meeting on virtual basis. About 16591 number of farmers have attended meetings through Webinars.

➤ **RRS Seamless Database Generation:**

In order to facilitate users on requirement of digital data on soils & land for characterizing the Micro Watersheds in the country, the work for seamless mosaicking of digital RRS database is in progress. All centres are carrying out mosaicking of area under their survey jurisdiction. Out of total 370 nos. of reports (spatial & non-spatial), the database of 195 nos. of reports have been generated till now.

The preparation report on seamless Rapid reconnaissance soil map has been completed for Tamil Nadu state which can serve as guide to the state user department to plan the soil user department to plan the soil and water conservation.

➤ **Consultancy Project:**

- I. Soil Resource Mapping on 1:50K for 7 districts of Manipur. The total cost of the project is Rs. 31,36,000/-.

The project is funded by North Eastern Space Applications Centre (NESAC), Department of Space, Government of India.

II. Soil Resource Atlas of India. Project finalization is under progress. The project will be funded by the National Remote Sensing Centre (NRSC), Indian Space Research Organization (ISRO), Government of India.

➤ **Publication :**

- I. Detailed Soil Survey: 37 reports
- II. Soil Resource Mapping: 05 reports
- III. Rapid Reconnaissance Survey: 01 report

➤ **Annual Physical Target for Soil Survey Work:**

Due to COVID-19 pandemic situation, field parties were not deployed in summer 2020. But in November, 2020 all the field parties moved for field ground truthing/survey work in different states in all the centres of the organisation and successfully achieved the field ground truthing/survey target of 7.17 lakh ha for DSS and 12.57 lakh ha for SRM. In spite of the COVID-19 situation in the country, efforts are being made to achieve the physical target of 28.80 lakh ha for DSS and 21.64 lakh ha for SRM by March, 2021.

➤ **Revenue Generation :**

Through sale of soil and microwatershed data: Rs. 49,169/-

Through consultancy projects: Rs. 5,04,977/-

➤ **Digitization:**

Under digital India initiative, SLUSI has completed the digitization of all its available

old reports & maps using GIS for sharing of soil and land use information in digital format for users. Under this initiative, the organization is involved in checking and correlation for seamless compiling of digitized reports & maps data on state/district level.

Estimates of the Activities to be carried out from November, 2020 to March, 2021:

➤ RRS Seamless Database Generation:

The work for seamless mosaicking of digital RRS database is in progress and all centres are carrying out mosaicking of area under their survey jurisdiction. The work of digital RRS database generation for the remaining 175 nos. of reports is targeted to be completed by March, 2021.

➤ Generation of Soil Fertility Maps under Soil Health Card (SHC) Scheme:

The work of preparation of soil fertility mapping of remaining villages is under progress with the collaboration of State Agriculture department and with SHC data provided by NIC.

➤ Development of Detailed Soil Database in 37 aspirational districts and Soil Resource database:

The remaining area of detailed soil survey (DSS) field survey (i.e. 21.63 lakh ha) is

targeted to be completed by March, 2021. The work of DSS will help in evaluating the potential of soils and integrating it with soil health card facility status map of villages to develop integrated soil maps for sustainable crop production. Field target of remaining 9.07 lakh ha for SRM is targeted to be completed by March, 2021.

➤ Pradhan Mantri Krishi Sinchai Yojana (PMKSY) Mission:

Monitoring work & collating information on the release of water in 99 irrigation projects under PMKSY mission is a continuous process. Generation of soil data & reports for the remaining 23 surveyed projects will be completed by March, 2021. The soil maps will be shared with State Agricultural Universities and RFS division of the Deptt. of Agriculture, Cooperation & Farmers Welfare, Govt. of India.

INTERNAL AUDIT REPORT

The Internal Audit Report in respect of SLUSI, HQ for the FY 2013-19 was conducted from 18.11.2019 to 22.11.2019. The Internal Audit Report was received vide letter No. Agri./IA/DLI/SLUSI, Pusa/2019-20/300-301 dated 28.09.2020

Audit Para No.	Audit Para	Reply/ Action
01	Target not Achieved-Justification Required	The Action Taken reports are under preparation and will be sent to CPAO shortly for dropping the Audit paras
02	Non-adjustment of contingency advances in tunes of Rs. 12,51,000/-	
03	Payment of Electricity Tax @5% on current bill to Tata Power Delhi Distribution Ltd.	
04	Irregularities in Travelling Allowance of Rs. 4,30,000 /-	
05	Procurement of Stationary items to the tunes of Rs. 5,75,566/- not through GeM during 2017-18	
06	Excess Expenditure over Budget Allocation -Ratification	

07	Excess Consumption of Petrol and Maintenance of Vehicle	
08	Excess Expenditure beyond delegated financial Power to Head of Office (Delegation of Financial Power Rules 1978)	
09	Non-Verification of Qualifying Service after 18 Years' Service or 05 Years before Retirement	
10	Cash Book not Maintained as per Receipt & Payment	
11	Physical Verification of Stores not up to date urgent action to be taken	
12	Non proper procedure followed in disposal of condemned items in the office of the Soil and Land Use Survey (SLUSI) (Rule 220 of GFR 2017)	

Integrated Nutrient Management (INM) & Organic Farming:

9.8 INM & Organic Farming:

Ministry of Agriculture, Cooperation and Farmers Welfare, Department of Agriculture, Cooperation & Farmers Welfare is implementing the INM & organic farming component under the National Mission for Sustainable Agriculture. Financial assistance on various components as below is provided:

- Setting up of mechanized fruit/ vegetable market waste/ agro waste compost production units.
- Setting up of state of the art liquid/ carrier.
- Setting up of bio-fertilizer and organic fertilizer testing laboratory or strengthening of existing laboratory under FCO.
- Promotion of organic inputs on the farmer's field.
- Support to research for development of organic package of practices specific to the State and cropping system.
- Setting up of separate Organic Agriculture Research and Teaching Institute (against specific proposal).

9.9 Assessment of Fertilizers:-

To ensure adequate availability of fertilizers, Department of Agriculture, Cooperation and

Farmers Welfare conducts Zonal Conferences with all the States for every Kharif and Rabi season in order to assess the requirement of fertilizers in all the States. After consultation with States, Department of Fertilizers and Lead Fertiliser suppliers etc., the total requirement for each State is assessed for the season.

Therefore, the States prepare month-wise requirement and the same is forwarded to the Department of Fertilisers. A monthly supply plan based on the month-wise requirement is made by the Department of Fertilisers for all States. Supply movement is jointly monitored by the Department of Agriculture & Cooperation and Department of Fertilisers with the States through weekly Video Conference.

(a) Kharif 2020 Season: Requirement of major fertilizers viz, Urea, DAP ,MOP, Complexes and SSP for Kharif 2020 season was assessed at 171.38 Lakh Metric Tonnes (LMT), 51.61 LMT, 20.22 LMT, 52.95 LMT and 26.42 respectively.

(b) Rabi 2020-21 Season: Requirement of major fertilizers viz, Urea, DAP, MOP, Complexes and SSP for Rabi 2020-21 season was assessed at 190.60 Lakh Metric Tonnes (LMT), 56.15 LMT, 15.29 LMT, 55.05 LMT and 25.03 LMT respectively.

Consumption of Chemical Fertilizers:- Consumption of major chemical fertilizers along with N,P,K nutrients since 2010-11 is given below:-

Year	Urea	DAP	MOP	Complex	Nitrogen (N)	Phosphate (P)	Potash (K)	Total (lakh tonnes)
(N+P+K)	281.12	108.70	39.31	97.64	165.58	80.50	35.14	281.22
2011-12	295.65	101.91	30.29	103.95	173.00	79.14	25.75	277.90
2012-13	300.02	91.54	22.11	75.27	168.21	66.53	20.62	255.36
2013-14	306.00	73.57	22.80	72.64	167.50	56.33	20.99	244.82
2014-15	306.10	76.26	28.53	82.78	169.46	60.98	25.32	255.76
2015-16	306.35	91.07	24.67	88.21	173.72	69.79	24.02	267.53
2016-17	296.14	89.64	28.63	84.14	167.35	67.05	25.08	259.49
2017-18	298.94	92.94	31.58	85.96	169.58	68.54	27.79	265.91
2018-19	313.98	92.08	29.52	90.88	176.28	69.68	27.79	273.75
2019-20	335.41	100.90	28.67	96.50	191.00	76.62	26.07	293.69

Source: State Government, NPK-mFMS Portal

9.10 Soil Health Management (SHM)

Soil Health Management (SHM) is one of the most important interventions under the National Mission for Sustainable Agriculture (NMSA). SHM aims at promoting Integrated Nutrient Management (INM) through judicious use of chemical fertilizers including secondary and micro nutrients in conjunction with organic manures and bio-fertilizers for improving soil health and its productivity; strengthening of soil and fertilizer testing facilities to provide soil test based recommendations to farmers for improving soil fertility; ensuring quality control requirements of fertilizers, bio-fertilizers and organic fertilizers under the Fertilizer Control Order, 1985; up-gradation of skill and knowledge of soil testing laboratory staff, extension staff and farmers through training and demonstrations etc.

Components under Soil Health include setting up of new static Soil Testing Laboratories (STLs), setting up of new Mobile STLs, strengthening of existing STLs, setting up of new Fertilizer Quality Control Laboratories (FQCL), strengthening of FQCL

apart from trainings & demonstration on balanced use of fertilizers, setting up of bio-fertilizer production units, setting up of bio-fertilizer & Organic Fertilizer Quality Control Laboratories.

Under the scheme, setting up of 15 new Static STLs, Strengthening of 116 STLs, Setting up of 1 FQCL, Strengthening of 6 FQCLs, Strengthening of 19 Bio-Fertilizer Units, setting up of 2 New Bio-Fertilizer and Organic Fertilizer testing Quality Control Laboratory (BOQCL), Strengthening of 2 BOQCL and promotion of Micronutrients in 2,18,676 ha have been sanctioned during 2019-20 under the SHM Scheme.

9.11 Soil Health Card

Soil Health Card was launched on 19th February, 2015 to provide 12 crore Soil Health Cards to farmers in the country. Soil Health Card provides information to farmers on soil nutrient status of their soil and recommendation on appropriate dosage of nutrients to be applied for improving soil health and its fertility. Soil Health Card was issued every 2 years for all land holdings in

the country so as to promote balanced and integrated use of plant nutrients. Under the scheme 2.53 crore soil samples were collected & tested and 10.74 crore Soil Health Cards distributed to farmers by States in the 1st Cycle (2015-17).

Similarly in the 2nd Cycle (2017-19), 2.73 crore soil samples were collected & tested and 11.83 crore Soil Health Cards were distributed to farmers.

During 2019-20, a pilot project 'Development of Model Villages' was taken up where soil sample collection was done at individual farm holding instead of sample collection at grids. In all, 6954 villages were identified by the States/UTs in which against the target of 22.51 lakh samples, 19.90 lakh samples were collected, 18.11 lakh samples analyzed and 18.19 lakh cards distributed to farmers.

Soil Health Card (SHC) Scheme during 2020-21:

In order to motivate farmers towards regular soil testing and adoption of soil testing recommendations, farmer's trainings in 98515 selected villages is to be organized by States through Krishi Vigyan Kendras (KVKs) / State Agricultural Universities (SAUs) during 2020-21. So far, 44,048 demonstrations and 18,708 trainings have been organized for farmers by States.

9.12 Financial Status

Funds amounting to Rs.36.13 crore have been released till 28th December, 2020 under Soil Health Management and Rs. 116.03 crore released under Soil Health Card. Comparison of funds released during the current year (till December) with that of previous years is shown below.

Year	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20	2020-21 (As on 28.12.2020)
Amount under Soil Health Management	62.97	44.39		42.17	78.31	46.99	36.13
Amount under Soil Health Card	23.89	96.44	133.66	152.77	237.40	112.44	116.03
Total	86.87	140.83	229.16	194.94	315.71	159.43	152.16

9.13 Paramparagat Krishi Vikas Yojana (PKVY)

1. Paramparagat Krishi Vikas Yojana (PKVY) is the first comprehensive scheme launched as a Centrally Sponsored Programme (CSP) from 2015-17, which now has been revised for the next 3 years. The scheme is implemented with a 90:10 (Govt: State Govt.) funding pattern in 8 NE states and 2 hilly states- Himachal Pradesh and Uttarakhand, 100% in Union Territories and 60:40 funding pattern in the remaining states of

the country. The new guidelines of the scheme have been uploaded on the website www.agricoop.nic.in

2. The PKVY Scheme is implemented in a cluster mode with min. 20 ha size and states have been asked to implement in cluster size of 1000 ha in plain areas and 500 ha in hilly areas to facilitate marketing of organic produce. All farmers are eligible but within a group, a farmer can avail benefit up to a maximum of 2 ha. and the limit of assistance is Rs.50, 000 per ha., out of which 62% i.e.,

Rs. 31,000 is given as incentive to a farmer for organic conversion, organic inputs, on farm inputs, production infrastructure, etc. provided directly through DBT during the conversion period of 3 years. The target of an area of around 4.10 lakh ha is proposed to be covered during the 3-year period of 2018-19 to 2020-21.

3. The components of the scheme are as follows:

- Programme implementation through support agencies for handholding and capacity building of farmers in the cluster and Regional Councils as certification endorsing agencies are well defined.
- PGS Certification through Regional Councils.
- Incentive to farmers through DBT.
- Value addition, marketing and publicity.

4. Physical and Financial Progress of the PKVY scheme:

- Phase I:** Total amount allocated for the scheme 2015-16 to 2017-18 is Rs 947 crore and fund released is Rs 751.92 crore till date. Under PKVY scheme, 237820 hectares of land has been converted into organic farming land 5, 94,550 farmers have benefited in 11891 clusters.
- Phase II:** Total amount allocated for the scheme from 2018-19 to 2020-21 is Rs 1185 crore and fund released is Rs 611.69 crore till date. Total area covered is 3.81 lakh ha and 9.52 lakh farmers have been mobilized in 19043 clusters.
- Under PKVY, a total 6.19 lakh ha area covered and 15.47 lakh farmers have been benefitted in 30934 clusters in

both phases.

5. Brand names under PKVY

States	Brand Name
Madhya Pradesh	Made in Mandla
Uttarakhand	Organic Uttarakhand
Tamil Nadu	Tamil Nadu Organic Product (TOP)
Maharashtra	Sahi Organic, Nasik Organic &Gadchirrolia Organic Farming
Jharkhand	Jaivik Jharkhand from the land of Jharkhand
Chhattisgarh	Aadim brand of BhoomiGadi FPO, Bastar Naturals
Punjab	Five Rivers
Tripura	Tripureshwari Fresh

6. Financial Status

Year	Budget Estimate(BE)	Revised Estimate (RE)	Release (Rs in crore)
2015-16	300.00	249.60	226.19
2016-17	297.00	165.96	152.82
2017-18	350.00	250.00	203.46
2018-19	360.00	335.91	329.46
2019-20	325.00	299.36	283.67
2020-21	500.00	-	168.01
Total	2132.00	1300.83	1363.61

7. Jaivikkheti portal: At present, the government is focusing more on marketing of production than production growth so that farmers can get better prices for their products including organic products. To promote organic products, a dedicated web portal- www.Jaivikkheti.in/ has also been created to encourage organic farming by directly connecting producers to the consumers to get a better price for their products. It is a dedicated portal for organic farming. This portal has been developed as both an information and a marketing platform. Details of organic farmers, input suppliers, certification agencies, marketing

agencies is available on this portal. Under this, the PKVY / PGS group can display capacity building information, marketing contacts / other groups and take advantage of direct marketing to sell their commodities to prospective buyers and consumers. A total of 3.57 lakh farmers have been registered under the Jaivikkheti portal and 289 products have been transacted.

8. Under the Namami Gange Programme total Rs 98.26 crore has been released for 6181 clusters and 1.24 lakh ha area covered.

9. Business tie-ups have been formed with various business groups for marketing of organic produce:

- M/s Adani Group
- M/s Home Burps
- Priyank Associate
- Advance Crop Care (India) Pvt. Ltd.
- Prasad Nutriments Pvt. Ltd.
- All Season Farm Fresh, Jamshedpur

10. Under natural farming, an area of 3.10 lakh ha area has been approved.

11. A new Guideline has been issued to States to send their proposal for Large Contiguous Traditional Organic Area Certification and Individual Farmers/ Small farmer group certification under the PKVY scheme.

12. **Best Practices Adopted by some of the States under PKVY:**

Jharkhand

- In the State, there is a provision of formation of Organic Grower Groups and their registration as a legal entity.
- There are Organic E-Rickshaw and Pickup Vans for Organic Grower Groups.

- Direct consumer linkages with “family farmer” concept.
- Service Providers have been entrusted to facilitate marketing activity of organic produce through MOU signed with Organic Farming Authority of Jharkhand (OFAJ).
- For the purpose of marketing of organic produce and assisting farmers, organic certification program has been extended for fourth years.
- Setting up of Organic Products Stall at prominent locations in Ranchi & also in each district head quarters.
- **Business tie-ups developed:** Priyank Associate; Arushi S.A. sales & Marketing Company; Advance Crop Care (India) Pvt. Ltd.; Prasad Nutriments Pvt. Ltd. and All Season Farm Fresh, Jamshedpur.

Uttarakhand

- Branding & packaging has been done for their organic products and procurement of organic produce is done through the MANDI -PARISHAD for which Rs. 10 crores was allotted as a revolving fund for procurement of organic produce.
- Time to time crop-wise/ area-wise buyer-seller meet is being organised and their existing market are local market, mandi, saras market, weekly haats at Dehradun, Rudraprayag, Nainital.
- **Marketing/Business Tie Ups:** With M/s Adani Group and M/s Home Burp, New Delhi to promote marketing of Organic products of Uttarakhand for more than 400 crores for the next five years.

Uttar Pradesh

- For the purpose of marketing of Organic Produce a Jaivik Kissan Bazar is being organised at Gomti Nagar, Lucknow on the 1st and 3rd Saturday and Sunday of every month. Two organic outlets have been opened at Jhansi and Banda for organic input supply and selling of organic produce.
- Regional Councils i.e. PRDF, JVES and APOF engaged under PKVY scheme are also directly procuring organic produce from clusters.
- E-commerce of organic produce is going on through JaivikKheti portal Farmers are also selling their organic produce in conferences, fairs organised at national, state and district level.
- Progressive farmers in clusters are selling their produce individually on demand and through door to door delivery.

Madhya Pradesh

- Farmers are being trained for value addition and marketing of Organic Produce through visit to Organic Trade Fairs like –Rastriya Krishi Samridhi Mela, Krishi Unnati Mela, District/ State Mela, Organic World Congress etc.
- Different platforms have been provided to various clusters for marketing of organic produce and awareness of organic product consumption like organic stalls at different Krishi Fairs organized at Grameen Haat, College of Agriculture, Indore and Indian Institute of Soyabean Research, Indore.
- Farmers of organic clusters are also selling their produce at Jaivik Setu a weekly organic fair which is

organised on Sunday. The Organic Cluster Umariya khurd in the name of Anandam Jaivik Sahkari Sanstha Maryadit Umaria khurd has been registered under the Co-operative Societies Act for marketing of their organic produce.

13. Certification mechanism under PKVY

In order to promote the domestic organic market and also to enable small and marginal farmers to have easy access to organic certification, a decentralized organic farming certification system called the Participatory Guarantee System -India (PGS-India) is implemented by the Department of Agriculture, Cooperation & Farmers Welfare.

Participatory Guarantee System of India is a quality assurance initiative that is locally relevant, emphasizes the participation of stakeholders, including producers and consumers and operates outside the frame of third party certification. PGS-INDIA Web Portal has been launched and has the following features:

1. Online facility for Registration; Approval; Documentation; Record of Inspection; and Certification Transparency in the certification process.
2. Creation of a database of: organic producers; area under PGS Certification.
3. Traceability of organic products:
 - No. of Regional Council registered - 304 nos
 - No of Local Groups registered - 35859 nos
 - Nos of farmers online registered/benefitted- 965375 nos (approx.)
 - The State implementing agency- Either Agriculture Deptt. / Horticulture.

14. Success Story - Mr. Sindhi Majhi (Farmer)

Mr. Sindhi Majhi belongs to Kukudagada village of Manusgaon Gram Panchayat of Kashipur



block of Rayagada District. He is a small farmer with a piece of land consisting of 2 acres. He was taking up only paddy cultivation under rain fed conditions in a year. During other seasons it remained fallow. From only one crop of paddy in rainy season, he was getting paddy worth Rs. 6000/- per year. With this scanty amount he was not able to maintain his family. Therefore every year he was migrating to other places for wage earning.

But the event took a turn when Sindhi Majhi was selected as a beneficiary during the first phase of PKVY project. Sindhi Majhi says, "Initially village meetings were organised by

Aragamee funded by PKVY where it was explained the importance of organic farming. A perennial stream flows in the adjacent farm which provides irrigation for round the year. It helped Mr. Sindhi to cultivate various vegetables like, tomato, brinjal, cauliflower, cabbage, radish, chili, cowpea, beans, onion and pumpkin as intercropping, this not only supplemented his family income by selling the surplus vegetables in the nearby market, but also provided a rich source of nutrition for his children. The income details of Sindhi Majhi in Kharif season have been mentioned below;

Intercropping in 0.50 acre					Annual Cropping in 0.50 acre for Food Security					
Sl. No.	Particulars	Quantity (kg.)		Total Quantity	Total Amount (Rs.)	Sl. No.	Particulars	Total Quantity (kg.)	Total Amount (Rs.)	Grand Total
		Consume	Sale							
1	Tomato	22 kg.	112 kg.	144 kg.	3350/-	1	Ragi	95 kg.	1520/-	
2	Brinjal	26 kg.	185 kg.	211 kg.	4220/-	2	Maize	168 kg.	1680/-	
3	Cabbage	34 kg.	252 kg.	286 kg.	4290/-	3	Pigeon Pea	112 kg.	5600/-	

4	Cauliflower	38 kg.	176 kg.	214 kg.	5350/-	4	Paddy	120kg.	1600/-	
5	Radish	16 bids.	88 bids.	104 bids.	1040/-					
6	Beans	26 kg.	92 kg.	118 kg.	2950/-					
7	Cow Pea	15 kg.	56 kg.	71 kg.	2130/-					
8	Pumpkin	21 kg.	87 kg.	108 kg.	1080/-					
Total				24950/-	Total			10400/-	35350/-	

He has been cultivating all the above crops by following the methods of organic farming. He is applying cow dung compost, green manures and liquid manures by using locally available resources. This has enhanced his confidence on sustainable agriculture. Apart from that he has also attended various training programs on sustainable agriculture and organic farming under PKVY Project conducted by Agragamee. During post training period, he took up all the following measures to increase the productivity of his land.

- Bundling of land across the slope to conserve soil and moisture and converted into small plots
- Added sufficient organic manures in all the plots and mixed with soil
- Prepared vermicompost and applied to crops
- Took up green manuring in the plots

With all these above activities, he increased the productivity of land. Now he has become inspiration to other farmers of his own village and that of neighbouring villages. However, following his initial success under organic activities, it is presumed that with these activities he would sustain his livelihood and enhance the economic standard of the family. He has become an exemplary progressive farmer in the locality. He has also planned to promote the said activities and link with

various agriculture and horticulture schemes of govt. The regular monitoring, follow up and valuable inputs of project officials will definitely fulfill the dream of Mr. Sindhi Majhi.

Case Study - 2 (Hard labor is the key to Success)

Shri. Gobardhan Disari, Village-Upargadla, G.P-Chikambo, Dasamantpur Block, Koraput District belongs to the schedule tribe's category and is from a poor family residing in the village of Upargadla. He has less than 5 acres (4.3 acres) of high land and the agriculture of this area is totally dependent on the monsoons with single crop like ragi, paddy, kangu, khedajona, maize etc, which were not enough to sustain the family. In the rest of the season he used to go out of the District or State as a migrant labor to arrange bread butter for his family. And it was very difficult to manage his family with his limited income. His family consists of old parents, wife and two children.

In the mean time in the financial year 2017-18 "AGRAGAMEE" has given a scope through capacity building by the PKVY programme of AGRAGAMEE, he started cultivating with only use of organic manure like handi khoto, vermin compost, jeeva mruta etc and traditional seeds for mix cropping. He did hard labour along with the family members in his lands. And gradually he got enough food (paddy, ragi and vegetables) from the harvest

throughout the year. In the project WADI he cultivated fruits orchard like cashew, mango, litchi etc, in his lands and he obtained all the plants from AGRAGAMEE and was able to grow two crops in a year through mix cropping. After two years from the implementation of the PKVY project in his land his income grew up to Rs. 31.745/. He sells his product in the local market in good price. And in the present day he is well and good with the financial conditions, able to provide better food to the family and also is able to take care of the health expenses of his poor parents and other members of the family.



Training Camp of Farmers' Field School at Tala Chobri Village in Mahulpatna G.P.

II. Success Story- Two progressive farmers practicing organic farming in Karnataka.

1. Suresh Desai

Village: Bedkihal, Chikodi Taluka, Belgaum District, Karnataka.

➤ Suresh Desai has achieved a production miracle in organic sugarcane farming through an innovative mulching system devised entirely on his own. His approach is that whatever elements are essential to sugarcane (or any other crop) should be supplied through the medium of a multi-mix of vegetation that has decomposed.

- This is achieved he says by microbial saturation, catalyzed by mulching, in the treated soil. For a land of around 40 gunte (1 acre), five kg horse-gram, 1 kg dhania, 200 grams rajgira, 200 grams black sesame, 200 grams white sesame, 500 grams methi, 1 kg black gram, 500 grams chili, 1 kg green gram, 500 grams beans are to be mixed and sown in the spaces between each rows of the main crop. When these germinate and some growth has been achieved, this supportive vegetation is cut down and mulched below the canopy of the plant of the main crop. Non-leguminous mulching biomass in which the C:N ratio is over 120 should be avoided, because it does not provide essential elements in the proportion needed.
- The tonnage of sugarcane achieved by Suresh Desai is substantially higher than that produced on chemical farms. Besides this, his methods have ensured a big saving in water usage for a crop which has always been known to be a water guzzler. Nine to 10 irrigations for the entire duration of the crop are now sufficient because the soil has increased its capacity for retention of water. The soil becomes rich in organic matter and in, as he calls it, a bio-film – a rich, loamy layer of soil that is densely populated, not only by earth fauna, such as earthworms, but one that is taken over by entire colonies of beneficial fungi, aiding and enhancing the process of decomposition.

- The most remarkable feat of Desai is that, besides being a successful practitioner of his principles, he communicates the science and art of his techniques in a simple lucid manner to one and all. His recent initiative in this direction is the development of an organic farming

training package that is being offered to farmers around Kholapur in Maharashtra.

- According to Mr. Desai there are four vital factors that affect crop yield: light, air, soil fertility and water. Farming has stressed so far on soil fertility and water, which though important play only part of the role in obtaining good yields. As a consequence, farmers have over used fertilisers and water. He believes that this over use is firstly not required and secondly causes growth of weeds, kills soil microorganisms leading to disease in crops. He was honoured for his work by the Government of Karnataka as Krishi Pandit.

2. Kailash Murthy

Shakti Nagar, Mysore – 570 019, Karnataka.

- In Doddinduvadi village, 10 km from Kollegal, Charmrajnagar District, a region which has been reeling under successive drought conditions, he now shows the way to despairing farmers: the path to success in farming with the least physical effort and the least expenditure; zero input and great output. ‘Not much investment is required as everything is left to nature,’ says Kailash. ‘Farming is not done by human beings as we think, but by tiny creatures like earthworms, ants, birds and microbes which are abundant in nature.’ A scoop of soil from his farm can be observed to be rich in earthworms and other soil life. The farmer follows the no interference rule to its maximum.
- A fallen tree is allowed to lie and rot and become a part of the soil. Unlike other farmers he does not like to disturb anything. The sight of some bananas eaten away by animals does not trouble this radical farmer who merely mutters under his breath that animals too have a

right to food. An abandoned well at one corner of the farm seems to be a home for snakes from the number of skin molts observed. Kailash refuses to disturb the snakes as well! Kailash has been experimenting with natural farming on his 6.5 acres land since 1988. His farm looks more like a diverse forest, with hundreds of varieties of plants including food crops and 60 varieties of edible plants with medicinal properties. The benefits of natural farming include savings in the cost of fertilizers and pesticides and even manual labour, as this kind of farming requires no ploughing or weeding.

- Nothing is borrowed from outside except electricity to pump up water for his farm. To prove that natural or zero farming should be promoted all over the country, Kailash conducted successful trials of growing three different varieties of paddy with an average yield of 30 quintals per acre of sown area.

9.14 Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)

Ministry of Agriculture and Farmers Welfare has launched a Central Sector Scheme entitled Mission Organic Value Chain Development for North Eastern Region for implementation in the states of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura.

The scheme aims at development of certified organic production in a value chain mode to link growers with consumers and to support the development of the value chain starting from inputs, seeds, certification and creation of facilities for collection, aggregation, processing, marketing and brand building initiatives. The scheme was approved with an outlay of Rs. 400 crore for three years.

Now, the scheme has further been extended for three years i.e. from 2017-18 to 2019-20 with an outlay of Rs. 400 crore for three years.

Assistance is provided for cluster development, on/off farm input production, supply of seeds/ planting materials, setting up of functional infrastructure, establishment of integrated processing unit, refrigerated transportation, pre-cooling /cold stores chamber, branding, labeling and packaging, hiring of space, hand holding, organic certification through third party, mobilization of farmers/ processors etc.

A. Major Components of MOVCDNER:

- Institution Development** – Creation of FPO/FPCs
- Value Chain Production** – Support for inputs, seeds, certification and commodity specific production and setting up of custom hiring centers
- Value Chain Processing** – Supporting FPO/FPCs for setting up of collection and aggregation centers, integrated processing units, pack houses, transportation vehicles and cold chain component
- Value Chain Marketing and Support Services** – Market facilitation, handholding, brand building, brand promotion and contract production

B. Physical and Financial Progress report of MOVCDNER scheme

Under the scheme Mission Organic Value Chain Development for North Eastern Region as on date 169 Farmer Producer Companies have been formed and registered including 83096 farmers and 79445 ha area.

Financial Progress

Year	RE	Expenditure (Rs. Crore)
2015-16 (Phase I)	125.00	112.11
2016-17	100.00	47.63
2017-18	100.00	66.22
2018-19 (Phase II)	182.93	174.78
2019-20	160.00	103.80
2020-21	-	88.55
Total	667.93	593.09

Summary Achievements

- Total funds released INR 593.09 crore
- 169 FPO/FPCs created covering 83,096 farmers and 79,445 ha area
- 141 processing and pack house entities created under FPO/FPCs and private ownership
- 40 transportation vehicles provided to FPO/FPCs
- 7 states have developed their own brands
- Marketing facilitation of ginger, turmeric, pineapple and king chilli have been a major success and FPCs have been supported with buyback agreements
- The export of king chilli sauce, pineapple (canned) and ginger flakes to UK, USA, Australia, France and Swaziland have already started
- Industry mentorship model with necessary infrastructure development with 3 FPCs
- Contract production of ginger and turmeric with 100% buyback assurance finalized for 3 FPOs in Arunachal Pradesh with Parvata Foods

- Contract cultivation of other high value crops such as perila, black thai ginger and calandula flowers is under process.

Marketing progress:

North Eastern States have developed brand names under MOVCDNER Scheme. The state wise information is as below:

S.No.	Name of the State	Brand Name
1	Arunachal Pradesh	Organic Arunachal
2	Manipur	Organic Manipur
3	Mizoram	Mission Organic Mizoram
4	Nagaland	Naga Organic
5	Sikkim	Sikkim Organic
6	Meghalaya	O Megha
7	Tripura	Tripura Organic

Under MOVCDNER scheme, there is provision of hiring prime spaces in the State to promote the sales and marketing of organic produce under the scheme. The State wise information is as below:

Retail Outlets

- Organic outlet in Guwahati, Assam.
- Two Organic outlets in Aizawl &Lengpui Airport, Mizoram.

- Kohima Organic outlet in Nagaland.
- Three Organic outlets in Sanjenthong (2) & Chingierong, Manipur.
- Organic Retail outlet in Arunachal Pradesh
- Organic Retail outlet in Tripura
- Organic store by Kendriya Bhandar.

Market Promotion

- NE States have participated in various exhibitions and Trade fairs, Organizing Buyer Seller meets, workshops, seminars & conferences.
- Activities & competitions with MyGov.
- Dissemination of MOVCDNER logo with North Eastern states, service providers, and with FPOs/FPCs developed and registered under MOVCDNER.
- Designed video spots and radio jingles with NFDC.
- Broadcasted video spots and radio jingles via social media channels of DAC&FW.

Recent Export Initiatives

Exports by Processors (Sourcing of raw material through FPO/FPC)

Date	Commodity	Quantity	Destination Country	Source FPC	Processor	State
January 2019	King Chilli Sauce	2 MT (total including chilli powder)	UK, USA	Progressive Organic Farmer Producer Company, Senapati	Naga Spices	Manipur
July 2019	Pineapple (Canned)	-	UK	Loulhoumi Organic Producer Co. Ltd., Churachandpur	Meira Foods	Manipur
January 2020	Ginger (Flakes)	4 MT	Australia	Peren District Organic Farmer Co-operative Society Ltd.	Agro- Link Enterprises, Dimapur	Nagaland

Domestic Market Linkages

Buyer	Commodity	Quantity	Source FPC	Remarks	Timeline
Big Basket	Ginger (Raw)	0.5 MT 2.5 MT 2 MT	➤ Eastern Ri-Bhoi FPC, Meghalaya ➤ Kohima District Organic FPO, Nagaland ➤ Aizawl District Organic Spices Producer Society, Mizoram	All 3 FPCs have been added as future vendors. Procurement will start again at next harvest season	January 2019 February 2019 March 2019
Big Basket	Pineapple	0.5 MT	Loulhoumi Organic Producer Co. Ltd., Churachandpur	Procurement on going	July 2019
Big Bazaar (Future Group)	Avocado	40 MT	Rinrumlang Organic Producer Co Ltd	Procurement on going. To continue till availability is there.	July 2019 onwards
Revanta Foods	Ginger	7 MT	Eastern RiBhoi FPC, Meghalaya Shilung Organic FPC, Manipur	Further procurements were cancelled due to COVID lockdown	February 2020
Sami Labs	Black Thai Ginger	6 acres contract cultivation. Target 80 acres in 2 years	From multiple FPCs in Manipur	Contract cultivation	1 st produce will be harvested in 2021

Success Stories in Forward Linkages under MOVCD



1. Subansiri Organic Kiwi Cardamom Farmers' Producer Company Limited, Lower Subansiri.

The FPC has major Crops Kiwi and Cardamom as primary crop.

a. Kiwi FIGs

Under the Initiative of the MOVCD Team in Arunachal Pradesh with support from NERAMAC, the organic kiwi growers of the ziro area were able to get a better price realization as their products are under organic conversation.



NERAMAC has successfully procured Grade A kiwis from the FPC at the rate of Rs. 110 Per Kilogram. Whereas the same grade of Kiwi was sold and procured from the state at the rate of Rs 90 per Kilogram. Hence, a huge markup in the price upto Rs. 20 per Kilogram owing to Organic intervention has encouraged the farmers in big way in the region.

b. Cardamom FIGs

The cardamom FIGs of under the company has also successfully sold some 20 MTs of Cardamom to **Quality Spice and Food Products Pvt. Ltd**, Mumbai. The BOD for the FPC has met the buyer during BioFach India, after various rounds of communication with assistance from Dept. and Service provider, the buyer had came to Arunachal for a field visit and quality assessment.



Cardamom Figs of Subansiri FPC with the owner of Quality Spice and Food Products Pvt. Ltd. First Lots of the cardamom



APMC cess exemption to the FPC by state government.

2. Another Milestone in the Forward Linkage arrangement by MOVCD NER Team in Arunachal Pradesh

Organic Products outlet of the state open at Naharlagun by 5FPCs under MOVCD

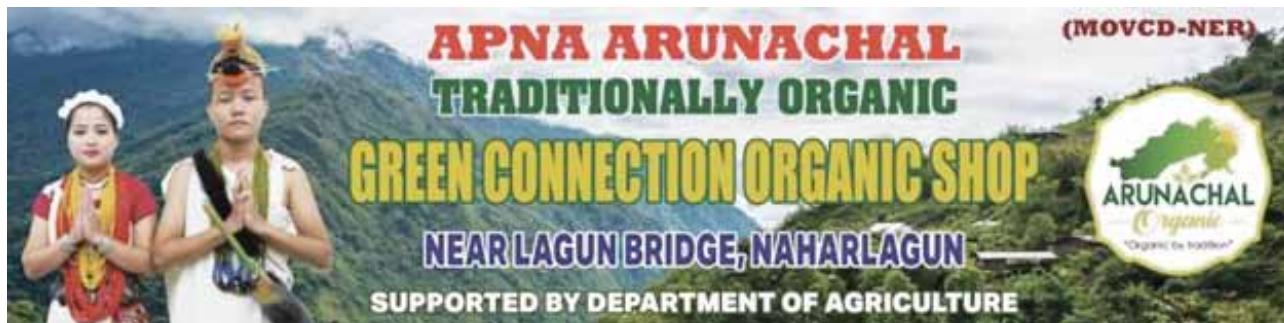
Under the Initiative of the State Organic Mission supported By Central sector

Schemes such as "Mission Organic Value chain development for north eastern region (MOVCD NER) an Organic outlet was set up to Address the foremost issue of marketing.

Marketing of the certified organic produce has been a challenge in the state as well as country, hence 5 Nos of FPCs has collaborated with North east India Multi state India Multistate Agri-Horti marketing & processing cooperative society to open a organic outlet in that name of **Green Connection**.

The outlet will become a single stop marketing and sales point for the Farmers producers companies (FPCs) and also function as meeting and sample display point for the buyer across the state.

Unveiling the first of its kind Outlet, Dr. Mohesh Chai, Minister Agriculture, Horticulture, AH&Vety, Fisheries and SYA, Government of Arunachal Pradesh visited the store, Interacted with various farmers and FPC members and in his key note address congratulate the Department of Agriculture for initiating such a innovative step for the famers, He also assure that the state government is focusing in post harvest Management and Supply chain linkage for better value realization of the farmers hard earn produce, He also spoke on the prime Minister vision on doubling of farmers income by 2022, for which the only option is revamping the marketing and post harvest management in the state and his Ministry is committed to welfare of the farming community.



Print Media releases and Hordings at Different locations across the state.

Dr Chai inaugurates organic products outlet

NAHARLAGUN, Dec 18: Agriculture Minister Dr. Moliseh Chai on Saturday inaugurated the first organic products outlet here under the State Organic Mission.

In his address, Dr Chai said the state government is focusing on post-harvest management and supply chain-linkage for better value realization of the farmers' produce.

Highlighting the Centre's aim to double the farmers' income by 2022, the minister said, "The only option of doubling the farmers' income is revamping the marketing and post-harvest management in the state."

Commending the agriculture department for initiating the innovative step

Sopin urged the people of Kamle to "continue the cleanliness process throughout the district". Sopin also asked the

Easier, on Friday, the RAENWA conducted a cleanliness awareness campaign from Pamlik to Godak (DPRO).

for the farmers, the minister said his ministry is committed to the welfare of the farming community.

Dr Chai also interacted with farmers and members of farmers-producers companies.

Among others, Agriculture Director Kessang

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Chapter 10

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)

10.1 Overview

Farmers' Welfare Division of this Department is entrusted with the formulation, implementation, monitoring and evaluation of two new Central Sector Schemes of the Government, namely, the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) and the Pradhan Mantri Kisan Maan Dhan Yojana (PM-KMY).

10.2 Pradhan Mantri Kisan Samman Nidhi (PM-KISAN):

10.2.1 Salient features

- The objective of the scheme is to augment the income of families of all land holding farmers subject to certain exclusion criteria relating to higher income status. The Scheme was formally launched on 24th February, 2019.
- The scheme was originally started for Small & Marginal Farmers (SMFs) only, possessing a combined holding of upto 2 hectares of land, but later w.e.f. 01.04.2019 the Scheme was extended to all farmers, irrespective of the size of their landholdings.
- The Scheme aims to provide a payment of Rs. 6000/- per year to be transferred in three equal installments of Rs. 2000/- each, every four months directly into the bank accounts of eligible landholding farmer families.
- For effective implementation of the Scheme, detailed Operational Guidelines have been issued which are amended from time-to-time as and when considered necessary.

- The Scheme is being implemented online through the Direct Benefit Transfer (DBT) mode for which an exclusive web-portal www.pmkisan.gov.in has been created.
- The identification of beneficiaries for the Scheme is the sole responsibility of the State/UT Governments which upload their necessary details on the PM-KISAN portal for enabling transfer of benefits to them.
- The Scheme is effective from 01.12.2018.
- The cut-off date with regard to the eligibility of farmers for the scheme is 01.02.2019.

10.2.2 Aims and objective of the Scheme

The scheme aims to supplement the financial needs of farmers to enable them to take care of expenses related to agriculture and allied activities as well as domestic needs. This would also protect them from falling in the clutches of moneylenders for meeting expenses and ensure their continuance in farming activities.

10.2.3 Beneficiaries of the Scheme

All land holding farmer families across the country having cultivable land, subject to certain exclusion criteria relating to higher income status are eligible for the benefit under the scheme.

10.2.4 Exclusion criteria:

The following categories of farmers are not eligible for benefit under the scheme:

- (i) All institutional land holders;and
- (ii) Farmer families in which one or more of its members belong to the following categories:
 - o Former and present holders of Constitutional posts
 - o Former and present Ministers/ State Ministers and former/present Members of the Lok Sabha/ Rajya Sabha/ State Legislative Assemblies/ State Legislative Councils, former and present Mayors of Municipal Corporations, former and present Chairpersons of District Panchayats.
 - o All serving or retired officers and employees of Central/ State Government Ministries /Offices/ Departments and its field units, Central or State PSEs and Attached Offices /Autonomous Institutions under Government as well as regular employees of the Local Bodies (Excluding Multi-Tasking Staff / Class IV/Group D employees).
 - o All superannuated/ retired pensioners whose monthly pension is Rs. 10,000/- or more (Excluding Multi-Tasking Staff/ Class IV/Group D employees)
 - o All persons who paid Income Tax in the last assessment year.
 - o Professionals like doctors, engineers, lawyers, chartered accountants and architects registered with professional bodies and carrying out professions by undertaking practice.

The number of eligible land holding farmer families has been estimated on the basis of projections of the Agricultural Census 2015-16 data for the year 2018-19. The total number of eligible beneficiaries has been estimated at 12.5 crore.

10.2.5 Mechanism of Implementation of the Scheme

- (i) A high level committee comprising of the Union Ministers of Finance, Agriculture and Land Resources has been constituted for making necessary modifications in the scheme within the overall financial parameters of income support approved by the Government for effective implementation.
- (ii) In some of the North-Eastern States, land ownership is community based. In such states, an alternate implementation mechanism of eligibility will be developed for the farmers and shall be implemented with the approval of a High Level Committee comprising of Ministers of the Ministry of Development of North-East Region (DoNER), Ministry of Rural Development (Department of Land Resources), Ministry of Agriculture & Farmers' Welfare and the concerned State Chief Minister or State nominated Minister.
- (iii) Special identification procedures have been devised for the States of Manipur and Nagaland in view of the community based land ownership in these states.
- (iv) Extension of benefit of the scheme to forest dweller tribes: The Government has decided to include tribals who have been given 'Pattas' under the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006, subject to other eligibility conditions.
- (v) **Jharkhand:** Jharkhand does not have updated land records, as for many decades the mutation of land records on the basis of succession have not been recorded. Further, transfer of land is also restricted in these areas. This posed a difficulty in the implementation of the Scheme in Jharkhand. Therefore, with the approval of the HLC, the following procedure shall be adopted for

identification of beneficiaries under the PM-KISAN Scheme in Jharkhand-

The farmer shall be asked to submit 'Vanshavali' (Lineage) linked to the entry of land record comprising his/her ancestor's name giving a chart of succession. This lineage chart shall be submitted before the Gram Sabha for calling objections. After approval of the Gram Sabha, the village level/circle level revenue officials will verify and authenticate the Vanshavali and possession of holding. This authenticated list of farmers after due verification of the succession chart shall be counter signed by the District Level Revenue authority. Farmers' names, subject to the exclusion criterion after following the aforementioned process, shall be uploaded on the PM-KISAN portal along with other required details for disbursement of benefit under the Scheme.

(vi) A National Level Review Committee under the Chairmanship of Cabinet Secretary with Secretaries of Department of Economic Affairs, Agriculture, Land Resources and Information Technology as members has been constituted to review and monitor implementation of the Scheme.

(vii) The States shall prepare database of eligible beneficiary landholder farmer families in the villages capturing the Name, Age, Gender, Category (SC/ ST), Aadhaar Number (in case Aadhaar Number has not been issued then Aadhaar Enrollment Number together with any other prescribed documents for purposes of identification such as Driving Licence, Voters' ID Card, NREGA Job Card or any other identification documents issued by Central/State/ UT Governments or their authorities, etc.), Bank Account Number and the Mobile Number of the beneficiaries. Responsibility of identifying the landholder

farmer family eligible for benefit under the scheme shall be of the State/UT Government. In case of beneficiaries in States/UTs of Assam, Meghalaya, J&K, Ladakh where Aadhaar number has not been issued to most of the citizens, Aadhaar number shall be collected for those beneficiaries where it is available and for others alternate prescribed documents can be collected for identity verification purposes. States/UTs shall ensure that there is no duplication of the payment transferred to eligible families. Speedy reconciliation in case of wrong/ incomplete bank details of the beneficiary should be ensured.

(viii) Possession of Aadhaar number for release of benefits under the Scheme was optional for release of the 1st Instalment. It became mandatory for release of the 2nd Instalment except for the States/UTs of Assam, Meghalaya and J&K where Aadhaar penetration is minuscule. Release of 3rd Instalment onwards w.e.f. 1st August, 2019 was to be made only on the basis of Aadhaar seeded database of all beneficiaries except in respect of the States of Assam, Meghalaya and UT of J&K and Ladakh which will remain exempted from this requirement till 31.3.2021. However, this deadline was relaxed by the Government till 30th November, 2019. The mandatory requirement of Aadhaar seeding of data of beneficiaries is applicable for release of benefits for the 4-monthly periods w.e.f. 1st December, 2019 onwards.

(ix) For the purpose of exclusion, States have to take a self-declaration from the beneficiaries. In the said self-declaration taken by the States/UT Governments, an undertaking should also be included wherein the consent of the beneficiaries should be

taken for using the Aadhaar number for verification of his eligibility for the scheme with the concerned agencies.

(x) The existing land-ownership system in the concerned State/UT will be used for identification of beneficiaries. Further, State/UT Governments would also expedite the progress of digitization of land records and linking the same with Aadhaar as well as bank details of the beneficiaries.

(xi) The lists of eligible beneficiaries would be published at the village level. Small and Marginal farmer families who are eligible but have been excluded should be provided an opportunity to represent their case.

(xii) The beneficiaries, whose names are uploaded on the PM-Kisan Portal by the State/UT Government in a particular 4-month period / trimester shall be entitled to receive benefit for that trimester and for further installments pertaining to the subsequent trimesters for that financial year.

10.2.6 Review, Monitoring and Grievance Redressal Mechanism

(i) There will be a stratified review/monitoring mechanism at the National, State and District Level. At the National level, the Review Committee will be headed by the Cabinet Secretary. The States shall notify the State and District Level Review / Monitoring Committee.

(ii) The States shall also notify State and District Level Grievance Redressal Monitoring Committees for looking into all the grievances related to implementation of the scheme. Any grievances or complaints which are received should be disposed off on merit preferably within two weeks' time.

10.2.7 Setting up of Project Monitoring Unit (PMU)

(i) A Project Monitoring Unit (PMU) at the Central level has been set up in DAC&FW. This PMU is tasked with the responsibility of overall monitoring of the scheme and is headed by the Chief Executive Officer (CEO). PMU also undertakes publicity campaigns (Information, Education and Communication-IEC).

(ii) Each State/UT Government has designated a Nodal Department for implementation of the scheme and coordinating with the Central Government with regard to implementation of the Income Support Scheme.

(iii) On the lines of PMU at the central level, States/UTs may consider setting up dedicated Project Monitoring Units at State/UT Level. The administrative charges payable to the States/UTs will be provided by the Government of India based on the volume of work and the number of beneficiaries and other related administrative expenses including cost to be incurred for procurement of stationery, field verification, filling of prescribed formats, their certification and its uploading as well as incentive for field functionaries, publicity, etc.

10.2.8 Release of funds

As on 05.01.2020, an amount of around Rs. 1,14,743.289 crores has been disbursed and around 10.697 crore farmers have been granted benefit under the scheme. The State-wise detail of beneficiaries & fund released under the scheme is at appended given below:

ANNEXURE**Payment Status for Beneficiaries Registered between 1st Dec 2018 to 31st March 2019**

State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated				
			1 st Installment	2 nd Installment	3 rd Installment	4 th Installment	5 th Installment
ANDAMAN AND NICOBAR ISLANDS	11,895	11,737	11,778	11,764	11,741	11,375	11,327
ANDHRA PRADESH	38,45,945	36,70,648	36,83,662	35,59,185	35,32,642	33,34,025	33,03,608
ARUNACHAL PRADESH	18,500	17,616	17,489	17,472	17,381	16,376	16,133
ASSAM	14,14,228	14,12,554	14,14,236	13,78,580	10,20,208	9,58,243	8,50,112
BIHAR	7,36,900	7,34,854	7,35,018	7,34,885	7,34,882	7,21,788	7,21,506
CHANDIGARH	271	266	267	267	267	251	250
CHHATTISGARH	2,68,202	2,52,116	2,52,748	2,52,640	2,49,358	2,20,213	2,19,625
DELHI	2,504	2,452	2,272	2,240	2,239	2,137	2,092
GOA	3,947	3,922	3,928	3,923	3,920	3,771	3,760
GUJARAT	31,47,106	31,06,765	31,20,198	31,15,000	31,08,240	29,61,102	29,51,089
HARYANA	12,53,982	12,32,108	12,36,198	12,34,924	12,33,323	11,94,924	11,86,439
HIMACHAL PRADESH	5,88,099	5,80,194	5,81,424	5,80,751	5,80,596	5,69,190	5,66,734
JAMMU AND KASHMIR	6,46,827	6,24,343	6,22,465	6,18,596	6,16,720	6,12,434	6,02,984
JHARKHAND	6,13,040	6,00,862	5,68,040	4,92,942	4,69,434	4,22,581	3,92,858
KARNATAKA	4,25,311	4,20,650	4,21,430	4,20,570	4,16,795	4,02,756	4,01,123
KERALA	26,13,780	25,85,642	25,87,714	25,80,761	25,78,487	24,32,006	24,22,229
LAKSHADWEEP	1,628	1,463	1,463	394	387	386	373
MADHYA PRADESH	21,582	19,570	17,910	17,354	17,017	10,933	10,783

MAHARASHTRA	42,35,038	41,71,137	41,29,378	40,83,446	40,54,315	39,32,134	38,74,352	37,96,267	35,38,844
MANIPUR	42,401	41,173	41,247	40,817	40,706	37,464	37,194	28,861	27,235
MEGHALAYA	26,385	25,086	25,127	25,126	25,107	25,107	25,013	24,973	24,899
MIZORAM	36,938	34,749	34,764	34,676	34,404	26,594	26,428	26,310	26,279
NAGALAND	43,519	40,600	40,883	40,534	40,523	37,400	35,893	35,727	35,546
ODISHA	9,84,118	9,73,382	9,74,435	9,55,963	6,17,418	5,81,253	5,48,095	5,43,884	4,77,866
PUDUCHERRY	6,362	6,345	6,352	6,339	6,303	6,193	6,186	6,141	5,858
PUNJAB	15,58,641	15,44,154	15,33,487	15,32,047	15,27,527	15,19,917	12,02,973	12,01,263	11,70,004
RAJASTHAN	30,11,471	29,74,366	29,48,192	29,45,223	29,00,611	26,53,946	26,44,133	26,30,106	26,00,622
SIKKIM	0	0	0	0	0	0	0	0	0
TAMIL NADU	27,73,646	27,27,838	27,13,172	27,07,940	27,07,250	26,24,602	26,13,940	26,05,859	25,52,006
TELANGANA	26,67,200	26,36,609	26,44,705	26,19,217	26,00,183	24,91,576	24,81,534	24,47,303	24,19,091
THE DADRA AND NAGAR HAVELI AND DAMAN AND DIU	2,663	1,967	2,643	2,637	2,591	2,529	2,521	1,583	1,571
TRIPURA	1,63,091	1,62,198	1,62,427	1,62,387	1,62,380	1,52,244	1,52,085	1,51,347	1,50,521
UTTAR PRADESH	1,53,92,871	1,43,76,876	1,42,62,234	1,39,67,749	1,39,17,635	1,29,62,768	1,27,28,197	1,24,19,584	1,20,97,299
UTTARAKHAND	5,91,366	5,82,498	5,84,384	5,83,657	5,83,227	5,56,226	5,53,383	5,52,096	5,42,347
WEST BENGAL	0	0	0	0	0	0	0	0	0
Total:	4,71,49,457	4,55,76,740	4,53,81,670	4,47,30,006	4,38,13,817	4,14,84,444	4,05,94,952	3,97,77,590	3,76,08,971

Payment Status for Beneficiaries Registered between 1st April 2019 to 31st July 2019

State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated					
			1 st Installment	2 nd Installment	3 rd Installment	4 th Installment	5 th Installment	6 th installment
ANDAMAN AND NICOBAR ISLANDS	4,202	4,114	4,124	4,106	4,021	3,924	3,876	3,746
ANDHRA PRADESH	8,40,501	7,96,567	7,98,972	7,96,519	7,81,120	6,82,691	6,65,071	1,55,046
ARUNACHAL PRADESH	9,391	8,892	8,930	8,928	8,370	8,319	8,240	7,987
ASSAM	13,54,345	13,52,661	12,34,426	9,80,953	9,80,623	9,43,979	7,14,527	0
BIHAR	26,55,901	26,44,242	26,44,507	26,44,197	25,97,267	25,96,028	25,93,983	24,79,413
CHANDIGARH	0	0	0	0	0	0	0	0
CHHATTISGARH	13,15,407	13,14,604	12,87,459	11,82,279	11,77,982	11,74,227	11,53,030	
DELHI	8,787	8,502	8,191	8,114	7,613	7,448	7,332	6,616
GOA	2,665	2,583	2,354	2,143	1,719	1,704	1,665	1,331
GUJARAT	15,76,168	15,59,330	15,64,426	15,62,029	15,20,123	15,15,468	15,07,984	13,12,230
HARYANA	2,10,675	2,06,404	2,06,655	2,06,630	2,05,427	2,04,862	2,04,268	1,98,794
HIMACHAL PRADESH	2,21,292	2,17,945	2,18,696	2,18,521	2,15,091	2,14,599	2,13,991	2,10,954
JAMMU AND KASHMIR	2,35,364	2,29,974	2,28,947	2,28,253	2,27,523	2,26,245	2,22,473	2,18,068
JHARKHAND	3,69,809	3,53,338	3,47,731	3,42,832	3,06,825	3,04,865	2,98,344	2,66,104
KARNATAKA	34,25,438	33,77,970	33,85,411	33,48,180	33,11,422	32,96,572	32,86,169	27,21,908
KERALA	2,81,962	2,78,573	2,79,227	2,78,615	2,61,647	2,60,871	2,59,837	2,52,895
LAKSHADWEEP	33	27	27	6	6	6	6	6
MADHYA PRADESH	42,99,926	42,57,384	42,68,284	42,66,061	42,20,736	42,14,289	41,95,714	35,50,444

MAHARASHTRA	33,70,016	33,32,357	33,06,600	32,94,192	32,11,497	32,05,231	31,81,266	29,95,406
MANIPUR	17,514	16,908	16,901	16,868	15,409	15,136	14,494	13,278
MEGHALAYA	12,742	12,283	12,319	12,317	12,314	12,290	12,269	12,266
MIZORAM	31,664	27,588	27,610	26,531	24,296	24,161	24,103	21,928
NAGALAND	67,262	64,732	65,043	65,003	60,507	60,285	60,179	58,090
ODISHA	22,47,861	21,29,780	21,04,932	17,76,953	16,67,903	14,23,931	14,18,208	13,36,142
PUDUCHERRY	2,726	2,718	2,717	2,710	2,677	2,675	2,661	2,569
PUNJAB	0	0	0	0	0	0	0	0
RAJASTHAN	18,39,312	18,06,829	17,52,595	17,48,812	15,78,110	15,73,871	15,68,302	14,22,093
SIKKIM	3,720	3,293	2,133	1,938	1,937	1,936	1,936	1,841
TAMIL NADU	6,30,847	6,21,261	6,16,380	6,15,971	6,08,912	6,08,204	6,06,954	5,55,691
TELANGANA	8,05,140	7,90,214	7,92,297	7,90,543	7,36,130	7,34,110	7,32,686	7,19,588
THE DADRA AND NAGAR HAVELI AND DAMAN AND DIU	677	545	673	626	611	608	5	0
TRIPURA	25,932	25,774	25,801	25,796	24,430	24,418	24,387	23,891
UTTAR PRADESH	46,45,557	42,18,732	41,95,057	39,47,211	37,85,007	37,43,891	36,76,344	32,30,533
UTTARAKHAND	75,036	73,994	74,283	74,227	70,712	70,542	70,216	67,341
WEST BENGAL	0	0	0	0	0	0	0	0
Total:	3,06,50,616	2,97,40,921	2,95,10,853	2,85,83,244	2,76,32,264	2,71,61,141	2,67,51,717	2,29,99,229

Payment Status for Beneficiaries Registered between 1 st August 2019 to 30 th November 2019						
State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated			
			1 st Installment	2 nd Installment	3 rd Installment	4 th Installment
ANDAMAN AND NICOBAR ISLANDS	614	602	602	599	598	587
ANDHRA PRADESH	2	2	2	2	2	2
ARUNACHAL PRADESH	23,131	21,531	20,904	20,811	20,745	20,669
ASSAM	3,16,038	3,15,959	63,088	63,028	59,638	0
BIHAR	16,23,761	16,15,921	16,15,053	15,86,503	15,86,311	15,85,579
CHANDIGARH	191	191	191	180	180	180
CHHATTISGARH	3,15,775	3,03,333	3,02,889	2,84,597	2,84,393	2,83,608
DELHI	1,734	1,675	1,631	1,607	1,600	1,587
GOA	511	509	511	488	487	480
GUJARAT	2,28,925	2,26,183	2,26,963	2,23,239	2,22,627	2,22,328
HARYANA	91,572	89,653	89,663	89,448	89,273	89,101
HIMACHAL PRADESH	60,805	60,047	60,191	60,043	59,971	59,823
JAMMU AND KASHMIR	90,232	88,900	88,637	88,460	88,123	87,554
JHARKHAND	8,06,253	7,53,462	7,29,686	6,75,856	6,58,191	6,48,030
KARNATAKA	11,19,270	10,91,522	10,91,253	10,80,960	10,79,454	10,71,348
KERALA	58,033	57,700	57,815	57,362	57,321	57,225
LAKSHADWEEP	38	33	33	33	33	33
MADHYA PRADESH	17,57,076	17,30,647	17,32,437	17,10,462	17,08,898	16,50,607

MAHARASHTRA	6,88,402	6,83,689	6,79,600	6,71,730	6,70,467	6,68,235	6,45,822
MANIPUR	45,840	45,026	45,112	44,748	44,625	41,475	39,283
MEGHALAYA	30,952	30,131	30,120	30,118	30,097	30,084	30,056
MIZORAM	10,865	9,035	9,033	8,155	8,128	7,963	7,923
NAGALAND	69,009	67,455	67,529	67,234	67,191	67,129	66,722
ODISHA	5,60,337	5,53,200	5,53,578	4,59,700	2,22,322	2,20,534	2,07,412
PUDUCHERRY	297	297	297	297	297	296	286
PUNJAB	8,11,435	8,01,668	7,96,750	7,94,606	6,95,723	6,94,841	6,86,211
RAJASTHAN	9,91,524	9,57,092	9,06,401	8,80,235	8,75,077	8,72,813	8,56,267
SIKKIM	7,330	5,048	3,854	3,467	3,464	3,464	3,289
TAMIL NADU	1,30,751	1,29,090	1,28,920	1,28,057	1,27,888	1,27,429	1,23,467
TELANGANA	1,38,729	1,34,387	1,34,390	1,22,780	1,22,352	1,20,108	1,18,188
THE DADRA AND NAGAR Haveli AND DAMAN AND DIU	189	175	188	188	188	158	149
TRIPURA	5,181	5,161	5,163	5,099	5,097	5,092	5,064
UTTAR PRADESH	20,17,055	18,51,309	18,40,607	16,88,379	16,69,381	16,51,000	16,13,649
UTTARAKHAND	50,498	50,124	50,221	49,877	49,828	49,626	48,761
WEST BENGAL	0	0	0	0	0	0	0
Total:	1,20,52,355	1,16,80,757	1,13,33,312	1,08,98,348	1,05,09,970	1,03,89,863	1,01,46,793

Payment Status for Beneficiaries Registered between 1 st December 2019 to 31 st March 2020						
State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated			
			1 st Installment	2 nd Installment	3 rd Installment	4 th Installment
ANDAMAN AND NICOBAR ISLANDS	20	21	22	23	24	25
ANDHRA PRADESH	269	259	259	259	252	0
ARUNACHAL PRADESH	7,81,867	7,41,044	7,24,070	7,15,949	6,61,091	6,48,337
ASSAM	21,502	20,670	20,244	20,235	20,178	20,102
BIHAR	31,842	31,847	5,953	3,924	0	0
CHANDIGARH	13,50,275	13,36,386	13,35,831	13,12,467	13,12,219	12,99,042
CHHATTISGARH	0	0	0	0	0	0
DELHI	4,72,888	4,40,012	4,39,052	4,13,981	4,13,698	4,06,325
GOA	1,818	1,777	1,710	1,666	1,660	574
GUJARAT	2,717	2,617	2,557	2,414	2,402	2,211
HARYANA	4,45,120	4,36,700	4,14,946	3,99,359	3,98,579	3,66,837
HIMACHAL PRADESH	1,58,079	1,55,860	1,55,514	1,55,419	1,55,247	1,52,129
JAMMU AND KASHMIR	36,811	36,198	36,209	36,185	35,533	34,871
JHARKHAND	93,665	91,871	91,675	90,899	90,126	85,509
KARNATAKA	18,244	18,098	17,536	15,639	9,429	7,794
KERALA	2,23,646	2,07,822	2,06,675	2,05,924	2,05,038	1,99,085
LAKSHADWEEP	85,002	84,704	84,682	84,640	84,551	84,013
	0	0	0	0	0	0

MADHYA PRADESH	12,94,178	12,30,558	12,02,785	11,94,112	11,89,417	11,36,045
MAHARASHTRA	16,46,053	16,38,506	16,35,412	16,33,516	16,27,402	15,62,737
MANIPUR	2,00,900	1,93,386	1,91,675	1,90,261	1,28,305	1,20,638
MEGHALAYA	41,388	40,751	40,310	40,305	40,292	40,286
MIZORAM	8,335	8,065	8,154	8,152	7,950	7,928
NAGALAND	26,347	25,740	25,743	25,741	25,738	25,705
ODISHA	2,858	2,792	274	241	239	223
PUDUCHERRY	1,145	1,139	1,138	1,130	1,128	1,112
PUNJAB	1,930	1,904	1,789	1,786	1,782	1,758
RAJASTHAN	7,40,781	7,14,811	6,74,394	6,37,235	6,33,982	6,02,715
SIKKIM	739	557	214	214	214	204
TAMIL NADU	3,42,968	3,37,543	3,35,718	3,35,462	3,34,689	3,12,126
TELANGANA	96,697	91,273	91,128	88,461	88,381	84,647
THE DADRA AND NAGAR HAVELI AND DAMAN AND DIU	170	124	169	169	104	102
TRIPURA	11,058	10,963	10,962	10,947	10,939	10,883
UTTAR PRADESH	16,31,919	15,19,136	15,17,616	14,38,242	14,23,140	13,84,053
UTTARAKHAND	62,126	61,873	61,863	61,854	61,757	60,515
WEST BENGAL	0	0	0	0	0	0
Total:	98,33,337	94,84,986	93,36,257	91,26,788	89,65,462	86,58,506

Payment Status for Beneficiaries Registered between 1 st April 2020 to 31 st July 2020					
State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated		
			1 st Installment	2 nd installment	3 rd installment
ANDAMAN AND NICOBAR ISLANDS	13	12	12	3	0
ANDHRA PRADESH	1,19,008	1,14,237	66,047	57,131	55,340
ARUNACHAL PRADESH	24,076	22,915	22,858	22,842	20,666
ASSAM	3,821	3,808	901	0	0
BIHAR	10,27,044	9,72,349	9,67,128	9,66,837	9,66,577
CHANDIGARH	0	0	0	0	0
CHHATTISGARH	4,73,988	4,07,138	3,91,964	3,91,301	3,69,255
DELHI	546	536	527	510	465
GOA	111	109	109	109	109
GUJARAT	3,56,277	3,45,391	3,40,272	3,25,535	3,12,868
HARYANA	92,363	90,973	90,828	90,800	90,409
HIMACHAL PRADESH	19,301	18,790	18,783	18,770	18,750
JAMMU AND KASHMIR	60,337	59,038	58,763	58,569	56,852
JHARKHAND	1,47,706	1,43,480	1,31,943	1,26,288	1,08,915
KARNATAKA	1,91,137	1,71,825	1,71,789	1,71,006	1,70,928
KERALA	2,95,333	2,87,983	2,81,484	2,79,747	2,79,376
LAKSHADWEEP	283	270	270	270	270
MADHYA PRADESH	6,09,009	5,76,012	5,33,754	5,32,135	5,14,348
MAHARASHTRA	6,12,628	6,01,823	5,73,750	5,72,366	5,61,997
MANIPUR	2,40,515	2,32,238	1,68,936	1,01,394	1,01,059
MEGHALAYA	56,927	56,038	55,993	55,988	55,978
MIZORAM	61,349	57,862	57,999	57,689	57,628
NAGALAND	2,634	2,534	2,534	2,533	2,533
ODISHA	50,051	42,872	40,668	40,248	34,169
PUDUCHERRY	309	308	282	281	278
PUNJAB	1,131	1,070	1,048	1,048	729

RAJASTHAN	4,21,874	3,79,000	3,34,644	3,33,222	3,27,891
SIKKIM	66	64	0	0	0
TAMIL NADU	7,32,969	7,12,038	6,75,398	6,70,566	1,40,194
TELANGANA	88,824	83,305	82,395	82,270	82,141
THE DADRA AND NAGAR HAVELI AND DAMAN AND DIU	25	24	21	21	21
TRIPURA	8,877	8,641	8,639	8,636	8,626
UTTAR PRADESH	21,16,114	18,55,720	17,59,537	17,00,612	16,85,681
UTTARAKHAND	51,819	50,725	50,664	50,520	50,368
WEST BENGAL	0	0	0	0	0
Total:	78,66,465	72,99,128	68,89,940	67,19,247	60,74,421

Payment Status for Beneficiaries Registered between 1 st August 2020 to 30 th November 2020				
State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated	
			1 st Installment	2 nd installment
ANDAMAN AND NICOBAR ISLANDS	33	31	20	0
ANDHRA PRADESH	1,83,229	1,67,296	60,767	14,417
ARUNACHAL PRADESH	1,600	1,537	1,534	1,530
ASSAM	156	144	0	0
BIHAR	4,76,855	4,20,764	3,81,398	3,52,989
CHANDIGARH	0	0	0	0
CHHATTISGARH	2,55,613	2,14,893	1,95,539	1,88,058
DELHI	461	447	410	76
GOA	779	741	731	729
GUJARAT	3,85,001	3,29,721	1,16,502	12,316
HARYANA	1,07,298	1,03,965	1,03,149	96,220
HIMACHAL PRADESH	16,493	15,432	15,329	14,507
JAMMU AND KASHMIR	41,754	39,796	36,840	34,623
JHARKHAND	9,00,340	8,65,456	7,73,229	6,77,302
KARNATAKA	2,04,652	1,25,549	98,850	81,001
KERALA	2,98,772	2,80,202	2,62,435	2,43,233
LAKSHADWEEP	0	0	0	0
MADHYA PRADESH	4,70,659	3,51,435	3,11,634	2,79,250
MAHARASHTRA	6,82,235	6,43,269	5,65,681	5,17,214
MANIPUR	34,843	33,458	32,448	20,667
MEGHALAYA	16,222	15,885	14,243	13,492
MIZORAM	11,163	8,545	8,237	8,224
NAGALAND	4,728	4,419	4,416	4,415
ODISHA	2,03,756	1,58,744	40,774	40,740
PUDUCHERRY	114	114	110	110
PUNJAB	565	543	522	509

RAJASTHAN	3,84,878	3,40,915	3,20,002	2,70,748
SIKKIM	1,047	536	0	0
TAMIL NADU	2,52,016	2,35,880	49,957	4,434
TELANGANA	1,06,668	97,394	92,077	87,926
THE DADRA AND NAGAR HAVELI AND DAMAN AND DIU	0	0	0	0
TRIPURA	10,857	10,050	9,978	9,955
UTTAR PRADESH	10,02,239	7,67,484	6,94,974	5,73,853
UTTARAKHAND	52,175	49,868	49,459	49,338
WEST BENGAL	0	0	0	0
Total:	61,07,201	52,84,513	42,41,245	35,97,876

Payment Status for Beneficiaries Registered between 1 st December 2020 to 31 st March 2020			
State Name	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated
			1 st Installment
ANDAMAN AND NICOBAR ISLANDS	27	0	0
ANDHRA PRADESH	21,490	8,760	976
ARUNACHAL PRADESH	9	2	0
ASSAM	640	162	0
BIHAR	74,858	31,542	19,666
CHANDIGARH	0	0	0
CHHATTISGARH	56,393	30,205	25,058
DELHI	38	23	0
GOA	50	33	6
GUJARAT	45,711	23,240	0
HARYANA	15,145	7,419	6,179
HIMACHAL PRADESH	1,743	1,122	44
JAMMU AND KASHMIR	8,052	3,039	73
JHARKHAND	89,439	49,884	1,354
KARNATAKA	49,799	22,666	2,201
KERALA	37,180	22,054	2,614
LAKSHADWEEP	0	0	0
MADHYA PRADESH	90,963	29,296	18,172
MAHARASHTRA	93,355	53,515	498
MANIPUR	1,728	1,204	0
MEGHALAYA	1,501	1,437	0
MIZORAM	2,527	1,120	22
NAGALAND	2	0	0
ODISHA	41	28	4
PUDUCHERRY	36	18	18
PUNJAB	562	223	0

RAJASTHAN	85,436	47,970	35,120
SIKKIM	0	0	0
TAMIL NADU	1	0	0
TELANGANA	22,292	10,524	29
THE DADRA AND NAGAR HAVELI AND DAMAN AND DIU	74	2	2
TRIPURA	5,760	2,494	2,284
UTTAR PRADESH	3,07,291	28,942	2
UTTARAKHAND	8,343	4,217	3,290
WEST BENGAL	0	0	0
Total:	10,20,486	3,81,141	1,17,612

10.3 Pradhan Mantri Kisan MaanDhan Yojana (PM-KMY)

10.3.1 Salient features

- (i) The Pradhan Mantri Kisan MaanDhan Yojana (PM-KMY) is an old age pension scheme for all land holding Small and Marginal Farmers (SMFs) in the country.
- (ii) The Scheme was formally launched on 12th September, 2019.
- (iii) The PM-KMY is a Central Sector Scheme administered by the Department of Agriculture, Cooperation & Farmers' Welfare, Ministry of Agriculture & Farmers' Welfare, Government of India in partnership with the Life Insurance Corporation of India (LIC).
- (iv) The LIC shall be the Pension Fund Manager and responsible for pension payout.
- (v) It is a voluntary and periodic contribution based pension system meant for all land holding Small and Marginal Farmers (SMFs) throughout the country, subject to the aforesaid exclusion criteria.
- (vi) The SMFs shall have the option to allow payment of his/her voluntary contribution to the Scheme from the financial benefits received by them from the PM-KISAN Scheme directly.
- (vii) The eligible SMFs who are desirous of using their PM-Kisan benefit for contributing for PM-KMY, will have to sign and submit an enrolment-cum-auto-debit-mandate form for giving their consent for auto-debiting their bank accounts in which their PM-Kisan benefits are credited, so that their contributions are automatically paid;
- (viii) The eligible SMFs who are not beneficiaries of PM-Kisan or who have not given consent to allow payment from the benefit of PM-Kisan shall submit an enrolment-cum-auto-debit mandate form for giving their consent to auto-debit a bank account which is normally used by them for bank transactions;
- (ix) The Central Government through the Department of Agriculture, Cooperation and Farmers' Welfare shall also contribute an equal amount as contributed by the eligible subscriber, to the Pension Fund. Account of such co-contributions shall be maintained separately by the LIC and these co-contributions along with fund earnings from time to time shall be utilized for pension payment on the date of vesting. Co-contributions would not be paid to subscribers in case of pre-mature exits. In such a case, the co-contributions along with fund earnings will be transferred back to the Pension Fund.
- (x) The State / UT Governments will have the option of sharing the burden of individual SMF beneficiary contribution.
- (xi) Monthly contributions will fall due on the same day every month as the enrolment date. The beneficiaries may also choose an option to pay their contributions on a quarterly, 4-monthly or half-yearly basis. Such contributions will fall due on the same day of such period as the date of enrollment;
- (xii) The amount of the monthly contribution shall range between Rs.55 to Rs.200

per month depending upon the age of entry of the farmers into the Scheme, as per the following contribution chart:

Entry Age	Superannuation Age	Member's contribution (Rs.)	Government's contribution (Rs.)	Total contribution (Rs.)
18	60	55	55	110
19	60	58	58	116
20	60	61	61	122
21	60	64	64	128
22	60	68	68	136
23	60	72	72	144
24	60	76	76	152
25	60	80	80	160
26	60	85	85	170
27	60	90	90	180
28	60	95	95	190
29	60	100	100	200
30	60	105	105	210
31	60	110	110	220
32	60	120	120	240
33	60	130	130	260
34	60	140	140	280
35	60	150	150	300
36	60	160	160	320
37	60	170	170	340
38	60	180	180	360
39	60	190	190	380
40	60	200	200	400

- (xiii) In case of death of the subscriber before the vesting date, the spouse of the subscriber shall have an option of continuing the scheme by payment of remaining contributions under the scheme, provided she/he is not already an SMF beneficiary of the scheme. The rate of contribution and vesting date shall remain the same. Pension accruals will be calculated as if the subscriber were alive on the vesting date. The same pension would be payable to the spouse. Upon death of the spouse after the vesting date, the pension corpus would be transferred back to the Pension Fund.
- (xiv) In case of death of the subscriber before the vesting date, if the spouse does not exercise the option of continuing under the scheme, then the subscribers' contributions along with fund interest earned or Savings Bank Interest whichever is higher would be payable to the spouse under the scheme.
- (xv) In case of death of the subscriber before the vesting date, if there is no spouse, then the subscribers' contributions along with fund interest earned or Savings Bank Interest, whichever is higher would be payable to the nominee/s under the scheme.

The co-contributions made by the Government along with fund interest earned after adjusting for difference between Savings Bank Interest payable and fund interest earned, if any will be credited back to the Pension Fund of the Government.

- (xvi) If a subscriber dies after the date of vesting, his/her spouse shall be entitled to receive fifty per cent of the pension received by such an eligible subscriber as Family Pension, provided she/he is not already an SMF beneficiary of the Scheme and such Family Pension shall be applicable only to the spouse.
- (xvii) After death of the subscriber as well as of his/her spouse, the corpus i.e. total accumulated contributions made by the subscriber and the Government shall be credited back to the fund.
- (xviii) The Eligible SMFs desirous of joining the scheme shall visit the nearest Common Service Centre (CSC) along with his Aadhaar card and bank passbook or account details.
- (xix) The Village Level Entrepreneur (VLE) present at the CSC shall complete the on-line registration process after taking details of Aadhaar number, name, date of birth, spouse and nominee particulars, mobile number (optional), address and a few other details.
- (xx) The on-line registration process includes capturing of bank account particulars and completion of an auto-debit mandate to the bank account of the subscriber for debiting the contribution amount to the subscriber's bank account every month. The demand will be made by the sponsor bank/IDBI on behalf of the LIC of India.
- (xxi) The data would be checked by the CSC

through manual verification of bank particulars from supporting documents, demographic authentications of Aadhaar,etc.

- (xxii) The mobile number (optional) given by the subscriber will be verified through an OTP verification process.
- (xxiii) The subscriber will authenticate the data in an on-line generated enrolment form by putting his / her signature.
- (xxiv) The VLE will upload a scanned copy of the signed enrolment-cum- debit mandate form and thereafter enable his/her online payment of initial contribution and give him a receipt.
- (xxv) At this stage, the online registration process would be complete and the system would generate a Pradhan Mantri Kisan Maan-Dhan(PM-KMY) Pension Card with a unique Pension Account Number prominently printed on it.
- (xxvi) Upon completion of the enrolment process and payment of initial contribution, an enrolment-cum-auto- debit-mandate form for taking consent of farmers for auto-debiting from their PM-KISAN benefits through their bank accounts will be generated and signed by the subscriber.
- (xxvii) The CSC-SPV decentralized office would scan the signed enrolment-cum- auto-debit mandate form and upload the same to the CSC-SPV system.
- (xxviii) Subsequent to this a pension card would be generated and given to the subscriber as proof of pension account having been opened.
- (xxix) The CSC-SPV Centre would also return the original enrolment-cum-auto- debit mandate form to the subscriber to be retained by him.

- (xxx) Data of subscribers enrolled would be transferred by CSC-SPV to LIC on T+1 (i.e. the next day) for further processing.
- (xxxi) The CSCs would charge Rs.30/- per beneficiary for enrolment for the above services. The DAC&FW would reimburse the above charge to CSC for which it would raise a consolidated invoice for the purpose.
- (xxxii) Eligible beneficiaries may alternatively also enroll themselves by contacting physically the State Nodal Officers (SNOs) (or agencies designated by them) in their respective districts. Eligible beneficiaries may alternatively also enroll themselves online through links provided on the appropriate websites.
- (xxxiii) The DAC&FW will facilitate transfer of bulk data of beneficiaries from the SNOs to the CSC-SPV for the purpose of bulk enrolment of SMFs and also cross-verification of PM-Kisan beneficiaries registered at CSCs.
- (xxxiv) A subscriber who desires to change the bank details or any other details which are incorrect, will approach CSC or VLE along with PM-KMY number, Aadhaar Card. However, the date of birth of the Subscriber cannot be changed at any time. The VLE at CSC will validate the credentials of the member on the payment of the amount/ fee as prescribed by the Government from time to time.
- (xxxv) For effective implementation of the Scheme, detailed Operational Guidelines have been issued which may be amended from time-to-time as and when considered necessary.

10.3.2 Aims and objective of the Schème

There have been a series of interventions for income and price support by the Government for farmers. However, there is a felt need to create a social security net for farmers as old age may result in loss of livelihood for many of them. Farming requires hard work in fields which becomes difficult at an advanced age. The problem is compounded in respect of Small and Marginal farmers as they have minimal or no savings to provide for old age. The Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY) provides for an assured monthly pension of Rs. 3000/- to all land holding Small and Marginal Farmers (SMFs), whether male or female, on attaining the age of 60 years. Farmers falling within the purview of the exclusion criteria are, however, not eligible for the benefit.

10.3.3 Beneficiaries of the Scheme

All Small and Marginal Farmers (SMFs) in all States and Union Territories, and who do not fall within the purview of the exclusion criteria, who are of the age of 18 years and above and upto the age of 40 years are eligible to avail benefits of this Scheme by joining it.

10.3.4 Exclusion criteria:

The following categories of farmers have been brought under the exclusion criteria:

- (i) SMFs covered under any other statutory social security schemes such as the National Pension Scheme (NPS), Employees' State Insurance Corporation Scheme, Employees' Fund Organization Scheme etc.
- (ii) Farmers who have opted for the Pradhan Mantri ShramYogi MaanDhanYojana (PM-SYM) administered by the Ministry of Labour & Employment

- (iii) Farmers who have opted for Pradhan Mantri Laghu Vyapari Maan-dhan Yojana (PM-LVM) administered by the Ministry of Labour & Employment
- (iv) Further, the following categories of beneficiaries of higher economic status shall not be eligible for benefits under the scheme:
 - All institutional landholders
 - Former and present holders of constitutional posts
 - Former and present Ministers/ State Ministers and former/present Members of the Lok Sabha/ Rajya Sabha/ State Legislative Assemblies/ State Legislative Councils, former and present Mayors of Municipal Corporations, former and present Chairpersons of District Panchayats.
 - All serving or retired officers and employees of the Central/ State Government Ministries/ Offices/ Departments and their field units, Central or State PSEs and Attached offices/ Autonomous Institutions under the Government as well as regular employees of the Local Bodies (Excluding Multi Tasking Staff / Class IV/Group D employees)
 - All persons who paid Income Tax in the last assessment year.
 - Professionals like doctors, engineers, lawyers, chartered accountant and architects registered with Professional bodies and carrying out profession by undertaking practice.

For the purpose of exclusion State/UT Government can certify the eligibility of the beneficiary based on self declaration by the beneficiaries. In case the beneficiary is not available /does not reside in the

village, State/UT Governments may consider certification based on a declaration by other adult members of his/her family. In case of incorrect self declaration, beneficiary shall not be eligible for financial benefit under the Scheme.

10.3.5 Mechanism of Implementation of the Scheme

- a) The Common Service Centres (CSCs) under the Ministry of Electronics and Information Technology and the State Nodal Officers (SNOs) (PM-KISAN) will be the enrolling agencies.
- b) The CSC will complete the on-line registration process after taking details of Aadhaar number, name, date of birth, spouse and nominee particulars, mobile number, address and a few other details.
- c) The CSC will take an auto-debit mandate for debiting contribution amount to the subscriber's bank account every month.
- d) The CSC will thereafter enable online payment of initial contribution and give the subscriber a receipt.
- e) The CSC will provide a PM-KISAN Maan-Dhan Pension Card with a Pension Account Number printed on it.
- f) The CSCs would charge the DAC&FW Rs.30/- per beneficiary for enrolment for the above services.
- g) The data of SMF-PM-Kisan beneficiaries already available with the SNOs will also be appropriately utilized for enrolment.
- h) The beneficiaries may choose an option to pay their contributions on a monthly, quarterly, 4-monthly or half-yearly basis.
- i) In case of failure of payment of contribution by the subscriber he/she may pay the outstanding installments.
- j) Late fee / interest may be charged for default in payment.

- k) If contributions remain unpaid for a period of six months, such account status would be changed to 'dormant account'. The subscriber will be allowed to regularize contribution by paying the entire outstanding dues, along with interest at the rate as determined by the Government from time to time.

10.3.6 Review, Monitoring and Grievance Redressal Mechanism

- a) An Empowered Committee under the Chairmanship of Cabinet Secretary with Secretaries of Agriculture & Farmers' Welfare, MeITY, Department of Expenditure, Department of Financial Services and any other Secretary concerned as members shall review and monitor implementation of the Scheme through appropriate implementation strategies and to approve any modifications in the Scheme within the overall financial parameters of the Scheme approved by the Cabinet, for effective implementation.
- b) The overall implementation of the Scheme would be done by the Project Monitoring Unit (PMU) setup for the PM-Kisan Scheme at the Central level in the DAC&FW. The PMU shall also undertake a publicity campaign (Information, Education and Communication-IEC) for the Scheme and also incur various administrative expenses.
- c) Each State/UT Government will designate a Nodal Department for implementation of the scheme and coordinating with the Central Government with regard to implementation of the Scheme.
- d) A Grievance Redressal Cell shall be set up both at State and District Levels accordingly with representation of State Nodal Officers, State Level Bankers'

Committee and Regional Manager, LIC. Similarly, the District Level shall have DLBC and LIC Representatives along with District Level Government Officers.

- e) All disputes to the extent of and limited to the transactions routed through the National Automated Clearing House (NACH) system should be routed by the banks through the Dispute Management System (DMS) provided by NPCI. The disputes so raised on the Sponsor Bank shall be resolved within 30 days from the date of dispute. If the Sponsor Bank fails to respond / resolve the dispute within the agreed time line, the disputed amount will be debited to the settlement account of the Sponsor Bank maintained with the Reserve Bank of India (RBI).
- f) Any disputes other than that detailed above shall be resolved by LIC, the Sponsor Bank and the Ministry without any liability on the other participating stakeholders. The process to be followed for dispute resolution is provided in the MoUs.
- g) Any matter related to execution, grievance redressal, dispute resolution etc. shall be referred to the Joint Secretary (Farmers' Welfare), Department of Agriculture, Cooperation and Farmers' Welfare, Ministry of Agriculture & Farmers' Welfare, Krishi Bhavan, New Delhi - 110001 for redressal.

10.3.7 Project Monitoring Unit(PMU):

The PMU set up for PM-Kisan Scheme will also take care of the implementation of PM-KMY.

10.3.8 Farmers registered so far: So far (as on 05.01.2020), 21,11,317 farmers have registered for the Scheme.



Chapter 11

National Crop Insurance Programme (NCIP)

Agriculture Insurance

11.1 Keeping in view the risks involved in agriculture and to insure the farming community against various risks, the Ministry of Agriculture & Farmers Welfare introduced a crop insurance scheme in 1985 and thereafter brought improvements in the erstwhile scheme(s) from time to time based on the experience gained and views of the stakeholders, States, farming community

etc. The insurance schemes currently under implementation are the Pradhan Mantri Fasal Bima Yojana (PMFBY) and the Restructured Weather Based Crop Insurance Scheme (RWBCIS).

The total funds released by the Government of India during last 5 years under various schemes for crop insurance are as under:

Plan/ Year	Insurance Schemes	(Rs. Crore)
2016-17	Pradhan Mantri Fasal Bima Yojana (PMFBY) and Restructured Weather Based Crop Insurance Scheme (RWBCIS)	11054.63
2017-18	- do -	9419.79
2018-19	- do -	11945.38
2019-20	- do -	12638.32
2020-21	-do-	9799.86

* as on 31.12.2020

11.2 Brief details of the crop insurance schemes being implemented in the country are given below:

11.2.1 Pradhan Mantri Fasal Bima Yojana (PMFBY)

After detailed discussions with various stakeholders including State Governments, representatives of farmer organizations, Government of India had formulated the new Crop Insurance Schemes viz. Pradhan Mantri Fasal Bima Yojana (PMFBY), which is being implemented in various States/Union Territories of the country from Kharif 2016. The Scheme is being implemented through 18 General Insurance Companies including all the 5 Government Sector Companies. Under PMFBY, a uniform maximum premium of only 2% of the sum insured is paid by farmers for

all Kharif crops and 1.5% for all Rabi crops. In case of annual commercial and horticultural crops, the maximum premium to be paid by farmers is upto 5%. The premium rates to be paid by farmers are very low and the balance of actuarial premium is being borne by the Government, to be shared equally by the State & Central Government (except in North Eastern States where the subsidy sharing pattern between Central and State Govt is 90:10) to provide full insured amount to the farmers against crop loss on account of natural calamities.

Earlier, there was a provision of capping the premium rate which resulted in low claims being paid to farmers. This capping in earlier schemes has now been removed. In PMFBY farmers will get claim against full sum insured

without any reduction. Central Government has rationalized the Govt subsidy sharing in the view of high premium in select crops and areas and to ensure a detailed analysis of the reasons leading to high premium rates. This needs a detailed examination and necessary course correction by the concerned State Government. Central Subsidy for premium is capped up to 30% for unirrigated & 25% for irrigated area/crops. Districts with irrigated area more than 50% (from all sources) will be considered as irrigated districts. Further, the sum insured has been equated to Scale of Finance/Notional Value of the crop.

Efforts are being made to make the scheme technology driven with the primary objective to reduce the delays in claim payment to farmers. Capturing of CCEs data on smartphones/CCE Agri App and its real-time transfer on the National Crop Insurance Portal has been made mandatory from Kharif 2017 to ensure transparency and real time transfer of data. Remote sensing will be used to rationalize the number of Crop Cutting Experiments (CCEs) at unit area level. 8 pilot studies on use of innovative technology in CCEs have been completed by the Department which are coordinated by the Mahalanobis National Crop Forecast Centre (MNCFC). A High-Power Committee constituted in the Department of Agriculture, Cooperation and Farmers Welfare has evaluated the results of the 8 pilots and it has been decided to scale up and mainstream the operationalisation of these approaches/techniques for paddy crop in 9 States on a pilot basis.

14 more pilot studies by the Government, reputed international and national private agencies on direct yield estimation at Gram Panchayat level using technology have been initiated during the year 2020 which are also being coordinated by the MNCFC.

Under PMFBY, CCEs has increased manifold. Every year around 70 lakh CCEs need to be conducted to arrive at yield data within a short harvesting window of 15-20 days is a challenging task. Smart Sampling and Two Step Yield Estimation has been adopted under PMFBY implementation to rationalize and reduce number of CCEs to be conducted. This will ensure reduction in CCE numbers without impacting quality of sampling and yield estimation results. Further, new age technology will be used to assess crop health using remote sensing and satellite indices.

Smart Sampling, Optimization of CCEs and Direct yield Estimation at GP Level

After evaluation of results obtained in pilot studies for Smart Sampling Technique, and Optimization of CCEs by the Expert Committee the approaches are being implemented operationally from Kharif 2019 in notified Rice growing areas in Kharif season and Rabi Sorghum, Rabi Rice, Mustard and Wheat in Rabi season. Similarly, technology driven approaches developed during pilot studies for GP level crop yield estimation in Kharif 2019 and Rabi 2019-20 are being tested over 100 Rice growing districts in Kharif 2020 season and 100 Rabi Rice and Wheat growing districts in Rabi 2020-21.

For effective implementation, an integrated National Crop Insurance Portal (www.pmfby.gov.in) has been developed to integrate all the stakeholders on a single platform on a real time basis. This has also enabled access to individual farmer-wise detailed data. Further, it has been decided to obtain the Aadhar number of insured farmers and details of land records for de-duplication. In addition, Direct Transfer of Benefits (Claims) to farmers account has been initiated from Kharif 2018 season.

Progress of the scheme implementation

The Scheme has completed 5 years of its implementation. Details of coverage and

claims (as on 11.1.2021) are given in the following table:

PMFBY & RWBCIS - All India Business Statistics Since Implementation as on 11.01.2021									
Season/Year	Farmer Applications Insured (Lakh)	Area Insured (Lakh ha)	Sum Insured	Farmers Share in Premium	Gross Premium	Reported Claims	Paid Claims	Farmer Applications Benefitted (Lakh)	Claim Ratio
		Rs. Crore							
Kharif 2016	407.6	379.7	1,30,599	2,779	15,880	10,571	10,570	115.3	66.6%
Rabi 2016-17	176.0	187.6	72,522	1,263	5,693	6,205	6,190	41.0	109.0%
2016-17 Total	583.7	567.3	2,03,121	4,042	21,573	16,775	16,760	156.3	77.8%
Kharif 2017	357.7	330.7	1,24,524	2,792	18,403	18,151	18,149	140.9	98.6%
Rabi 2017-18	175.3	177.7	77,742	1,397	6,232	3,965	3,964	29.5	63.6%
2017-18 Total	533.0	508.3	2,02,265	4,189	24,635	22,117	22,113	170.4	89.8%
Kharif 2018	345.3	317.4	1,36,754	3,144	20,926	19,506	18,618	136.9	93.2%
Rabi 2018-19	231.4	205.6	93,307	1,709	8,422	9,137	9,015	81.2	108.5%
2018-19 Total	576.8	523.0	2,30,060	4,853	29,348	28,643	27,633	218.1	97.6%
Kharif 2019	419.8	326.4	1,42,228	3,002	23,364	20,616	19,576	182.1	88.2%
Rabi 2019-20	190.4	170.1	75,481	1,401	8,355	4,657	3,909	28.2	55.7%
2019-20 Total	610.2	496.5	2,17,709	4,403	31,719	25,273	23,485	210.2	79.7%
Kharif 2020	398.4	261.4	1,03,016	2,425	19,603	384	190	3.6	NA
Total	2,702.1	2,356.5	9,56,171	19,912	1,26,878	93,192	90,180	758.6	NA

* Decline in coverage of farmer applicants in 2017-18 was due to deduplication by making Aadhar mandatory and announcement of Debt Waiver Scheme by some States.

** Provisional data. All admissible claims for the year are not reported/settled.

Claims will be processed/known on receipt of yield data from the concerned States/UTs in the month of December 2020-January 2021 as per cut off dates notified for the same.

The scheme was very well received by the farming community as 27 States and UTs opted for the scheme in one or more seasons. The coverage in the first year of the scheme (2016-17) was 30% of Gross Cropped Area (GCA). This was the highest coverage in the history of crop insurance in India. Further, voluntary participation of non-loanee farmers has increased substantially (more than 6 times) as compared to earlier schemes and has reached 37% of total coverage under the scheme in 2019-20. This has been a major achievement under the scheme. To facilitate this, alternate mechanisms for coverage of non-loanees were put in place which included access through Common Service Centres

(CSCs) and encouraging direct enrolment on the portal. However, the scheme has been made voluntary for all farmers including loanee famers from Kharif 2020 season.

During 2016-17 about 584 lakh farmer enrolments were provided crop insurance for a sum of Rs. 2.03 lakh crore and during 2017-18 about 533 lakh farmer enrolments were provided crop insurance for a sum of Rs. 2.02lakh crore under PMFBY & RWBCIS. There was somedecline in coverage in 2017-18 primarily in the category of loanee farmers. The announcement of Debt Waiver Schemes in two big States namely, Maharashtra and Uttar Pradesh made more than 36 lakh farmers in Kharif 2018 season who had availed crop

loan, ineligible for the crop insurance as fresh loans were not drawn. At the same time, Direct Benefit Transfer(DBT) was introduced by the Government in April 2017, to help farmers receive claims directly in their bank accounts, which made registration through Aadhar number mandatory. This was a deliberate step by the Government to weed out ghost /duplicate beneficiaries and help genuine farmers through Aadhar based verification and it resulted in further decreasing the number of loanee farmers under the scheme.

Coverage under the scheme has increased from 533 lakh farmer applicants in 2017-18 to 577 lakh applicants during 2018-19 and 610 lakh farmer applicants during 2019-20, which is despite the withdrawal of Bihar State from the scheme from Kharif 2018 season and West Bengal State Government from Kharif 2019 season. The State Governments of Andhra Pradesh, Gujarat, Telangana and Jharkhand have also not implemented the scheme in 2020.

In spite of overall good monsoon during the first three years of implementation of PMFBY, the claim ratio was about 77.8%, 89.8 %, and 97.6% in 2016-17, 2017-18 and 2018-19 respectively. Provisional claim ratio for the year 2019-20 is at 79.7%.

Moreover, the farmers in most affected States received higher claims and the claim ratio was high in these States. Claim ratio was highest in year 2016-17- TamilNadu-344.2%, Karnataka-153% and Andhra Pradesh-113%. Claim ratio was higher in 2017-18 in the states of- Chhattisgarh 390.8%, Odisha-221.8%, Haryana 198.2%, TamilNadu 176.5% and Madhya Pradesh 126.4%. Similarly, in 2018-19, States with higher claim ratio were Andhra Pradesh-167%, Tamil Nadu 159.6%, Karnataka-158%, Chhattisgarh-122%

Under PMFBY, benefits to the farmers are also being provided through early payment of claims directly into the bank accounts of the farmers. There is more transparency in assessment of crop losses and assessment of claims through use of technology etc.

Text SMS is being sent to all loanee farmers whose mobile numbers have been entered on the portal. Acknowledgement receipt is being generated on the portal and made available to banks. All farmers who are enrolling through CSCs or directly on the crop insurance portal are being provided physical receipt at the time of enrolment. Acknowledgement receipt is being provided to all loanee farmers from Kharif 2018 season.

Review of Operational Guidelines of the Scheme and issue of Revised Guidelines

The schemes' implementation is reviewed/monitored constantly through weekly video conferences, one to one meeting with the stakeholders on a regular basis and the National Level Monitoring Committee(NLMC). Learning from the Scheme implementation experience , an extensive consultative exercise with all implementing partners was made and Operational Guidelines (OGs) of PMFBY/RWBCIS were revised with effect from 1st October, 2018 from Rabi 2018-19 season and are available on the National Crop Insurance Portal i.e. <https://pmfbty.gov.in/guidelines> for use of stakeholders under the scheme.

Though scheme and revised Operational Guidelines were made after detailed discussion with various stakeholders viz. farmers, States, insurance companies, financial institutions etc, some points/issues like voluntary coverage of non-loanee farmers, addressing challenges of delay in release of state premium subsidy and Crop

Cutting data and leveraging technology for smooth implementation etc. were identified as critical issues in implementation of the scheme during the first eight seasons. Thereafter, after making detailed discussions, the PMFBY/RWBCIS has been revamped with the following changes to make the scheme more beneficial to farmers with effect from Kharif 2020:

- To address the demand of farmers, the scheme has been made voluntary for all farmers. However, there is no change in farmers' share of premium.
- The premium subsidy sharing pattern between Centre and North Eastern States has been changed from 50 : 50 to 90:10. This has been done to allow more States to notify the scheme and existing States to notify more crops and areas to facilitate greater coverage of farmers under the scheme. For the remaining States, the subsidy sharing pattern will continue as 50: 50.
- To address the issue of high premium rate for few crops/areas due to adverse selection, the requisite central share of premium subsidy (90 : 10 for North Eastern States and 50 : 50 for remaining States) will be provided for areas/crops having gross premium rate up to 25% for irrigated and up to 30% for un-irrigated areas/crops.
- States have to decide on these high-risk crops/areas. They can remove these crops from notification or notify these crops/areas and bear the entire subsidy over and above 25% for irrigated and 30% un-irrigated crops/areas. Central Govt. will share only up to 25% or 30% of applicable premium as the case may be.
- Besides, alternate risk mitigation measures will be explored for these high-risk areas/crops.
- Insurance companies will now be selected by the States for 3 years in a go instead of one year thereby increasing their commitment and accountability to the farmers.
- Option has been given to the States to choose the notional value of average yield or the Scale of Finance as sum insured in the interest of the farming community.
- In view of the demand of many States, option has been given to States to choose additional risk covers besides shortfall in yield-based cover depending upon the local weather challenges and requirements of the farmers.
- Insurance Companies to pay 12% interest to farmers for delaying claim payment beyond prescribed timelines. Similarly, penalty of 12% interest per month shall be levied on State Government if failing to release state share of premium subsidy within 3 months of requisition by concerned Insurance Company. States delaying the release of subsidy beyond stipulated timelines cannot participate in upcoming seasons.
- A two-step process of crop yield estimation using weather and satellite indicators etc. is adopted, which will help in early assessment of loss.
- Use of smart sampling technique through satellite data for crop cutting experiments by some states has shown increased efficiency in implementation. This will now be universalized.
- The delay by some States in submission of crop yield data will now be suitably addressed using technological solutions.
- Provision has been made for earmarked administrative expenses @ 3% for strengthening infrastructure and

technology for better delivery of the Scheme.

11.2.2 Restructured Weather Based Crop Insurance Scheme (RWBCIS)

With the objective to provide coverage for those crops for which there is no standard/approved methodology for assessment of yield and to overcome the shortcoming under erstwhile NAIS, a pilot Weather Based Crop Insurance Scheme (WBCIS) was launched in 20 States (as announced in the Union Budget 2007-08). However, WBCIS was implemented as a full-fledged component scheme of the National Crop Insurance Programme (NCIP) from Rabi 2013-14 season to Rabi 2015-16. WBCIS intends to provide insurance protection to the farmers against adverse weather incidence, such as deficit and excess rainfall, high or low temperature, humidity etc. which are deemed to impact crop production adversely. It has the advantage to settle claims within the shortest possible time. Under WBCIS, actuarial rates of premium were charged. The scheme has further been restructured on the basis of premium structure and administrative lines of PMFBY and is available in the country from Kharif 2016 as Restructured WBCIS.

11.2.3 Coconut Palm Insurance Scheme (CPIS)

The Coconut Palm Insurance Scheme (CPIS) has been implemented since the year 2009-10 in the selected areas of Andhra Pradesh, Goa, Karnataka, Kerala, Maharashtra, Orissa and Tamil Nadu. The scheme has also been continued during 2018-19 and 2019-20. Since inception of the scheme, 57.25 lakh palms of 1.24 lakh growers for a sum insured of Rs. 506 crore have been covered. Against premium of Rs. 3.26 crore claims of Rs. 4.40 crore have been paid to about 0.09 lakh farmers.

Coverage of Women Farmers under PMFBY

All farmers whether sharecroppers, tenant farmers including women farmers growing crops in the areas notified by the concerned State/UT Government are eligible for coverage under the scheme and can insure themselves as per provisions of the scheme. The coverage under the scheme is subject to land records and tenancy contract. Further, the Scheme is demand driven. Since, the scheme has been made voluntary for participation, all farmers including woman farmers are eligible to enroll under the scheme. There are no specific extra benefits/provisions for women farmers under the scheme. However, the Government is bound to pay its share in premium subsidy for all the farmers including women who take up crop insurance.

The coverage of women farmers under PMFBY has remained consistent since inception of the scheme. Over the last three seasons mainly, Rabi 18-19, Kharif 18 and Kharif 19, out of the total coverage under the scheme approximately 15%-16% women farmers were enrolled under the scheme every year. The State of Maharashtra has achieved maximum enrolment of women farmers, constituting almost 18%-19% of the State's total farmer coverage. Insured area owned by women farmers in the State of Maharashtra is the highest among all participating States since Kharif 18. Union Territories and North East States have recorded poor enrolment of women over the years.

There has been 0.7% increase in the enrolment of Loanee women farmers and a significant increase in the enrolment of Non-Loanee women farmers amounting to approximately 56% increase from Kharif 18 to Kharif 19 demonstrating favorable attitude among women farmers towards PMFBY.

With the aim of widening the coverage of women farmers under PMFBY, this Department in partnership with the World Bank Group has commissioned a qualitative study to capture the barriers impacting access to crop insurance of women farmers. The Study has completed its first phase covering

Maharashtra and Uttar Pradesh. Preparatory activities to roll out the second phase of the study in Odisha, Gujarat and Karnataka are underway. The findings of the study will help in the overall design of crop insurance to make it more accessible and beneficial for women farmers.



Chapter 12

Agricultural Credit

Overview

12.1 The Government has taken many policy initiatives for strengthening of the farm credit delivery system for providing credit at lower rates of interest to support the resource requirements of the agricultural sector. The emphasis of these policies has been on providing timely and adequate credit support to farmers with particular focus on small and marginal farmers and weaker sections of society to enable them to adopt modern technology and improved agricultural practices for increasing agricultural production and productivity. The policy essentially lays emphasis on augmenting credit flow at the ground level through credit planning, adoption of region specific strategies, rationalization of lending policies and procedures and bringing down the rate of interest on farm loan.

12.2 Policy initiatives for increasing the flow of credit

The Government has initiated several measures to galvanize the institutional credit system to make them more responsive to the needs of farmers. Some of the important measures initiated in this regard are as under:-

12.2.1 Agriculture Credit: Target and Achievement

The Government sets target for agricultural credit flow every year, which has increased consistently over the years and it reached Rs. 13,92,469.81 crore against the target of Rs. 13,50,000 crore during 2019-20. Target for the year 2020-21 has been fixed at Rs.15,00,000 crore and the achievement

is Rs. 9,73,517.80 crore upto 30th November, 2020.

12.2.2 Interest Subvention Scheme

The Interest Subvention Scheme (ISS) was launched in the year 2006-07 with a view to provide concessional short term crop loans including loan availed through Kisan Credit Card (KCC) to the farmers.

ISS is available to farmers availing short term agri loans upto Rs.3.00 lakh at an interest rate of 7% per annum for one year. The short term agri loans include Crop Husbandry, Animal Husbandry, Dairying and Fisheries. Additional 3% subvention is also given to farmers for prompt and timely repayment of loans; the same gets reduced to 4% per annum. The benefits of ISS can also be availed by farmers in allied activities like Animal Husbandry and Fisheries and those farmers who already possess KCC within the overall limit of Rs.3.00 lakh. New KCC can be issued to Animal Husbandry and Fisheries farmers with provision of benefit of IS &PRI for loan amount upto Rs.2.00 lakh per annum. Interest subvention of 2% and prompt repayment incentive of 3% on restructured crop loans to farmers affected by severe natural calamities for a maximum period of 5 years on the basis of report of Inter-Ministerial Central Team (IMCT) for grant of NDRC assistance and Sub-Committee of National Executive Committee (SC-NEC) is also available. Further IS of @ 2 % is available to Small and Marginal Farmers (SMFs) having Kisan Credit Card (KCC) on post harvest loans against Negotiable

Warehouse Receipts (NWRs) i.e. at the same rates as applicable to crop loans for a period of up to six months post harvest.

During the financial year 2019-20, the Department released a sum of Rs. 16,218.75 crore to the implementing agencies i.e. Reserve Bank of India (RBI) / National Bank for Agriculture and Rural Development (NABARD), as subsidy under Interest

Subvention Scheme. The Government has allocated a sum of Rs.21,175.00 crore for the current financial year for interest subsidy under the scheme. Out of the current year budget, an amount of Rs. 12,744.11 crore has been released to RBI/NABARD under the scheme. Details of funds released during the last five years and current financial year are as under:

(Rs. in Crore)					
2015-16	2016-17	2017-18	2018-19	2019-20	2020-21*
13,000	13,397.13	13,045.72	11,495.67	16218.75	12744.11

*As on date 11.01.2021

12.2.3 Kisan Credit Card Scheme (KCC)

KCC was introduced in 1998 to provide timely credit to farmers to meet short term/long term cultivation requirement, post harvest expenses, consumption requirement etc. KCC is implemented by Commercial Banks, Cooperative Banks and Rural Regional Banks (RRBs) under the overall guidance of the Department of Financial Services. The Reserve Bank of India had issued a master circular on implementation of the KCC scheme followed by additional instructions from time to time.

This Ministry is actively involved in the promotion of the KCC scheme with a view to provide easy access to concessional institutional credit to farmer. Several steps have been taken to simplify the procedure to enable access to KCC. The KCC scheme along with the benefit of IS & PRI has been extended to farmers practicing Animal Husbandry and Fisheries. All charges including processing fee, inspection & ledger folio charges and all

other service charges have been waived off for fresh issue/renewal of KCC, collateral free agriculture loan limit has been raised from Rs.1.00 lakh to Rs.1.60 lakh. Standardised application form for KCC has been designed for easy understanding of farmers and a time limit of 14 days (from receipt of the farmer's application has been fixed) to provide KCC to all eligible farmers.

To bring the maximum number of farmers under KCC so that they can get loan at a cheaper rate through the ISS scheme, the Government has been running a campaign for saturation of KCC to farmers since, February, 2019. The Govt has further taken up the task of covering 2.5 lakh crore PM KISAN beneficiaries under KCC in a mission mode. Since February, 2020, a renewed saturation drive is being run to cover all left over PM KISAN beneficiaries. As a result, in addition to the existing 6.86 crore active KCCs holders, 167.67(01.01.2021) lakh new KCCs have been sanctioned since, February, 2020.



Chapter 13

Agricultural Marketing

13.1 Overview

The agriculture sector needs structured and functional markets, preferably in the vicinity of farmers, to drive growth, employment, remunerative prices and economic prosperity in rural areas of the country. Enabling mechanisms are also required to be put in place for procurement of agricultural commodities directly from farmers' field and to establish effective linkage between farm production, the retail chain and food processing industries. In order to remove restrictive and monopolistic practices of the present marketing system, reduce the intermediaries in the supply chain, reduce wastages by way of promoting integrated supply and value chain and to benefit farmers through access to global markets, reforms in agricultural markets have to be perceived as an ongoing process. The Agriculture sector needs competitive and well-functioning markets for farmers to sell their produce. There is a need to enhance private sector investment in development of post-harvest marketing infrastructure for which various schemes are also implemented by Govt. of India.

The Government has been playing an important role in developing an Agriculture Marketing system in the country. Agricultural Marketing Division of the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW) is entrusted with implementation of policy and programmes relating to Agricultural Marketing. The Agricultural Marketing Division through its policies and programmes is working towards providing

structured and functional markets preferably in the vicinity of farmers, removing restrictive and monopolistic practices of the present agricultural marketing system, reducing intermediaries in the supply chain, mitigate the uncertainty in prices of agri commodities and marketing and providing remunerative prices to farmers for their produce.

13.2 Agricultural Marketing Reforms

13.2.1 Sustainable growth and development of the agriculture and allied sectors directly affect the well-being of farmers and rural people at large, their prosperity and employment and also forms an important resource base for a number of agro-based industries and agro-services. With coordinated and integrated efforts made by policy makers, agricultural scientists and more so by farmers, food grain production has gone up substantially and growth of horticulture crops has surpassed food grains production and productivity. Considering this, the present government has made a paradigm policy shift from merely ensuring food security to nutritional and price security. For facilitating better value of the produce for farmers, accessible, competitive, efficient and barrier free markets with adequate marketing infrastructure and real time market information is being considered instrumental to supplement the Government's effort towards doubling of farmers' income in a time bound manner. In order to realise the same, reforms in the agricultural marketing sector are considered to be important. In order to develop an efficient, competitive, transparent and barrier free market with adequate post-

harvest and marketing infrastructure and real time market information, the Marketing Division is pursuing a comprehensive reforms agenda.

13.2.2 Achievements

- (a) Since the circulation of the model APMC Act in 2003, the Division has been vigorously pursuing with the States to adopt its provisions. Many of the States have made cosmetic reforms leading to no noticeable ground level developments. However, States like Maharashtra, Gujarat, Karnataka, Rajasthan and Madhya Pradesh, have not only amended their marketing laws and put in place a conducive atmosphere but have also made reform linked progress.
- (b) In order to make the model APMC Act, 2003 more holistic, comprehensive and farmer friendly, the Marketing Division in consultation with NITI Aayog and States formulated and released a Model Act "The --- State/ UT Agricultural Produce and Livestock Marketing (Promotion & Facilitation) Act, 2017", popularly called the Model APLM Act, in April, 2017. The essence of the Model APLM Act, 2017 is to provide complete freedom to cultivators and livestock rearers to sell their produce, livestock and its product to buyers, through the marketing channel of their choice offering better bids.
- (c) De-regulation of the marketing of fruits & vegetables – The existing marketing system of fruits & vegetables through a network of APMC markets leads to high post-harvest losses, long intermediation in the supply chain and low return to the farmers. In order to address this issue, Department has been advocating with the States to provide complete freedom to the farmers as well as buyers and investors to invest in development of marketing infrastructure and supply chain outside the market yards so as to facilitate emergence of various channels of marketing.
- (d) With the objective of enhancing farmers accessibility to a number of markets & buyers offering competitive bids in a transparent manner, promote quality based trading and also to ensure better price discovery, the Department launched the National Agriculture Market (e-NAM) platform in April, 2016. So far, 1000 regulated wholesale markets (APMCs) have been integrated to the e-NAM platform in 18 states and 3 UTs. Directorate of Marketing & Inspection (DMI) an attached office of DAC&FW, has formulated and uploaded tradable parameters for 175 commodities.
- (e) Considering the importance of integrating farmers including fruits and vegetable growers with agro-industries with the objective to mitigate market and price uncertainties, reduce post-harvest losses and create rural employment, the Department formulated and released a Model Act; "The ---State/ UT Agricultural Produce and Livestock Contract Farming & Services (Promotion & Facilitation) Act, 2018". The Model Act not only provides the facilitative eco-system for contract produce output but also for services all along the agri. food value chain starting from pre-harvest, harvest and post-harvest including marketing. Tamil Nadu and Odisha have legislated "The Tamil Nadu Agricultural Produce and Livestock Contract Farming and Services (Promotion and Facilitation) Act, 2019", The Odisha Agricultural Produce and Livestock Contract Farming and Services (Promotion and Facilitation) Act, 2020 respectively whereas Punjab has already enacted a separate contract farming Act.

(f) When the whole ecosystem of agriculture and its allied activities was tested during the COVID-19 crises, it reconfirmed the necessity for the Central Government to speed up the reform process and to come up with a national legal facilitative ecosystem to improve intra and interstate trade of agriculture produce. The Government of India also recognized the need for the farmer to sell agriculture produce at a place of his choice at a better price by increasing the number of prospective buyers. In view of the above, for raising the income of farmers as part of the Aatmanirbhar Bharat Abhiyan, the President of India has promulgated "The Farmers' Produce Trade and Commerce (Promotion & Facilitation) Ordinance 2020" on 5th June, 2020. The said Ordinance has been replaced by an Act which has been notified on 27th September, 2020. Further, the Central Government framed Rules which are called the Farmers' Produce Trade and Commerce (Promotion and Facilitation) Rules, 2020 on 20th October 2020.

It will provide for the creation of an ecosystem where farmers and traders enjoy the freedom of choice relating to sale and purchase of farmers' produce which facilitates remunerative prices through competitive alternative trading channels. It will promote efficient, transparent and barrier-free inter and intra-State trade and commerce of farmers' produce outside the physical premises of markets or deemed markets notified under various State agricultural produce market legislations. Besides, the Act will provide a facilitative framework for electronic trading and matters connected therewith or incidental thereto.

Salient provisions with major benefits are as under-

- Farmers can sell their produce to the buyer and at the place of their choice offering better price.
- A trader holding a PAN card can buy the farmers' produce from any farmer or trader.
- Farmers can sell their produce from the farm gate, their houses, warehouses or even from the nearby located processing or exporting units etc.
- There is no market fee or cess or levy, by whatever name called, on any farmer or trader or electronic trading and transaction platform for trade and commerce in scheduled farmers' produce in a trade area.
- The legal framework will facilitate seamless movement of produce across the country from the place of production to the place of consumption.
- It provides a legal framework, wherein any person, except individual, holding a PAN card can establish and operate e-Trading and transaction platforms in the trade area.
- Payment to the farmer for his produce shall be made on the same day by the trader, or within a maximum of three working days if procedurally so required subject to the condition that the receipt of delivery mentioning the due payment shall be given by the trader to the farmer on the same day.
- A simple, accessible, quick and cost effective dispute resolution mechanism.

The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm

Services Act, 2020, provides for a national framework on farming agreements that protects and empowers farmers to engage with agri business firms, processors, wholesalers, exporters or large retailers for farm services and sale of future farming produce at a mutually agreed remunerative price framework in a fair and transparent manner and for matters connected therewith or incidental thereto.

The salient features of the Act are as follows:

- (i) Creating a legal framework for farming agreements between farmers' and sponsors.
 - (ii) The Central Government may provide for model farming agreements for facilitation.
 - (iii) Agreements can require that ownership of crops be retained by the farmer during production.
 - (iv) Agreements may also provide for the sponsor to provide inputs and bear risks.
 - (v) There may be a combination of the above two formulations.
 - (vi) Exemption from the State laws providing for regulation of sale and purchase of farming produce and the Essential Commodities Act, 1955.
 - (vii) Farming agreements cannot be entered into, if they are in derogation of the rights of a share cropper.
 - (viii) Facilitating greater certainty in quality and price.
 - (ix) Adoption of quality and grade standards.
 - (x) Flexible price subject to guaranteed price.
 - (xi) Sponsor to ensure timely acceptance of delivery and payment of produce
 - (xii) Prohibition of sale, lease or mortgage of farmers' land and his land being protected against any recovery.
 - (xiii) Farmers' liability limited to advance received and cost of inputs provided by the sponsor.
 - (xiv) Linkage of farming agreements with insurance and credit instruments.
 - (xv) Notification of a Registration Authority to provide for e-registry of such agreements.
 - (xvi) Provisions for conciliation and dispute settlement.
- (g) As per Union Budget Announcement, 2018-19, the Government has announced to develop and upgrade the existing 22,000 Gramin Haats into Gramin Agricultural Markets (GrAMs) to work as centers of aggregation and for direct purchase of agricultural commodities from the farmers. In these GrAMs, physical infrastructure is being strengthened using MGNREGA and other Government Schemes. The Government has approved an Agri-Market Infrastructure Fund (AMIF) with a corpus of Rs. 2000 crore for developing and upgrading agricultural marketing infrastructure in the Gramin Haats and Agriculture Produce Market Committee (APMC) Markets. DAC&FW has circulated guidelines on 'Operation and Management of GrAMs' to all States to facilitate and promote better management in GrAMs. DAC&FW has also circulated scheme guidelines for AMIF to be set up with NABARD to all States to guide them to avail loan at a concessional rate of interest. In order to coordinate among the various stakeholder Ministries/ Departments an Inter-Ministerial Coordination Committee on GrAMs has been constituted.

(h) Pursuant to the Union Budget 2019-20, a new Central Sector Scheme was formulated to create 10,000 new Farmer Producer Organizations (FPOs) to ensure economies of scale for farmers in the next five years. Small and marginal farmers are facing tremendous challenges both in pre-production and post-production like access to production technology, quality inputs at reasonable prices, credit, custom hiring, seed production, value addition, processing, investments and most importantly markets. Therefore, collectivization of such producers to leverage the benefits of economies of scale in production & marketing through formation of their organizations such as FPOs is critical to make production cost effective and enhance farmers' income. Operational guidelines of the scheme have already been circulated to the States.

13.3 Formation & Promotion of 10,000 Farmer Producer Organizations (FPOs)

The Hon'ble Prime Minister launched the FPO Scheme on 29th February, 2020 at Chitrakoot, UP. The Central Sector Scheme is intended to create 10,000 Farmer Producer Organisations in India with a total budget outlay of Rs. 6865 Cr. in 9 years. The 10,000 FPOs will be formed within 5 years from 2019-20 to 2023-24 and handholding for each FPO will continue for 5 years. Hence, the scheme will continue till 2027-28. The Hon'ble Agriculture Minister formally inaugurated Honey Based specialized FPOs promoted by NAFED on 26th November, 2020.

FPOs will be developed by specialist Cluster Based Business Organizations (CBBOs) engaged by implementing agencies. About 2200 clusters have been allocated for formation of FPOs for the Financial Year 2020-21. Implementing agencies (IAs) like

Small Farmers Agribusiness Consortium (SFAC), National Bank for Agriculture and Rural Development (NABARD), National Cooperative Development Corporation (NCDC), Karnataka State Watershed Development Department, National Agricultural Cooperative Marketing Federation of India Limited (NAFED), Ministry of Rural Development (MoRD), SFAC- Haryana, SFAC - Tamil Nadu and North Eastern Regional Agricultural Marketing Cooperation Ltd. - Department of Development of North Eastern Region (NERAMAC- DONER) were assigned with the responsibility of FPO formation. Implementing Agencies will set up Cluster-Based Business Organizations (CBBOs) at the State/Cluster level to form and promote FPO under the scheme. A common criteria for selection of Cluster Based Business Organizations (CBBOs) have been circulated to IAs and the empanelment of the same is under various stages for different IAs.

Bankers Institute of Rural Development (BIRD), Lucknow is identified as Nodal Training Institute along with Laxmanrao Inamdar National Academy for Cooperative Research and Development (LINAC), Gurgaon under the scheme. Training modules prepared for different stakeholders have been collated and 18 modules have been standardized.

There is provision for credit guarantee cover per FPO for a project loan upto Rs. 2 crore. In case of project loan up to Rs. 1 crore, credit guarantee cover will be 85% of the bankable project loan with a ceiling of Rs. 85 lakh; while in case of project loan above Rs.1 crore and up to Rs. 2 crore, credit guarantee cover will be 75% of the bankable project loan with a maximum ceiling of Rs. 150 lakh. However, for project loan over Rs. 2 crore of bankable project loan, credit guarantee cover will be limited to a maximum of Rs.2.0 crore only.

At the national level, a National Project Management Agency (NPMA) has been set up by SFAC for providing overall project guidance, data maintenance through an integrated portal and information management and monitoring. The NPMA is equipped with a technical team with five categories of specialization in Agriculture / Horticulture, Marketing and Processing, Incubation Service Provider, IT/MIS and Law & Accounting to provide overall guidance at an all India level.

(a) Progress as on 31st December, 2020:

- Initially three Implementing Agencies (IAs) like SFAC, NABARD and NCDC were identified for the implementation of the project. The IAs like Karnataka State Watershed Development Department, NAFED, MoRD, SFAC- Haryana, SFAC – Tamil Nadu and NERAMAC- DONER were assigned with the responsibility of formation of FPOs, in addition to the initial three IAs.
- About 2200 clusters have been allocated for formation of FPOs to various IAs for the Financial Year 2020-21 which includes specialized FPOs like Oilseeds, Organic produce, Honey etc.
- NABARD has initiated the process of creation of a Credit Guarantee Fund.
- A National Project Management Agency (NPMA) has been selected for providing overall project guidance, data maintenance through an integrated portal and information management and monitoring.
- CBBOs are being empanelled under the scheme for undertaking formation and promotion of FPOs during 2020-21.

13.4 Integrated Scheme for Agricultural Marketing (ISAM):

- (a) The Marketing Division is also implementing an ongoing Central Sector Scheme from the XIIth Plan, which has been integrated into a new scheme viz. the Integrated Scheme for Agricultural Marketing (ISAM) w.e.f. 01.04.2014. During 2017-18, National Agriculture Market scheme popularly known as e-NAM scheme has also been made part of it.
- (b) The ISAM has six sub-schemes namely (i) Agricultural Marketing Infrastructure (AMI) (ii) Marketing Research and Information Network (MRIN) (iii) Strengthening of Agmark Grading Facilities (SAGF) (iv) Training, Research and Consultancy through Choudhary Charan Singh National Institute of Agricultural Marketing (NIAM) (v) Agri-Business Development through Venture Capital Assistance (VCA) and Project Development Facility and (vi) National Agriculture Market (e-NAM).

The first three sub schemes are implemented by the Directorate of Marketing & Inspection (DMI), the fourth sub scheme by Ch. Charan Singh National Institute of Agriculture Marketing (NIAM), Jaipur, while the fifth and sixth sub schemes are implemented through the Small Farmers Agri-Business Consortium (SFAC), New Delhi.

13.4.1. Agricultural Marketing Infrastructure (AMI)

To develop Agricultural Marketing Infrastructure including storage infrastructure, the Ministry of Agriculture & Farmers Welfare is implementing capital investment subsidy sub-scheme Agricultural Marketing Infrastructure (AMI) or Integrated Scheme for Agricultural Marketing (ISAM). The erstwhile two schemes viz. (i) Grameen Bhandaran Yojana (GBY) implemented since 01.04.2001, and (ii) Scheme for

Strengthening/Development of Agricultural Marketing Infrastructure, Grading & Standardization (AMIGS) implemented since 20.10.2004 have been subsumed into one scheme known as Agricultural Marketing Infrastructure (AMI) w.e.f. 01.04.2014.

The AMI sub-scheme of ISAM was sanctioned for the XII plan Period (2012-17). The scheme had been stopped after 05.08.2014 for new projects of General category and after 31.12.2016 for new projects of SC/ST/NER category.

The new operational guideline of AMI sub-scheme of ISAM effective from 22.10.2018 has been continued/extended for a period till 31st March, 2021 or the date the recommendations of the 15th Finance Commission come into effect, with the following objectives:

Objective:

- I. To develop marketing infrastructure to effectively handle and manage marketable surpluses of agricultural and allied produce including horticulture, livestock, poultry, fishery, bamboo, minor forest produce etc. supportive to enhance farmers' income.
- II. To promote innovative and latest technologies in post-harvest and agricultural marketing infrastructure.
- III. To develop alternative & competitive marketing channels for agricultural and allied produce through incentivizing private and cooperative sectors to make investments there for.
- IV. To benefit the farmers individually and collectively through FPOs from farm level processing and marketing of processed produce along with promotion of small size processing units.
- V. To promote creation of scientific storage capacity for storing farm produce, processed farm produce and agricultural inputs etc. to reduce post-harvest & handling losses, promote pledge financing and market access.
- VI. To incentivize developing and upgrading of Gramin Haats as GrAMs to make better farmer-consumer market linkages and also to assist in integration of GrAMs with the e-NAM portal so as to improve transparency in trading and better price discovery.
- VII. To provide infrastructure facilities for grading, standardization and quality certification of agricultural and allied produce with the objectives of (a) ensuring produce quality based value realization to farmers, and (b) promoting pledge financing , e-NWRS and futures trading .
- VIII. To promote Integrated Value Chains through minimal processing /value addition to make the produce more marketable,which includes washing, sorting, cleaning, grading, waxing, ripening, packaging, labeling etc. wherein the product form is not changed.
- IX. To undertake publicity and awareness campaign among the stakeholders including farmers, agri. preneurs, market functionaries of sub-scheme and on various other aspects and functions of agricultural marketing including grading, standardization, quality certification, regulation, reforms,

e-trading, promoting farmers facilitation centre for market information & intelligence by FPOs etc .

Brief of the scheme

- a) Under the AMI sub-scheme, there are two components: (i) Storage Infrastructure, and (ii) Marketing Infrastructure other than storage. The main objective of the scheme is to promote development of agricultural marketing infrastructure including storage infrastructure in the country. The scheme is meant for holistic development of the agricultural value chain critically focusing each linkage of the post-harvest value chain. AMI sub scheme is a back ended capital subsidy scheme and subsidy is provided on the capital cost of the project to develop agricultural marketing and storage infrastructure including infrastructure for development/upgradation of Rural Haats as Gramin Agricultural Market (GrAMs), common facilitation centre for FPOs, marketing infrastructure in market yards, infrastructure for direct marketing, mobile infrastructure for post-harvest operations including reefer vans, stand-alone cold storages up to 1000 MTs, Integrated Value Chain (IVC) projects up to primary processing stage etc.
- b) The scheme is demand driven, credit linked with provision of back-ended subsidy. The scheme is also reform linked for non-storage infrastructure projects of State/UT agencies and allowed under the scheme for those States/Union Territories that have undertaken the following reforms in their respective APMC Acts (i) direct marketing ; (ii) contract farming; (iii) setting up of wholesale market for agricultural and allied produce in the private and cooperative sector, (iv) e-trading; (v) unified single trading

license valid across the State/UT, and (vi) single point levy of market fee across the State/UT.

- c) Provisions with admissible rate of subsidy, subsidy pattern etc under revised operational guidelines of the scheme are as follows:

- **Eligible Beneficiaries under the Scheme:**
- Individuals, Group of farmers / growers, FPOs/FPCs registered under respective Companies Act/Cooperatives Societies Act/ Societies Registration Act (with minimum 50 number of farmer members); Partnership/ Proprietary firms, Companies, Corporations; Non-Government Organization (NGO), Self Help Group (SHG); Cooperatives, Cooperative Marketing Federation; Autonomous Bodies of the Government, Local Bodies, Panchayat, State agencies including State Government Departments and Autonomous Organization / State owned Corporations such as Agricultural Produce Market Committees & Marketing Boards, State Warehousing Corporations, State Civil Supplies Corporations etc.
- Subsidy pattern under the Scheme including women farmers and entrepreneurs are as follows:
- AMI Scheme is a back ended capital subsidy scheme in which the rate of subsidy varies from 25% to 33.33% based on the category of eligible beneficiary and provided on the capital cost of the project.

However in respect of women farmers/ entrepreneurs irrespective of the category, the rate of subsidy admissible is 33.33%. The detail of subsidy pattern is as under:

For Storage Infrastructure Projects:

Category	Rate of Subsidy (on capital cost)	Subsidy ceiling		
		50- 1000 MT in Rs./MT	More than 1000 MT and up to 10,000 in Rs./MT	Maximum ceiling (Rs. Lakhs)
A) North Eastern States, Sikkim, UTs of Andaman & Nicobar and Lakshadweep Islands, hilly* areas	33.33%	1333.20	1333.20	133.20
B) In other Areas				
1. For Registered FPOs, Panchayats, Women, Scheduled Caste (SC)/ Scheduled Tribe (ST) entrepreneurs or their cooperatives**/ Self-help groups	33.33%	1166.55	1000.00	100.00
2. For all Other categories of beneficiaries	25%	875/-	750/-	75.00

* Hilly area is a place at an altitude of more than 1,000 meters above mean sea level.

** SC/ ST Cooperatives to be certified by the concerned officer of the State Government.

For Infrastructure Projects other than Storage (Non-Storage) Infrastructure Including Farmer-Consumers Market and Development and Upgradation of Rural HAATS/RPMs into GrAMs

Category	Rate of Subsidy (on capital cost)	Maximum Subsidy Ceiling (Rs. in lakhs)
A) North Eastern States, Sikkim, States of Uttarakhand, Himachal Pradesh, UTs of Jammu & Kashmir, Ladakh, Andaman & Nicobar and Lakshadweep Islands, hilly* and tribal areas	33.33%	30.00
B) In Other Areas		
1. For Registered FPOs, Panchayati Raj Institutions, Women farmers/ entrepreneurs, Scheduled Caste(SC)/ Scheduled Tribe (ST) entrepreneurs and their cooperatives**	33.33%	30.00
2. For all Other categories of beneficiaries	25%	25.00

* Hilly area is a place at an altitude of more than 1,000 meters above mean sea level.

** SC/ ST Cooperatives to be certified by the concerned officer of the State Government.

Mini oil expeller for extraction of edible vegetable oil (as per FSSAI but without refining) from indigenous oilseeds (viz. mustard seed, sesame seed, ground nut, linseed, mahua, safflower, nigerseed oil, coconut, almond and olive only) and mini dal mill for primary processing of pulses, which includes cleaning, grading, sorting, splitting, packaging and labelling for promoting direct marketing, are also eligible.

Infrastructure for setting up of common facilitation centre by FPOs/FPCs are eligible under the scheme.

Further, infrastructure projects other than storage (non-storage) infrastructure including farmer-consumers market and development and up-gradation of rural haats/RPMs into GrAMs are also eligible under the scheme.

d) Progress of the Scheme:

Since inception of scheme up to 30.06.2020, a total number of 39,416 storage infrastructure projects (godowns), with storage capacity of 66.54 million MT were sanctioned under the scheme and subsidy of Rs.3050 crore has been released. Similarly, 18,608 other marketing infrastructure projects have also been sanctioned and subsidy of Rs.1843 crore has been released so far.

The detailed Operational Guideline 2018 is available at <https://dmi.gov.in/Schemeamigs.aspx>

13.4.2. Marketing Research & Information Network (MRIN)

Under the MRIN scheme an e-Governance portal has been developed for connecting the farmers to markets. It is advantageous to have a network down to the mandi level to begin with. This can be progressively extended to villages and household level. Presently, electronic connectivity is provided to 3356 markets in the country. More than 300 commodities and 2000 varieties are reported on a daily basis on the Agmarknet portal. This is one of the largest Market Information Systems in the world and has the richest data base available.

Objective:

- To establish a nation-wide information network for speedy collection and dissemination of market information.
- To facilitate collection and dissemination of information for better price realization by the farmers.
- To sensitize and orient farmers to respond to new challenges in agricultural marketing by using

Information and Communication Technology (ICT).

- To improve efficiency in agricultural marketing through regular training and extension for reaching region-specific farmers in their own language.
- Linking of all important agricultural markets of the country.
- Daily prices and arrivals of more than 300 commodities and 2000 varieties are reported on the portal.

Assistance under the Scheme:-

- Provision of financial support for organizing training, research, awareness and sensitization campaign to state govt. organization.
- Provision of financial incentive @ Rs 1000/- per month to marketing personnel for uploading data in the portal for more than 20 days in a month.

Dissemination of Mandi Information:

Latest mandi price information is disseminated from the Agmarknet portal through Agmarknet portal (<http://agmarknet.gov.in>), Kisan Suvidha App, UMANG App, DD Kisan Channel, Kisan Call Center etc.

13.4.3 Strengthening of Agmark Grading Facilities (SAGF):

- a) Quality Control Division (QC Division) of the Directorate of Marketing & Inspection (DMI) implements the Agricultural Produce (Grading and Marking) Act, 1937 (as amended up to 1986) and other provisions as mandated by the Food Safety Standards Regulations 2011 under the Food Safety and Standards Act 2006. Agricultural produce is certified

under AGMARK if they conform to grade standards under the Agricultural Produce (Grading Marking) Act, 1937, General Grading and Marking Rules, 1988 (as amended up to 2009) and Specific Commodity Rules notified by DMI, Department of Agriculture, Cooperation and Farmers Welfare, Ministry of Agriculture & Farmers Welfare. These standards differentiate between quality and 2-3 grades are prescribed for each commodity. Agmark standards for 228 agricultural commodities have been notified so far under the provisions of the APGM Act 1937 with an aim to provide premium quality products to consumers, graded raw material to processors/ manufacturers/ packers and remunerative prices to the farmers. The commodities are from groups of vegetables, cereals, pulses, oilseeds, vegetable oils, ghee, spices, honey, creamery butter, wheat, atta, besan, etc.

b) Mandatory Agmark certification: Food Safety and Standards (Prohibition and Restriction on Sale) Regulations 2011 & Food Safety and Standards (Packaging and Labelling) Regulations, 2011 have prescribed compulsory Agmark certification for Four (4) food products i.e. Blended Edible Vegetable Oil, Fat Spread, Ghee having less Reichert Meissl value than that specified for the area where such ghee is sold and Light Black Pepper.

c) Export: The European Union has notified vide Commission Regulation No 1580/2007 dated 21st December 2007, the Agricultural Marketing Adviser as Official Authority and DMI as the Inspection Body for checks on conformity of fresh fruits and vegetables for export to Europe from India. In line

with that, the Directorate General of Foreign Trade (DGFT) has notified DMI as the inspection and certification body for exports of fruits and vegetables to EU countries. The DMI has approved 23 private commercial labs to issue Certificate of Agmark Grading (CAG) for fruits and vegetables (green chillies, curry leaves, okra, grapes, pomegranate and onions etc) for export.

- d) Implementation & Monitoring:** The Agmark certification scheme is implemented by 11 Regional Offices, 27 Sub Offices, 11 Regional Agmark Laboratories and a Central Agmark Laboratory through QC division at Head Office Faridabad.
- e) Agmark online certification:** In order to fulfil the Hon'ble Prime Minister's Digital India dream, the application/approval processes related to Agmark certification was envisaged to be made online and user friendly from an offline mode. The software requirement specification (SRS) was prepared to bring physical processes to online mode with several modules. While developing the online software, the application forms were appropriately reoriented to make online filing process simple, fast, transparent, 24x7 and paperless with a facility to upload scanned /PDF documents. There is a provision of online receipt of fees and e-signing at relevant stages in the new online application.

13.4.4 Chaudhary Charan Singh National Institute of Agricultural Marketing (CCSNIAM)

CCS National Institute of Agricultural Marketing is an autonomous organization under the Ministry of Agriculture and Farmers' Welfare, Govt. of India. Established in 1988,

it is mandated to carryout academic activities namely Training, Research, Consultancy, Policy Advocacy, International Programmes and Education.

CCS NIAM governing body is headed by the Hon'ble Union Minister for Agriculture and the Executive Council is chaired by Secretary, Agriculture and Farmers' Welfare, GoI. The salient features of the organization and its functions are as follows-

Objectives of CCS NIAM

- To conduct research on long term projects, policy formulation, prepare status papers, conduct case studies specific to marketing problems.
- To impart training to various levels of personnel of organizations involved in agricultural marketing activities such as State Agricultural Marketing Board (SAMB), Cooperative Marketing, Commodity Boards, Input agencies, progressive farmers, traders, entrepreneurs. To help them develop bankable projects for creation of market infrastructure & integrated value chain.
- To offer consultancy services to State and Central departments, public-sector undertakings, co-operatives etc. in preparation of Master Plans for States.
- To develop promising human resources by providing long term structured courses in agricultural marketing.
- To cover a wide information network in the country in agricultural marketing to evolve efficient, innovative and competitive marketing processes.

Achievements of CCS NIAM

(i) Post Graduate Diploma in Management (Agribusiness Management) PGDM (ABM):

The Post Graduate Diploma in Management (Agribusiness Management) PGDM (ABM) is a two year residential program approved by the All India Council for Technical Education (AICTE). The admission to the course has been made through CAT. For the session 2020-21, 63 students have taken admission to the 20th batch of PGDM (ABM). On-line sessions have been initiated due to COVID-19. 100% placement of the 2019-20 batch was achieved by CCS NIAM.

(ii) Training, Research and Consultancy Activities:

Training is the core mandate of NIAM through which it reaches out to all stakeholders in Agricultural Marketing across the States. In 2019-20, 154 training programmes have been targeted for different sectors out of which 161 programmes have been already completed covering 11,351 stakeholders.

(a) Banner Programmes are flagship programmes of CCS NIAM organized in partnership with reputed organizations such as National Institutes, Agricultural Universities and SAMETIs in different states. The Programme aims at sensitizing officials of the Department of Agricultural Marketing and allied departments on various developmental programmes launched by the Ministry of Agriculture and Farmers Welfare, Govt. of India. The Programme also focusses on addressing marketing issues around a State specific dominant crop or sector.

(b) Krishi Gyan Deep Knowledge series lectures aim at absorbing and disseminating successful experiences in agricultural marketing to all the important stakeholders in the country. Prominent professional leaders in

- agricultural marketing are invited to share their experiences at CCS NIAM. These are documented through films and disseminated to all the stakeholders in the country through cost effective IT platforms. Stakeholders covered through dissemination are officials of the Department of Agricultural Marketing, Allied Departments, Marketing Boards, Department of Agricultural Marketing/ Agri Business /Agriculture Economics of Agricultural Universities, NGOs, Corporates, Students, Researchers and Scientists.
- (c) **Webinars**:-Due to COVID-19, on-line webinars and training programmes have been completed to the tune of 161 numbers covering National Facilitators of CCS NIAM, agri-startups, scientists, practitioners and other stakeholders of agricultural marketing.

- (d) **CCS NIAM** being a National Institute is organizing 86 Training Programmes throughout the country addressing different dimensions of Agricultural Marketing. These Programmes are mostly organized with partner institutions thus ensuring synergistic impact.
- (e) **Research**: During the year 2020-21, thirteen research projects are in progress. Six Research Projects have been completed.
- (f) **Kisan Business School** is an action research, which is NIAM's initiative for enhancing farmers' income. KBS aims at educating farmers on modern production, processing and marketing activities so that their income is enhanced. Commodity specific knowledge and skills are imparted to farmers by expert institutions in all the critical stages. Kisan Business School research will focus on commodities like banana, wheat, dairy, maize, potato, poultry, fisheries etc.

(g) **Consultancy**: CCS NIAM is partnering with Warehousing Development and Regulatory Authority (WDRA), National Bank for Agriculture and Rural Development (NABARD), RKVY-RAFTAAR, Government of Andhra Pradesh, Government of Tripura, Government of Maharashtra, Department of Science and Technology-Central Arid Zone Research Institute (DST-CAZRI), Syngenta Foundation, Institute of Rural Management (IRMA), Lal Bahadur Shastri National Academy of Administration (LBSNAA) and DMI for implementation of consultancy projects.

(iii) RKVY-RAFTAAR Programme for supporting Agri-startups

CCS NIAM has been recognized as a Knowledge Partner by the Ministry of Agriculture and Farmers' Welfare, GoI for promoting agri-startups in 5 States namely, Rajasthan, Bihar, Jharkhand, West Bengal and Odisha. CCS NIAM has to train 50 – 60 agri-startups through Agripreneurship Orientation and Agri-Incubation Programmes under the RKVY-RAFTAAR programme. Both the programmes have been conducted covering 34 agri-startups.

13.4.5 Small Farmers Agribusiness Consortium (SFAC)

SFAC was set up as a registered society on 18th January, 1994 with a mission to support innovative ideas for generating income and employment in rural areas by promoting private investment in agri-business projects. Members of the SFAC board include RBI, SBI, IDBI, EXIM Bank, Punjab National Bank, NABARD, Canara Bank, Bank of Baroda, NAFED etc.

(i) Formation of Farmer Producer Organization (FPO) by SFAC

SFAC was mandated by the Department of Agriculture, Cooperation and Farmers

Welfare, Ministry of Agriculture and Farmers Welfare, Govt. of India, to support the State Governments in formation of Farmer Producer Organizations (FPOs). The initiative which was started in 2011-12 under two Central Sector Schemes for Vegetable Initiative for Urban Clusters (VIUC) and Integrated Development of 60,000 Pulse Villages in Rainfed Areas has expanded in its scope and covers special FPO projects being taken up by some State Governments under general RKVY funds as well as under the National Demonstration Project of the National Food Security Mission (NFSM), Mission for Integrated Development of Horticulture (MIDH), Mission Organic Value Chain Development for North East Region (MOVCD-NER) and Department of Animal Husbandry, Dairying and Fisheries.

Against a target of 8.92 lakh farmers by 31st December, 2020 , 8.73 lakh small & marginal farmers have been identified and mobilized and formed into 51,352 Farmer Interest Groups (FIGs). These FIGs further have been federated into FPOs and so far 886 FPOs have been registered and 24 are under the process of registration.

(ii) Equity Grant and Credit Guarantee Fund Scheme for Farmer Producer Companies :

a) Equity Grant Fund:

For Producer Companies to increase their equity capital and leverage institutional borrowing from banks, the Equity Grant Scheme enables registered farmer producer companies to access matching equity grant up to a maximum limit of Rs.15.00 lakhs per FPC from SFAC.

SFAC has sanctioned Equity Grant to 666 Farmer Producer Companies (FPCs) amounting to Rs. 43.22 Crore upto 30.09.2020.

b) Credit Guarantee Fund:

The Credit Guarantee Fund has been set up

with the primary objective of providing a Credit Guarantee Cover to Eligible Lending Institutions providing loans to Farmer Producer Companies (FPCs) without collateral up to Rs. 1.00 crore

SFAC has sanctioned Credit Guarantee to 157 FPCs for Rs. 54.64 crore w.e.f 2014-15 to 2020-21.

iii) Venture Capital Assistance (VCA)

SFAC is implementing a Central Sector Scheme of Venture Capital Assistance (VCA) to qualifying projects, which promote linkages with farmers for procurement of their produce as raw material and provides employment in rural areas. The scheme is implemented through banks & provides 26% of the promoters capital or Rs. 50.00 lakhs whichever is lower as soft loan to agripreneurs.

SFAC has assisted 3013 agribusiness projects and sanctioned/released Venture Capital Assistance of Rs. 857.46 crore generating private and institutional investment of Rs. 10105.18 Crore, which will provide an assured market to 2.03 lakhs farmers for their produce and create direct employment for 1,09,135 persons upto 30.09.2020.

13.4.6 National Agriculture Market (e-NAM)

The Ministry of Agriculture & Farmers' Welfare, Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW) has mandated the Small Farmers Agribusiness Consortium (SFAC) to act as the Lead Implementing Agency of NAM (National Agriculture Market).

National Agriculture Market is a pan-India electronic trading (e-trading) portal which seeks to network the existing physical APMCs (Agricultural Produce Marketing Committee) through a virtual platform to create a unified

national market for agricultural commodities. NAM is a “virtual” market but it has a physical market (mandi) at the back end. The NAM Portal provides a single window service for all APMC related information and services. This includes commodity arrivals, quality & prices, buy & sell offers, provision to respond to trade offers and electronic payment settlement directly into farmers’ account, among other services. While material flow (agriculture produce) shall continue to happen through mandis, an online market which aims at reducing transaction costs, bridging information asymmetry and helps in expanding the market access to farmers is required.

Scheme Design:

Under the scheme a robust common e-market platform has been set up and deployed in 1000 regulated wholesale markets in 18 States & 03 Union Territories by May 2020.

The Department of Agriculture, Cooperation & Farmers Welfare grants one-time fixed cost subject to a ceiling of Rs.75.00 lakhs per mandi for related equipments / infrastructure. Initially Rs.30.00 lakhs per mandi was allotted as a one time fixed grant for computer hardware, internet facilities, assaying equipment. While, additional Rs. 40.00 lakhs per mandi was sanctioned for creation of facilities such as sorting, grading, cleaning and packaging etc. Further for a bio-composting unit, per mandi Rs. 5.00 lakhs was allocated.

Besides providing free software to trade on the e-NAM platform, one-year ground support for hand holding of the mandi staff is provided. In addition, two trainings & awareness camps are organised for the benefit of farmers, Farmer Producer Organisations, traders, commission agents & mandi officials by the Strategic Partner.

Marketing Reforms Mandatory for Joining e-NAM:

e-NAM mandates 3 reforms in State APMC Act as a pre-requisite for the e-NAM scheme. These reforms are the following:

- a. Provision of a single unified trading licence valid across the state.
- b. Provision of E-trading and
- c. Provision of single point levy collection of market fee.

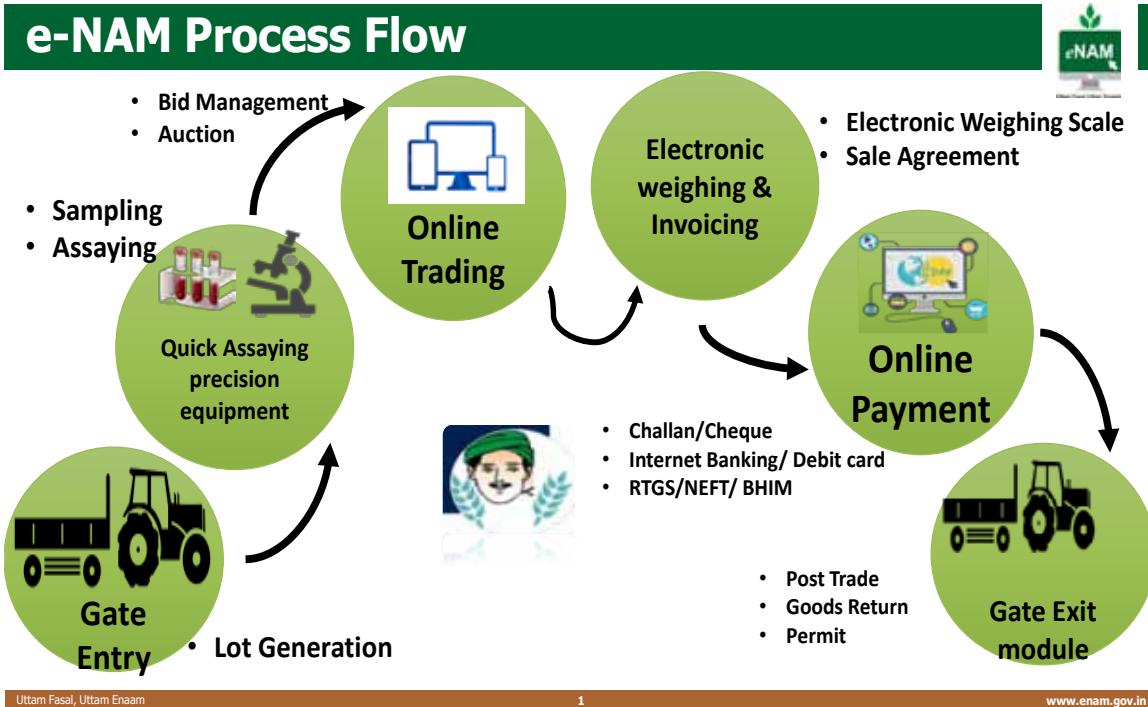
Objectives of e-NAM:

The main objectives of the scheme are:

- i. to promote better marketing opportunities for farmers/farmer producer organisations / sellers through online access to more buyers / markets, removal of information asymmetry between the farmer and trader, better and real-time price discovery based on actual demand and supply of agri-commodities, transparency in the auction process, prices commensurate with quality of produce, online payment etc. that contribute to marketing efficiency;
- ii. to establish quality assaying systems for quality assurance to promote informed bidding by buyers;
- iii. to streamline marketing / transaction procedures and make them uniform across all markets to promote efficient functioning of the markets;
- iv. to integrate regulated wholesale agriculture markets first at the level of the States and eventually across the country through a common online market platform, to facilitate pan-India trade in agricultural commodities
- v. to promote stable prices and availability of quality produce to consumers

Benefits to Farmers

- a) Farmer can access the prevailing commodity prices information on e-NAM mobile app. prior to even going to the mandi.
- b) Farmer may see the live online bid value of their produce through their mobile.
- c) The details of final bid rate of commodity of the farmer are received through SMS by him.
- d) Online payment gateway is available for transfer of bid value directly to bank accounts of farmers.
- e) Facility of pre-registration of lot is available through mobile app to facilitate quick gate entry of the lot, during peak season.
- f) Farmers may sell their produce in more than one market.
- g) e-NAM facilitates direct trade between buyers/ traders and farmers across the country.
- h) Prices are based on quality assayed parameters.



e-NAM coverage as on 30th November, 2020

State	Integrated Mandis
Andhra Pradesh	33
Chhattisgarh	14
Gujarat	122
Haryana	81
Himachal Pradesh	19
Jharkhand	19
Karnataka	2

Kerala	6
Madhya Pradesh	80
Maharashtra	118
Odisha	41
Punjab	37
Rajasthan	144
Tamil Nadu	63
Telangana	57
Uttar Pradesh	125

Uttarakhand	16
West Bengal	18
Union Territory (UT)	
Chandigarh	1

J&K	2
Puducherry	2
Total	1000

Performance at a glance (till 30th November

2020):

a) Stake holders Registration

- No. of farmers registered on e-NAM : 1.68 Crore
- No. of traders registered : 1.51 Lakhs
- No. of commission agents registered : 86,889

b) Trade Recorded

- Total trade recorded in volume : 3.89 Crore MT
- Total trade recorded in numbers : 2.52 Crore
- Value recorded : Rs 1,14,003 Cr
- Tradable parameters notified : 175 commodities

Key features of e-NAM

- 1. Unified trading licensing system for inter state:** This feature has been created for traders to apply interstate trade license in their e- NAM login to enable them to participate across e-NAM mandis in the country.
- 2. e-NAM shopping cart:** e-NAM shopping cart is a way to enable buyers to select multiple lots at the click of a button as per their choice. It has made the handling of transactions and payment processes convenient and safer.
- 3. Discounts to traders in mandi fee at the time of e-Payment:** To incentivize the move towards a cashless economy, various State Governments have come up with incentives of discounts on digital transactions. Thus, e-NAM introduced with discount facilities on e-Payment. To avail the facilities, application administrators of the state can configure desired discount percentages in the

application and in case of e-Payment mode selected by the buyer; configured discount facilities will automatically be applicable in the transaction to avail such benefits in mandi fee while making e-Payment.

- 4. Bunching of multiple invoices:** Bunching of selected invoices for single payment purpose is a trader friendly feature to reduce multiple transaction cost and time for traders. This feature is applicable for inter-mandi and interstate invoices also.
- 5. Auto sale agreement:** Auto sale agreement feature has been added to reduce e-NAM workflow execution time. This has benefitted in farmer's transaction waiting time.
- 6. Farmer Friendly Mobile App:**
 - i. Multilingual (nine languages)
 - ii. Geo-tagged e-NAM mandis to help farmers in locating the nearest eNAM mandi in a 100 km radius along with

- the last three days traded price of commodities.
- iii. Push notification
 - iv. Advance Gate Entry
 - v. Track lot progress
 - vi. Sampling and assaying facility
 - vii. Online payment facility for traders
 - viii. SMS alert on receipt of payment.
- 7. Improved Website and e-Learning:** A new enhanced website is supporting 9 languages with easy access to information. There are dedicated sections for farmers and traders. An e-learning module has been provided for learning at convenience by e-NAM users. The website has a section providing live status of mandis providing trade details.
- 8. BHIM payment facility:** Currently the e-NAM portal facilitates direct online payment to farmers through RTGS/ NEFT, Debit Card and Internet Banking. Facilitation of Unified Payment Interface (UPI) through BHIM helped in easing the payment to farmers by reducing the payment realization time from the buyers account to the pool account and in turn disbursal to farmers.
- 9. Logistic Information Module:** A logistics module was integrated in e-NAM, where logistics providers may register themselves in e-NAM portal to post information about vehicles operating in various areas of the country. It is value addition to the supply chain where the product is being transported from one point in the chain to the next for providing logistics services to e-NAM buyers.
- 10. e-NAM infrastructure upgradation (V2):** e-NAM architecture enhancement with high endurance framework for the Trader Portal is provisioned.
- 11. Part payment feature for farmers:** Part payment feature for farmers is enabled so the buyer can pay partly in cash (upto 10% of value) to assist in meeting their basic personal and farm requirements.
- 12. Farmer incentive feature for electronic payment:** A feature has been embedded in e-NAM, wherein mandis can provide incentives to farmer's account for promoting electronic payment.
- 13. FPO trading module:** FPO trading module whereby FPOs can trade their produce from their collection center without bringing the produce to APMC has been enabled.
- 14. Logistic module:** In addition to facilitate inter-mandi and inter-state trade at this juncture, an enhanced version of the logistic module whereby aggregators of transport logistic platform have been onboarded which helps users to avail trackable transport facilities for their produce.
- 15. e-NWR module:** 'Negotiable Warehouse Receipt' (e-NWRs) based trading module to facilitate the trade from warehouses itself based on e-NWR has been enabled.
- 16. ReML-UMP:** e-NAM has achieved interoperability with UMP-ReML of Karnataka state. Stakeholders can access more markets for trade on both the platforms, using inter-operability feature between these two platforms and vice versa.
- 17. iOS version:** e-NAM mobile App. is also available in iOS version.

13.5 Kisan Rath:

Kisan Rath is a mobile app to facilitate farmers/traders, transporters for transporting agri-produce, which is a critical activity affecting the availability of agri-produce in the

markets and food wastage along the supply chain. The Kisan Rath app ensures smooth supply linkages between farmers, traders, warehouses, FPOs, APMC mandis, intra-State & inter-State buyers and helps in reduction of food wastage by timely transport. The app was launched by the Hon'ble Minister of Agriculture & Farmers' Welfare, Shri Narendra Singh Tomar on 17-April, 2020. It is available in both Android and iOS versions in 11 languages (Hindi, English, Odiya, Assamese, Telugu, Malayalam, Punjabi, Kannada, Tamil, Marathi, Gujarati).

The Kisan Rath App enables the consignor (farmers, FPOs, traders) to post their transportation requirement (load request) online. The app then disseminates these load requests to the transport service providers as per various criteria (e.g. area of operation of transporter, type of vehicle, distance and

weight etc.). The service providers can then revert with a quote against the posted load requests and can also contact the consignor for negotiation and finalising the deal.

For ease of user registration and posting of load requests, Kisan Rath is integrated with e-NAM and Farms mobile app also. e-NAM and Farms app users are automatically registered on Kisan Rath and e-NAM users can post a load request from within the e-NAM app also.

As on 15.12.2020, more than 4.36 lakhs farmers, 90 thousand traders, 1900 FPOs, 26 thousand service providers, 7 major truck aggregators and 1 tractor trolley aggregator have been on boarded, providing more than 11 lakh transport vehicles for hire (comprising of trucks and tractor trolleys) and Kisan Rath has received more than 8426 post load requests.



**FPO Training, Live Demonstration and Hand Holding Session Organised
at Madhya Pradesh State Agricultural Marketing Board, Bhopal on 03rd February 2020**



FPO Training and Hand Holding Session Organised at Odisha State Agricultural Marketing Board, Bhubaneswar on 17th February 2020.

13.6 National Agriculture Market (e-NAM) Success Stories

- (a) Devagiri Kisan Agro Products Producer Company Ltd (DKAPPCCO), Paralakhemundi, Odisha



DKAPPCCO was incorporated on September 11, 2017. DKAPPCCO aggregated 100 MT cashews from members and non-members, by provided logistics & other handling support.

DKAPPCCO attended the training program organised by OSAMB and later started selling raw cashew nut using the e-NAM platform for sale of its produce. As on date, 603 quintals of raw cashew nut worth more than 6 lakh rupees at an average price of Rs. 10,336 per quintal which is better than the prevailing market price of less than Rs. 10,000 per quintal has been transported. Upon better price realization, DKAPPCCO kept on selling their produce through e-NAM. The CEO of DKAPPCCO has expressed his happiness over the transparent practices followed on e-NAM and informed how it helped DKAPPCCO in disbursal of payment to its member farmers and up keep of his books of accounts.

- (b) Adampur Farmers Producer Company Limited (AFPCL), Adampur, Haryana

AFPCL was incorporated in the month of December 2018 with a membership of 250 small and marginal farmers of Adampur block of Hissar District, Haryana. Mr. Inder Singh from AFPCL had taken mustard seed of 38.75 quintal to the local mandi for sale and he made a deal with a local trader at Rs. 4000 per quintal. However during weighment the trader refused to provide an invoice for the sale receipt. On demand of invoice, the local trader revised the price of produce from Rs.4000 to Rs. 3915 per quintal. Later Mr. Inder Singh decided to sell the same produce through e-NAM with the help of the e-NAM staff and got a price of Rs.4005 per quintal for the same produce.

- (c) Yermunai Collective Farm Producer Company Limited (YCFPCL), Gobichettypalayam, Tamilnadu

YCFPCL has 900 small and marginal farmers of coconut growers as members; YCFPCL board of directors are very pleased with the transparent system with accurate weighment and quick payment followed in the e-NAM mandi. Before trading on e-NAM, the FPC used to realize a price of Rs. 8500 per quintal for copra, however post trading on e-NAM, YCFPCL realized an average price of Rs. 9500 per quintal which is Rs. 1000 higher than the prevailing physical market price at the same point of time. As on date, the FPC has traded 141 quintals of copra worth Rs. 12.60 lakhs. The FPC has sold on e-NAM to reap the benefit of better & remunerative prices.

(d) Surya Framers Producer Company Limited (SFPCL), Basmat, Maharashtra

SFPCL was incorporated on 24th January 2015 with membership of 538 small and marginal farmers. FPC members are involved in the farming of turmeric, pulses, vegetables and milk products in Basmat Tehsil of Hingoli district. SFPCL is consistently selling their produce on e-NAM. Till date it has sold about 2890 quintal of produce worth more than Rs. 2 crores. The volume itself indicates the quantum of benefit the FPC has received by selling their produce on e-NAM..

(e) Bhudev Kisan Producer Company Ltd (BKPCCL), Auraiya, Uttar Pradesh

BKPCCL members from Sandalpur block of Kanpur Dehat district had taken a lot of 20 quintals to Auraiya e-NAM mandi. After sample testing, the assaying report was uploaded on the e-NAM portal and the minimum price quoted was Rs.1530 per quintal. The highest price offered was Rs.1555 per quintal. BKPCCL received Rs. 40 per quintal more compared to prevailing market price in the physical market Auraiya and Rs.118 per quintal higher as compared to the price offered by the aggregator in the Sandalpur block.



(f) Lalsot Kisan Samrudhi Producer Company Limited (LKSPCL), Lalsot, Rajasthan

LKSPCL was incorporated to serve small & marginal farmers in villages around Lalsot. LKSPCL is currently working in 22 villages with 669 members. LKSPCL is mainly dealing

in organic wheat and groundnut. Since April 2019. LKSPCL started selling commodities like wheat, mustard, bajra on e-NAM. LKSPCL has realised transparency in practices followed on e-NAM and also expressed satisfaction over special attention given by mandi staff to FPOs to participate in e-NAM trade.



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Chapter 14

Agricultural Cooperation

Overview:

14.1 The Cooperative Sector has been playing a significant role in the area of disbursing agricultural credit, providing market support to farmers, distribution of agricultural inputs and imparting cooperative education and training etc. The basic objective of the Cooperation Division is to design long and short term strategies for reducing economic disparities between the downtrodden rural people and the rural rich as well as regional imbalances, including rural and urban differences. The Cooperation Division is implementing one Central Sector Plan Scheme in the country during the 12th Five Year Plan viz. Central Sector Integrated Scheme on Agriculture Cooperation having two sub-components (i) Assistance to NCDC programmes for development, including assistance to Multi-State Cooperative Societies and (ii) Assistance for Cooperative Education & Training.

In addition to the above, a Central Sector Scheme of Financing Facility under Agriculture Infrastructure Fund was approved by the Cabinet on 08.07.2020 and launched by the Hon'ble Prime Minister on 09.08.2020. The scheme aims to provide a medium - long term debt financing facility for investment in viable projects for post-harvest management infrastructure and community farming assets through interest subvention and financial support. The duration of the Scheme shall be from FY2020 to FY2029 (10 years).

14.2 This Department also implements the Multi State Cooperative Societies Act, 2002 under which multi-state cooperative societies

are registered. It is an Act to consolidate the law relating to Cooperative Societies, with objects not confined to one state and serving the interest of members in more than one state, to facilitate the voluntary formation and democratic functioning of cooperatives as people's institutions based on self-help and mutual aid to enable them to promote their economic and social betterment and to provide functional autonomy to them. Therefore, the co-operative societies registered under the MSCS Act are functioning as autonomous organizations accountable to their members.

14.3 Under the umbrella scheme of Pradhan Mantri Annadata Aay Sanrakshan Abhiyan (PM-AASHA), this Department is implementing a Price Support Scheme (PSS), Price Deficiency Payment Scheme (PDPS) and pilot Private Procurement and Stockist Scheme (PPSS). Under this, States / UTs are offered to choose either PSS or PDPS in a given procurement season with respect to particular oilseeds crop for the entire State. Pulses and copra are procured under PSS. Only one scheme i.e. PSS or PDPS will be made operational in one State with respect to one commodity.

14.4 Amendment to the Constitution in Respect of Cooperatives:

Amending the State Cooperative Societies Acts in tune with the provisions of the 97th amendment in the Constitution will not only ensure autonomous and democratic functioning of cooperatives, but also ensure accountability of management to

the members & other stakeholders and also enhance public faith in these institutions. The Constitutional amendment provides for a maximum period of one year from the date of its commencement to amend the state laws relating to cooperative societies, if required, to make them consistent with the provisions of the amendment. So far 17 States, viz. Arunachal Pradesh, Assam, Bihar, Chhattisgarh, Gujarat, Haryana, Karnataka, Kerala, Madhya Pradesh, Mizoram, Odisha, Rajasthan, Tripura, Uttar Pradesh, West Bengal, Tamil Nadu and Maharashtra have amended their State Cooperative Societies Acts in consonance with the constitution(97th Amendment) Act, 2011. However, in the meantime certain provisions of the Constitution (97th Amendment) Act, 2011 have been struck down by the Hon'ble High Court of Gujarat at Ahmedabad vide order dated 22.4.2013 in WP (PIL) No.166 of 2012. The union of India has filed SLP No. 25266-25267 on 12.7.2013 before the Hon'ble Supreme Court against the aforesaid order and the case is pending before the Supreme Court for its disposal.

14.5 Major Schemes – Objectives:

I. Assistance to NCDC Programmes for Development of Cooperatives

The Central Sector Integrated Scheme on Agricultural Cooperation (CSISAC) is being implemented through National Cooperative Development Corporation (NCDC). The main objective of this component is to assist the cooperative societies through NCDC for modernization, expansion and diversification and to provide share capital and margin money etc. The following activities are undertaken under this component:-

(i) Marketing, Processing, Storage, Computerization, Weaker Section Programmes of Cooperatives,

Computerization of PACS, DCBs and SCBs and T&P Cell Scheme for strengthening Management of State Cooperative Federations and office of RCS (subsidy on tapering basis).

To provide financial assistance for improving the economic conditions of cooperatives, remove regional imbalances and to speed up cooperative development in agricultural Marketing, Processing, Storage, Computerization and Weaker Section Programmes, the Government provides assistance to NCDC for financing the activities of agro-processing, marketing of foodgrains and input supply, plantation/horticultural crops, development of weaker sections such as tribal cooperatives, dairy, poultry, livestock, fisheries, handloom coir, jute, sericulture cooperatives etc., and computerization of cooperatives.

(ii) Assistance for cotton development including ginning and pressing and establishment of new and modernization / expansion /rehabilitation of existing cooperative spinning mills :

The basic objective of the scheme is to help cotton growers fetch remunerative price for their produce through value addition besides ensuring supply of quality yarn at reasonable rates to decentralized weavers. Under this component, financial assistance is being provided to the cooperative spinning mills for share capital participation, modernization / expansion of existing mills, rehabilitation of sick cooperative spinning mills, margin money assistance to cooperative spinning mills and State Cotton Federations, besides for setting up of new and modernization of existing cotton ginning and pressing units.

(iii) Integrated Cooperative Development Projects in selected districts (ICDP)

The scheme aims to promote overall development of selected districts in the

country through cooperative efforts in agriculture and allied sectors including fisheries, poultry, handloom and rural industries etc.; strengthen the cooperative network; promote business development plans by forging effective linkage with credit and other institutional structures in the area; develop PACS as multi-purpose entities and modernization of management of cooperatives.

II Assistance to Cooperative Education and Training

i) Cooperative Education

Implementation of a special scheme for intensification of Cooperative Education and field projects in the cooperatively under developed areas/states by the National Cooperative Union of India (NCUI) for spreading general awareness about cooperative institutions, their working, business development activities, socio development activities like health care, family welfare, drinking water facilities, etc. and development of participation of women in socio-economic activities. Approved activities like implementation of educational programmes for women, youth, the minority community through the State Cooperative Unions, convening of the Indian Cooperative Congress and other conferences, seminars etc. for cooperative development, international promotional activities, running of cooperative data bank, for publication of books, journals, etc. for the promotion of cooperative activities are also undertaken.

ii) Cooperative Training by the National Council for Cooperative Training (NCCT) and the Vaikunth Mehta National Institute of Cooperative Management (VAMNICOM)

Providing training to middle level and senior level personnel of the cooperatives and State Govt. officials by NCCT

iii) Assistance to Junior Cooperative Training Centres (JCTCs)

JCTCs are primarily meant for providing training to the personnel of the base level cooperative organizations.

iv) Assistance to Centre for International Cooperation and Training in Agriculture Banking (CICTAB)

The CICTAB is located at VAMNICOM, Pune and conducts training courses/workshop/ seminars on various aspects of agriculture banking, promotes technical cooperation amongst sub region countries of SAARC like Bangladesh, Nepal, Sri Lanka and India.

III. Scheme under Umbrella Scheme of PM-AASHA implemented by DAC&FW

The umbrella scheme of Pradhan Mantri Annadata Aay SanraksHan Abhiyan" (PM-AASHA), has been implemented with approval of the Cabinet on 12.09.2018 by incorporating the erstwhile PSS with certain modifications and rolling out of new schemes of Price Deficiency Payment Scheme (PDPS) and pilot of Private Procurement and Stockist Scheme (PPSS). Under PM-AASHA, States / UTs are offered to choose either PSS or PDPS in a given procurement season with respect to particular oilseeds crop for the entire State. Pulses and copra are procured under PSS. Only one scheme i.e. PSS or PDPS will be made operational in one State with respect to one commodity. Further, States have the option to roll out Private Procurement and Stockist Scheme (PPSS) on a pilot basis in district/selected APMC(s) of the district involving the participation of private stockists for oilseed. The brief of PSS, PDPS and PPSS are as under:-

(i) PSS:- This scheme is implemented at the request of the concerned State Govt. which agrees to exempt the procured commodities from levy of mandi tax and assist central nodal agencies, in logistic arrangements,

including gunny bags, working capital for state agencies, creation of revolving fund for PSS operations, etc. as required under the scheme guidelines. Procurement of these commodities are undertaken by Central Nodal agencies at Minimum Support Price

(MSP) announced by the Govt. as and when prices fall below the MSP and as well as compliance of State Govt. to PSS guidelines. The comparative statement of procurement of pulses, oilseeds & copra 2009-10 to 2013-14 and 2014-15 to 2019-20 are given below:

ANNEXURE

Details of Pulses & Oilseeds Procured at MSP under PSS (as on 31.12.2020)							
Year	Oil seed & Copra		Pulses		Total		
	Quantity Procured (IN MTs)	MSP Value (Rs. IN LAKH)	Quantity Procured (IN MTs)	MSP Value (Rs. IN LAKH)	Quantity Procured (IN MTs)	MSP Value (Rs. IN LAKH)	
2009-10 To 2013-14	2009-10	65,197.18	28,897.37	-	-	65,197.18	28,897.37
	2010-11	34,543.41	14,903.95	586.01		35,129.42	15,078.46
	2011-12	336.70	152.36	1.57	0.52	338.27	152.88
	2012-13	77,232.54	39,405.68	96,382.03	40,722.35	173,614.56	80,128.03
	2013-14	394,598.30	162,638.81	54,861.57	23,585.79	449,459.87	186,224.60
	Total	571,908.12	245,998.17	151,831.17	64,483.17	723,739.30	310,481.35
2014-15 To 2020-21	2014-15	12,097.84	4,551.63	364,171.00	112,892.92	376,268.84	117,444.55
	2015-16	4,241.68	1,589.13	-	-	4,241.68	1,589.13
	2016-17	222,168.46	94,671.40	205,490.39	103,938.84	427,658.85	198,610.23
	2017-18	1,169,265.86	507,272.64	1,573,481.70	856,612.71	2,742,747.56	1,363,885.34
	2018-19	1,615,735.29	709,110.87	4,175,316.02	2,014,559.84	5,791,051.31	2,723,670.72
	2019-20	1,824,478.15	830,505.60	1,564,340.95	828,445.35	3,388,819.10	1,658,950.95
	2020-21*	1,063,254.05	495,255.57	2,167,222.96	1,060,450.59	3,230,477.01	1,555,706.15
	Total	5,911,241.33	2,642,956.83	10,050,023.02	4,976,900.24	15,961,264.35	7,619,857.08

* Procurement Ongoing

(ii) **PDPS:-** This scheme envisages direct payment of the difference between the MSP and the selling / modal price to pre-registered farmers selling his produce in the notified market yard through a transparent auction process. All the payments are made directly into the bank account of farmers. This scheme does not involve any physical procurement of crops as the farmers are paid the difference between the MSP and Sale / Modal price on sale in notified market.

(iii) **PPSS:-** In addition to PDPS, oilseed producing states have the option to roll out the Private Procurement Stockist Scheme (PPSS) on a pilot basis in district/ selected APMC(s) of the district involving the participation of private stockists. The pilot district/ selected APMC(s) of the district will cover one or more crop of oilseeds for which MSP is notified. Since this is akin to PSS, it involves physical procurement of the notified commodity.

14.6 Market Intervention Scheme (MIS)

The Department also implements a Market Intervention Scheme (MIS) for procurement of agricultural and horticultural commodities which are perishable in nature and for which MSP is not notified by the Central Government. The objective of intervention is to protect the growers of these commodities from making distress sale in the event of a bumper crop during the peak arrival period when the prices tend to fall below economic levels and cost of production. The condition for implementation of MIS is that there should be either at least a 10 percent increase

in production or a 10 percent decrease in the ruling market prices over the previous normal year. The scheme is implemented at the request of a State/UT government which is ready to bear 50 percent of the loss (25 percent in case of North-Eastern States), if any, incurred on its implementation. The extent of total amount of loss incurred by the implementation agency is restricted to 25 percent of the total procurement value which includes cost of the commodity procured plus permitted overhead expenses. Details of sanction accorded under MIS during the last 3 years are given below:

Details of Sanction accorded under MIS from 2017-18 to 2019-20 (As on 31.12.2020)

S.N.	Year	Period	Commodity	State	Market Intervention Price (MIP) (Rs. Per MTs.)	Sanctioned Qty (in MTs.)	MIP Value (Rs in Lakhs)
1	2018-19	13.04.2018 to 20.06.2018	Garlic	Rajasthan	32,570	154,000	50157.80
2	2018-19	13.04.2018 to 20.06.2018	Onion	Rajasthan	6,180	260,000	16068.00
3	2019-20	09.09.2019 to 31.03.2020	Apple	Jammu & Kashmir	MIP will be fixed by the Designated Price Committee		
4	2020-21	22.10.2020 to 31.03.2021	Apple	Jammu & Kashmir	MIP will be fixed by the Designated Price Committee		

I. Assistance to NCDC Programmes for Development of Cooperatives

The Department of Agriculture, Cooperation and Farmers Welfare (DACFW) is implementing cooperative development programmes through the National Cooperative Development Corporation (NCDC). The Central Sector Integrated Scheme on Agricultural Cooperation (CSISAC) is being implemented through NCDC. The three components of the Scheme are (i) assistance to cooperative marketing,

processing, storage, consumer cooperatives, weaker section programmes of cooperatives, computerization of Primary Agricultural Cooperative Credit Societies, District Central Cooperative Banks, State Cooperative Banks and Technical and Promotional (T&P) Cell Scheme for strengthening Management of State Cooperative Federations; (ii) Assistance for cotton development including ginning and pressing and establishment of new and modernization/ expansion/rehabilitation of existing cooperative spinning mills; and (iii) Integrated Cooperative Development

Projects in selected districts. Under this scheme, subsidy component is provided by the Government of India and the loan component is arranged by NCDC through its own sources.

NCDC is a non-equity based development financing institution created exclusively for the cooperative sector with the aim and objectives to promote, strengthen and develop farmers' cooperatives; assist programmes of cooperatives for supply of inputs, processing, storage and marketing of agricultural produce and consumer goods and those dealing with notified commodities and services; and assist cooperatives of weaker sections such as those comprising of members from scheduled castes, scheduled tribes, labour and women and those working in the handloom, sericulture, poultry, fishery and dairy sectors etc. The Central Government has prescribed an overall ceiling of twenty five percent (25%) of annual budget of NCDC for financing all activities under notified services so that the focus of NCDC continues on financing of cooperatives in the agriculture and allied sector. In 2020-21, an assistance of Rs.16108.44 crore has been disbursed (as on 31.12.2020) against an approved outlay of Rs.13400.00 crore for the various programmes implemented by NCDC.

1. Brief of the performance under the three components of the CSISAC Scheme:
 - i. **Cooperative Spinning Mills:** In order to improve the economic condition of cotton growers as well as handloom and powerloom weavers and to consolidate the gains achieved so far, the Department, through NCDC, continued to provide financial assistance to spinning mills and ginning and pressing units in

the cooperative sector. Assistance is provided for establishment of new cooperative spinning mills; modernisation/expansion of existing spinning mills, establishment of modern ginning and pressing units, modernisation/expansion of existing units etc. During the year 2020-21, NCDC disbursed Rs.68.24 crore (as on 31.12.2020) for this component.

- ii. **Cooperative Storage:** DACFW through NCDC has been making systematic and sustained efforts to assist cooperatives in creating additional storage capacity aimed at facilitating expanded operations of cooperative marketing of agriculture produce, distribution of inputs and sale of consumer articles. As on 31.03.2020 storage capacity assisted by NCDC stood at 165.215 lakh MT and a total amount of Rs.1091.82 crore has been disbursed under various programmes towards construction of godowns, repair and renovation of godowns, technical and margin money assistance for business promotion. During the year 2020-21 (as on 31.12.2020), Rs.4.73 crore has been disbursed for the storage programme.
- iii. **Cold Chain:** As on 31.03.2020, NCDC has cumulatively disbursed Rs.225.234 crore for 317 cold storage projects and 3 cold chain projects with a capacity of 9.889 lakh MT. Against this, 306 cooperative cold storage projects with a total capacity of 9.359 lakh MT assisted by NCDC have been completed / installed. This includes 36 projects of capacity expansion of 1.278 lakh MT. Besides, 11 cold storage projects of

0.339 lakh MT (including 2 capacity expansion projects of 0.144 lakh MT) along with 3 cold chain projects of 0.189 lakh MT standalone capacity are under implementation.

iv. Foodgrains: NCDC provides financial assistance for setting up of foodgrain processing units such as rice mills, rice flakes unit, dal mills, wheat flour mills, maize processing units, cattle feed plants etc. During 2020-21 (as on 31.12.2020), NCDC disbursed Rs.1.07 crore and cumulatively disbursed Rs.168.01 crore for this programme.

v. Oilseeds: NCDC provides financial assistance for establishment of oilseed processing units. During the year 2020-21 (as on 31.12.2020) NCDC disbursed Rs.1.65 crore (subsidy) and cumulatively NCDC has disbursed Rs.695.08 crore for oilseed processing units.

vi. Plantation Crop: NCDC provide financial assistance for establishment of units for processing of plantation crops and for meeting working capital requirement of plantation crops growers cooperatives. During 2020-21 (as on 31.12.2020), NCDC disbursed Rs.2.21 crore and cumulatively NCDC has disbursed Rs.176.01 crore for this activity.

vii. Fruit and Vegetable: NCDC provides financial assistance for setting up of fruit and vegetable processing units by cooperatives. The primary objective of the NCDC Scheme is to provide the benefit of value addition to growers in respect of their horticulture produce through processing in an efficient manner,

which in turn helps in increasing the income of the farmers. During 2020-21 (as on 31.12.2020), NCDC sanctioned Rs.0.15 crore to 2 societies. Cumulatively upto 31.12.2020, NCDC has disbursed Rs.61.09 crore for 80 fruit and vegetable processing units.

viii. Cooperatives for Weaker Sections:

NCDC is promoting and financing programmes for weaker sections and different types of projects for societies belonging to fishery, poultry, dairy, livestock, handloom, coir, jute etc.

a) Fisheries: NCDC provides assistance to fishery cooperatives to take up activities relating to production, processing, storage, marketing, etc. During 2020-21 (as on 31.12.2020), NCDC sanctioned Rs.156.77 crore (Rs.119.31 crore as loan and Rs.37.45 crore as subsidy) and disbursed Rs.27.49 crore. Cumulatively, as on 31.12.2020, NCDC has disbursed Rs.2111.02 crore under this head.

b) Poultry: NCDC has been extending assistance to poultry cooperatives. Cumulatively, NCDC has disbursed Rs.96.383 crore to 379 units/projects.

c) Dairy and Livestock: NCDC provides financial assistance to Primary, District and State level dairy cooperatives for Integrated Livestock projects/ modernisation/ expansion/ renovation of existing units; processing and marketing Infrastructure; purchase of equipment and transport vehicles; and margin money requirements.

During 2020-21 (as on 31.12.2020), NCDC has sanctioned financial assistance of Rs.34.35 crore and disbursed Rs.157.40 crore. Cumulatively, as on 31.12.2020, NCDC has disbursed an amount of Rs.5876.64 crore to dairy and livestock cooperatives.

- d) **Handloom:** NCDC provides financial assistance for the development of handloom cooperatives right from the Apex, Regional to Primary Handloom Cooperatives. Since inception of the scheme, NCDC has disbursed an amount of Rs.468.75 crore to 3478 units.
- e) **Coir:** NCDC provides financial assistance for the development of coir cooperatives for strengthening of share capital base/margin money assistance, creation of processing facilities, construction of godowns & showrooms and purchase of transport vehicles by Apex/Regional level coir cooperatives. During the last 3 years, NCDC released Rs.110 crore to the Government of Kerala for integrated development of the coir sector. Since inception of the scheme, NCDC has disbursed an amount of Rs.177.57 crore to 421 units.
- f) **Jute:** The scheme for development of jute cooperatives includes establishment/ expansion/modernization of jute mills and construction of godowns and showrooms. In 2019, NCDC disbursed Rs.35.64 crore (Rs.32.72 crore as loan and Rs.2.92 crore as CSISAC subsidy) to the Government of Assam for establishment of a composite jute mill by the Assam

Cooperative Jute Mills Limited. Since inception of the scheme, cumulatively, NCDC has sanctioned Rs.48.37 crore for 184 units/projects and disbursed Rs.39.61 crore for 183 units/projects.

- ix. **Consumer Cooperatives:** NCDC provides financial assistance for various consumer activities to primary cooperatives, District Wholesale Consumer Stores and State Consumer Federations for undertaking distribution of consumer goods in rural and urban areas. Under the CSISAC Scheme, as on 31.12.2020, NCDC has disbursed Rs.0.69 crore in 2020-21 and cumulative release stood at Rs.328.30 crore.
- x. **Computerisation of Cooperatives:** NCDC has been encouraging and financing cooperatives for computerization from the primary to the national level by providing financial assistance for computerization which includes cost of hardware, system and application software, networking, technical manpower, maintenance, infrastructure and site preparation, training and capacity building as well as technical guidance for computerization of their processes. During the year 2020-21 (as on 31.12.2020), NCDC disbursed Rs.21.86 crore to Societies/ Cooperative banks and cumulatively disbursed Rs.567.20 crore for this activity.
- xi. **Integrated Cooperative Development Projects:** NCDC is implementing the Integrated Cooperative Development Projects (ICDP) scheme in selected districts.

During the year 2020-21 (as on 31.12.2020) NCDC has disbursed loan assistance of Rs.49.17 crore and subsidy of Rs. 42.35 crore totaling to Rs.91.52 crore for ICD projects. The subsidy of Rs.42.35 crore includes Rs.11.48 crore towards manpower development and training and managerial assistance to Project Implementation Agency (PIA) and Monitoring Cell etc.

Cooperatives in Least-Developed/ Under-Developed States

The process of economic development in the country brought to light certain regional disparities and imbalances in some parts due to inherent factors like topography, agro-climatic conditions and poor infrastructure. Financial assistance, on liberal terms, is provided by NCDC to the Cooperatively Least-Developed /Under Developed States (UD/LD States) under its various schemes. Assistance for cooperative programmes in these States is provided on comparatively liberal terms entailing a subsidy component. For the purposes of funding by NCDC, the Government of India has categorized 10 States and 2 UTs as Cooperatively Least-Developed and placed 11 States and 2 Union Territories' in the category of Cooperatively Under-Developed States as follows:

- **Cooperatively Least-Developed States/UTs:** Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Jammu and Kashmir (UT) and Ladakh (UT).
- **Cooperatively Under-Developed States/UTs:** Andhra Pradesh, Chhattisgarh, Goa, Himachal Pradesh, Madhya Pradesh, Odisha, Rajasthan, Telangana, Uttar Pradesh,

Uttarakhand, West Bengal, Andaman and Nicobar Islands (UT) and Lakshadweep (UT).

During 2020-21, under all programmes under implementation including CSISAC, NCDC sanctioned financial assistance of Rs.16739.94 crore and disbursed Rs.9381.18 crore to LD/UD States accounting for 70.31% and 58.24% of total sanction and release respectively. Cumulatively, as on 31.12.2020, Rs.114420.18 crore was released to LD/UD States under various schemes of NCDC which accounts for around 67.82% of the total assistance of Rs.168702.69 crore released by the Corporation, so far.

Development of Women Cooperatives:

NCDC encourages women cooperatives to avail assistance under its various schemes. A large number of women members are engaged and involved in cooperative dealing with activities related to food grain processing, plantation crops, oilseeds processing, fisheries, dairy & livestock, spinning mills, handloom and power loom weaving, Integrated Cooperative Development Projects etc. Women Cooperatives are covered under the Weaker Section programme for the purpose of availing subsidy and concessional funding under the Central Sector Integrated Scheme on Agricultural Cooperation. NCDC has launched a unique Scheme called the "Yuva Sahakar" in 2019-20. It aims at encouraging newly formed cooperative societies with new and/or innovative ideas.

Under the scheme, NCDC provides 2% less than its applicable rate of interest on term loan for project activities in cases of timely repayments. It is more liberal to cooperatives with 100% women members, amongst others. The project cost is capped at Rs. 3.00 crore in case of a cooperative society which is

in operation for one year or more and Rs.1.00 crore in case of a cooperative society which is in operation for more than 03 months but less than one year.

During the FY 2020-21 (as on 31.12.2020), NCDC has sanctioned Rs.632.14 crore to 06 units of women cooperatives for foodgrain, service cooperatives and Yuva Sahakar in Maharashtra, Andhra Pradesh and West Bengal and disbursed Rs.590.86 crore. NCDC assistance has been provided in the form of term loan and working capital loan to meet their fund requirement towards expansion of their businesses.

In the 06 projects sanctioned exclusively for women cooperatives in FY 2020-21, more than 90.26 lakh women members of these societies have benefitted. NCDC has been playing a significant role over the years to uplift women cooperatives towards empowerment of women across the country. Further, out of the 235 projects/units sanctioned in FY 2020-21 (as on 31.12.2020), under all programmes including assistance to the 06 women cooperatives, it is estimated that 100.51 lakh women are enrolled as members, out of which 170 women members are on the Board of Directors.

To promote women participants and empower them to lead and govern cooperatives, NCDC's dedicated Academy- Laxmanrao Inamdar National Academy for Cooperative Research and Development (LINAC) at Gurugram organised training programmes exclusively for women Directors/Cooperators. For the FY 2020-21 upto 31.12.2020, eight (08) training programmes were organised at LINAC, Gurugram attended by 520 women cooperators. In addition 5 training programmes were organized at LINAC, Regional Training Centres at Gandhinagar, Kolkata, Hyderabad, Pune and Chennai

attended by 388 women cooperators. Cumulatively, as on 31.12.2020 LINAC has organized 13 training programmes exclusively for women cooperators in FY 2020-21 and attended by 908 women cooperators.

Laxmanrao Inamdar National Academy for Cooperative Research and Development (LINAC)

NCDC established the Laxmanrao Inamdar National Academy for Cooperative Research and Development (LINAC) at Gurugram, Haryana as its training academy to train and develop personnel engaged in NCDC assisted projects / schemes. The Corporation has set up 18 Regional Training Centres (RTCs) of LINAC at 18 Regional Directorates of NCDC. LINAC has conducted 81 online training programmes attended by 5289 participants (as on 31.12.2020). It includes 23 training programmes attended by 1758 participants and conducted by different Regional Training Centers of LINAC (as on 31.12.2020) during 2020-21.

II. Assistance to Multi-State Cooperative Societies

The objective of this scheme is to strengthen the scope of weaker National Level Federations giving financial assistance for approved activities viz; promotional, technical and consultancy services, research studies, improvement of infrastructural facilities, conference/workshops/seminars/trainings, skill development programmes and for undertaking commercial/economic activities for their self-reliance and sustained growth and development. During the year 2019-20, financial assistance has been provided to the following National Level Federations:-

National Federation of Urban Cooperative Banks and Credit Societies Ltd. (NAFCUB), New Delhi.

NAFCUB is an apex National Level Federation of Urban Co-operative Banks and Credit Societies in the country and is registered under the Multi-State Cooperative Societies Act, 2002. NAFCUB is committed to work towards building a strong and viable urban co-operative banking and credit system across the Country, to strive for a level playing field for the institutions, to be an effective voice of the sector, to work towards eliminating visible weaknesses and infirmities, to provide training and other support and to knit the institutions into a cohesive unit for them to benefit from the strength of being in the co-operative system. During the year 2019-20, no grants-in-aid have been released to NAFCUB.

All India Federation of Cooperative Spinning Mills Ltd. (AIFCOSPIN)

AIFCOSPIN, Mumbai was established in 1964 as an apex body of Cooperative Spinning Mills at the national level with the objective of looking after the promotional needs of co-operative spinning mills. It is registered under the Multi-State Co-operative Societies Act, 2002. During the year 2019-20, no grants-in-aid have been released to AIFCOSPIN.

National Cooperative Agriculture and Rural Development Banks' Federation Limited (NCARDBF), Mumbai

NCARDBF, Mumbai, is an Apex Body of Cooperative Agriculture and Rural Development Banks functioning in the country, to promote the interests of all its Members and assisting them in attaining organisational and business goals. Its aim is to promote mutual understanding among members and providing them a common forum for interactions on legal, policy and operational issues and to channelize efforts to resolve such issues. During the year 2019-20, no grants-in-aid have been released to NCARDBF.

National Federation of State Cooperative Banks Ltd., (NAFSCOB), Mumbai.

NAFSCOB was founded on 19th May, 1964. It is facilitating operations of State and Central Cooperative Banks in particular and development of cooperative credit in general. During the year 2016-17, Rs.45.00 lakhs as grants-in-aid has been released to it. The Federation's objectives are to provide a common forum to the member banks to examine the problems of cooperative credit banking and allied matters and evolve suitable strategies to deal with them, to promote and protect the interests of the member banks in all spheres of their activities and to give expression to the views of the member banks; co-ordinate and liaison with the Government of India, Reserve Bank of India and the respective State Governments,

National Labour Cooperatives Federation of India Ltd. (NLCF), New Delhi

NLCF, an apex national level organization of Labour Co-operative Societies was established in November, 1981. It is registered under the Multi-State Co-operative Societies Act, 2002. During the year 2017-18, Rs.46.00 lakhs as grants-in-aid has been released to it. The main objective of the federation is to organize, promote, guide and develop labour cooperatives for the economic and social development of the unorganized labour sector especially economically weaker sections of the society. During the year 2019-20, Rs.7.50 lakhs as grants-in-aid has been released to NLCF.

National Federation of Fishers Cooperative Ltd. (FISHCOPFED), New Delhi.

The National Federation of Fishers Cooperatives Ltd. (FISHCOPFED) is a national level federation of fisheries cooperatives and the apex institution of the Indian Fisheries

Cooperative Movement. Its motto is to promote and develop the fishery cooperative movement in India, to educate, guide and assist fishers in their efforts to build up and expand the fishery cooperative sector and serve as an exponent of cooperative opinion in accordance with cooperative principles. It was established in 1980 as an All India Federation of Fishermen Cooperatives and was rechristened as the National Federation of Fishermen's Cooperatives Ltd. in 1982. During the year 2019-20, Rs.7.50 lakhs as grants-in-aid has been released to FISHCOPFED.

National Federation of Cooperative Sugar Factories Limited (NFCSF), New Delhi

The National Federation of Cooperative Sugar Factories Ltd (NFCSF) was registered as a Multi-Unit Cooperative Society on December 2,1960 under the provisions of the Bombay Cooperative Societies Act 1925 as extended to the Union Territory of Delhi. In 1972, it was deemed to be under the Delhi Cooperative Societies Act 1972 and later under the Multi State Cooperative Societies Act 1984. Since, 2002, NFCSF is deemed to be under the Multi State Cooperative Societies Act, 2002. During the year 2019-20, no grants-in-aid have been released to NFCSF.

SUGAR FEDERATION

The objectives of the Federation are:

- (i) To advocate and promote & safeguard the interests of its members in accordance with cooperative principles.
- (ii) To arrange education and training for the benefit of its members.
- (iii) To arrange for technical support and services to its members both for improving their operational

efficiency as well as for organisation and promotion of new cooperative sugar factories.

- (iv) To promote R & D activities for its members, sponsor research projects, conferences, seminars etc., to find solutions of the problems of its member cooperative sugar factories and allied subjects.
- (v) To act as the accredited representative and spokesman organisation of the cooperative sugar sector factories at the policy fora of Central and State Governments, business fora and organisations relating to the sugar industry; establish liaison with national and international organisations and others allied to the sugar industry.
- (vi) To advice and assist its members in matters related to their management and operations.
- (vii) To undertake information services for the benefit of its members.
- (viii) To publish literature and documents on the sugar industry for the benefit of its members.
- (ix) To undertake any other activities that are incidental and conducive to the attainment of its objectives and interest of its members for the development and progress of sugar and its co-product industries either directly or through strategically collaborative joint ventures or partnership with organisations including insurance within India and abroad.

III. Assistance for Cooperative Education and Training:

The Government of India has been

implementing a Central Sector Scheme for Cooperative Education and Training through the National Cooperative Union of India (NCUI) and the National Council for Cooperative Training (NCCT) since 1960. Upto 50% of the expenditure is give as grant in aid to NCUI by the Government for Cooperative Education in cooperatively Under Developed States (UDS) and under developed areas of developed states and for other approved activities. The Government also provides grants up to the extent of 50% to Junior Cooperative Training Centres (JCTCs) through NCUI. The JCTCs are being run by State Cooperative Unions/State Governments. NCUI monitors the programmes of JCTCs. Currently, NCUI has been running 43 Cooperative Education Field Projects spread over 22 States and Union Territories and also conducting various programmes at NCUI Head Office.

During the financial year 2019-20, NCUI through its Cooperative Education Field Projects conducted wide-ranging programmes on various issues of Cooperative Development. Under UDS Projects, NCUI has organized 18823 programmes in which, 273042 participants have benefited.

The National Centre for Cooperative Education (NCCE) of NCUI during the year 2019-20, organized 204 training programmes including a 12 weeks Diploma Programme in Cooperative Education and Development. 6894 candidates from various sectors of the cooperative movement in different states were trained through these programmes. Out of 204 training programme, 47 programmes were for weaker sectors like labour, fisheries, tribal cooperatives

etc. and exclusively for SC/ST cooperatives. 36 (thirty-six) programmes were organized exclusively for women cooperatives. During April-September, 2020, NCUI through its NCCE organized 40 programmes with 2173 participants and 2580 participants for the year 2020-21. Out of these events 04 programmes with 577 participants were imparted for weaker cooperative sectors like Labour, Fisheries, Poultry, Joint Farming, Construction, Handloom & Handicraft and SC/ST Cooperatives etc. Considering the need for socio economic development of women, 08 programmes were conducted exclusively for women in which 261 participants took part . During this period, courses like Diploma on Cooperative Management and Law, Audit, Taxation and Accounts and Certificate Course on Advance Computer Course (MS) and Certificate Course on Cooperative Management have also commenced in universities for youth so that they understand the cooperative management system and after completion of these courses, students may establish cooperative as self employment and also meet the requirement of professionals of cooperative organizations in India. During the Financial Year 2019-20, a sum of Rs. 250.50 Lakh has been released to NCUI by DAC&FW.

NE Region: The Government of India is providing separate assistance for intensification of cooperative education in the north-eastern region through NCUI. It has established seven field projects namely in Aizawl (Mizoram), Thoubal (Manipur), Mangalwaria (Sikkim), Shillong (Meghalaya), Kohima (Nagaland), Morigaon and Jorhat (Assam) in the North Eastern region.

14.7 Target and Achievement

Progress of Training Programmes- NCUI During The Last Three Years (2017-18 to 2019-20)

Year	Target	Achievement
2017-18	324347	326230
2018-19	324347	287798
2019-20	324347	350004

Assistance is also given to the Centre for International Cooperation and Training in Agricultural Banking (CICTAB), Pune. During the year 2019-20 no grants have been released to CICTAB to conduct international training programme for the personnel working in the cooperatives of the SAARC countries.

Cooperative Training programmes are also being conducted by the National Council for Cooperative Training(NCCT) through its 5 Regional Institutes of Cooperative Management, 14 Institutes of Cooperative Management located in different States and the Vaikunth Mehta National Institute of Cooperative Management, Pune. An amount of Rs. 553.25 Lakhs was released to NCCT for VAMNICOM, Rs. 5531.00 Lakhs towards Assistance to NCCT and Rs. 97.00 Lakhs towards Assistance to NCCT (NER) during the year 2019-20. During the year 2019-20, NCCT has organized 1783 training programmes and trained 60881 participants against the target to organize 1740 training programmes and to train 43,500 participants. During the current financial year 2020-21, a sum of Rs. 1900.00 lakh has been released till date as grants-in-aid to NCCT including the NE Region Out of the total 1740 planned programmes during the year 2020-21 and to train 43500 participants, NCCT conducted 494 training programmes and trained 16610 participants up to November, 2020.

14.8 Training Network of NCCT

National Level	Vaikunth Mehta National Institute of Cooperative Management (VAMNICOM), Pune
Regional Level	Five Regional Institutes of Cooperative Management at Chandigarh, Bangalore, Kalyani, Gandhinagar, Patna.
State Level	Fourteen Institutes of Cooperative Management at Bhopal, Bhubaneswar, Chennai, Dehradun, Guwahati, Hyderabad, Imphal, Jaipur, Kannur, Lucknow, Madurai, Nagpur, Pune & Thiruvananthapuram.

The training units of the Council have been imparting training to the personnel of all sectors of the cooperative movement in India to enhance knowledge, skill and attitude of the employees., as General Management Programme, Cooperative Credit and Banking, Urban Cooperative Banking, Long Term Finance, Cooperative Marketing and Processing, Consumer Cooperative Management, Handloom Cooperative Management, Cooperative Accounts and Audit, Fishery Cooperative Management, Cooperative Law and Allied Laws, Dairy Cooperative Management, Housing Cooperative Management, Industrial Cooperative Management, Cooperative Education and Training etc.

In addition to the targets, units of the NCCT are conducting professional programmes duly approved by AICTE. Out of the 20 Training Units, VAMNICOM and RICM Gandhinagar are conducting PGDM and ICMs -Bhubaneswar, Chennai, Dehradun, Kannur, Lucknow, Madurai, Nagpur and Thiruvananthapuram are conducting MBAs affiliated with State Universities.

14.9 Collaborative Programmes organised in association with other Organisations

- National Bank for Agriculture and Rural Development (NABARD)
- Bankers Institute of Rural Development (BIRD)
- National Backward Classes and Finance Development Corporation (NBCFDC)
- Forward Market Commission (FMC) and Security Exchange Board of India (SEBI)
- Warehousing Development and Regulatory Authority (WDRA)
- Director General Resettlement (Ministry of Defence)
- Development Commissioner Handicrafts, Ministry of Textiles
- National Urban Livelihood Mission (NULM)
- National Cooperative Development Corporation(NCDC)
- National Federation for Urban Cooperative Banks & Credit Societies Ltd.

Efforts are on to identify new partners for collaboration.

14.10 Objectives of NCCT

- To formulate overall policies and plans relating to cooperative training.
- To organise and direct arrangements in regard to training to personnel employed in cooperative departments and cooperative institutions in the country.
- To assess periodically the needs of training for cooperative personnel to facilitate planning and designing of training arrangements.
- To establish and manage cooperative

- training institutions.
- To identify problem areas of cooperatives requiring research and to organize studies.
- To ensure maintenance of high academic standards in cooperative education and training in various institutes in the country and suggest syllabi and standards of education for different courses.

14.11 Target and Achievement

Progress of Training Programmes-NCCT Units During The

Last Three Years (2017-19) & 2020-21

Year	Target		Achievement	
	Prog	Participants	Prog	Participants
2017-18	1600	40000	1924	61548
2018-19	1740	33500	1817	62517
2019-20	1740	43500	1783	60881
2020-21 (Upto Sept. 2020)	1740	43500	258	8438

14.12 Central Sector Scheme of Financing Facility under the Agriculture Infrastructure Fund.

Under the scheme, Rs. 1 Lakh Crore will be provided by banks and financial institutions as loans to Primary Agricultural Credit Societies (PACS), Marketing Cooperative Societies, Farmer Producers Organizations (FPOs), Self Help Group (SHG), Farmers, Joint Liability Groups (JLG), Multipurpose Cooperative Societies, Agri-entrepreneurs, Startups and Central/State agency or Local Body sponsored Public Private Partnership Projects.

All loans under this financing facility has an interest subvention of 3% per annum up to a limit of Rs. 2 crore. This subvention is available for a maximum period of 7 years. Further,

credit guarantee coverage is available for eligible borrowers from this financing facility under the Credit Guarantee Fund Trust for Micro and Small Enterprises (CGTMSE) scheme for a loan up to Rs. 2 crore. The fee for this coverage is paid by the Government.

The first meeting of the National Level Monitoring Committee has been held on 26.08.2020 wherein necessary approval for the scheme has been given. Hon'ble Agriculture Minister has held meetings with Chief Ministers and Agriculture Ministers of State Governments on 21.08.2020 and 27.08.2020 to sensitize the states for better implementation of the scheme.

Orders for convergence of AIF with Sub-Mission on Agricultural Mechanization (SMAM), PM-KUSUM and Gobar Dhan have been issued.

MOUs with all twelve public sector banks and eleven private sector banks have been signed by DAC&FW. A portal for the scheme has been created with URL <https://agriinfra.dac.gov.in>. FAQs and DPR template for the scheme have also been issued.

As 31.12.2020, Rs. 1565 Cr. has been in principal sanctioned under the scheme to 3064 PACs by NABARD. PACs have submitted 37753 more applications for a loan amount of Rs. 2735 Cr. As of now, 1420 applications have been received on the portal by entities other than PACs. Out of which 784 applications seeking loan of Rs. 795 Cr. have been prima facie found eligible by the PMU and sent to respective banks. Out of 784 applications, 177 have been sanctioned by banks for a loan amount of Rs. 186 Cr.

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Chapter 15

Agriculture Trade Policy, Promotion and Logistics Development

15.1 Overview

Agriculture Trade Policy, Promotion and Logistics Development Division of this Department is entrusted with the responsibility of making policy recommendations on export, import and logistics development of the agriculture sector and formulation of strategy for boosting international trade in agri commodities. It is the nodal Division of the Department for coordinating/formulating responses on World Trade Organization's (WTO) Agreement on Agriculture (AoA), matters relating to Preferential Trade Agreements (PTAs)/Free Trade Agreements (FTAs) and agro logistics with the Department of Commerce (DoC), matters relating to FDI in agriculture with Department for Promotion of Industry and Internal Trade (DPIIT), matters relating to the modification in the Custom duty and Goods and Services Tax (GST) on agricultural commodities with the Department of Revenue (DoR).

15.2 India's Agriculture Trade

15.2.1 Agri-Export:

Export of agricultural commodities has helped producers to take advantage of the wider international market which, in turn, has incentivized their domestic production. Crops exported in large quantities viz. rice, sugar, and spices have witnessed a significant increase in area coverage and growth rate of production. India has emerged as a significant agri-exporter in crops like rice, spices, cotton, oil meal cake, castor oil, coffee, cashew, tea, fresh vegetable and sugar.

As per available WTO's Trade Statistics (2018), the share of India's agricultural exports and imports in the world agriculture trade were 2.15% and 1.54%, respectively.

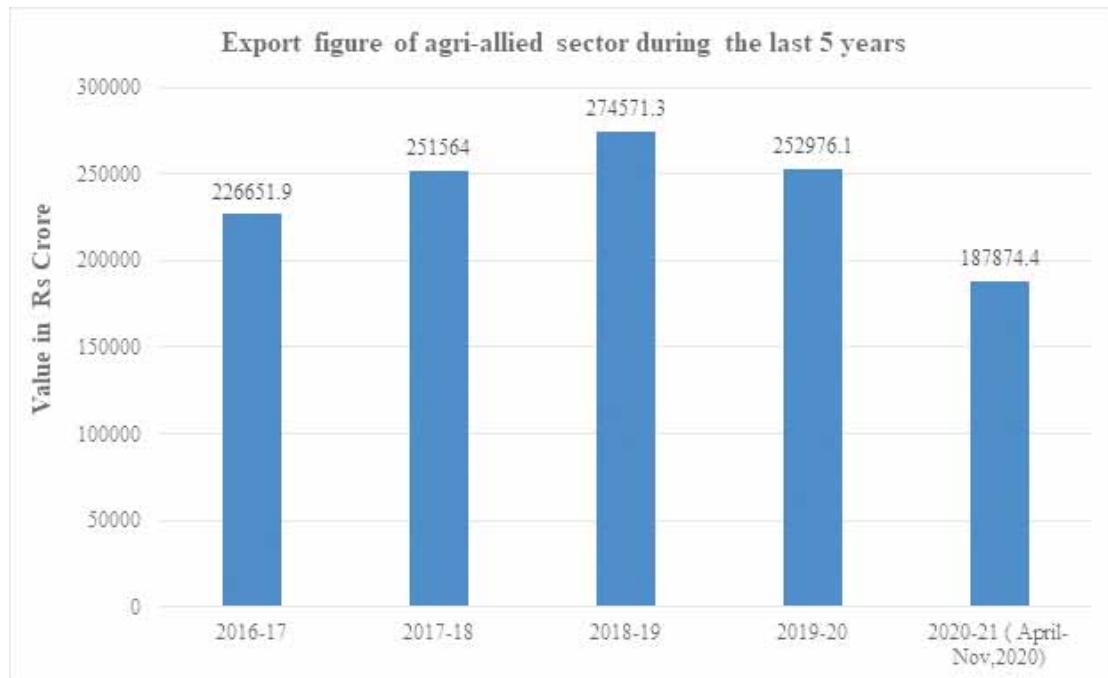
Share of agricultural exports as a percentage of agricultural GDP has decreased from 9.9 % in 2018-19 to 8.3 % in 2019-20. During the same period, share of agricultural imports as a percentage of agricultural GDP has decreased from 4.9 % to 4.8 %.

The share of agricultural exports in India's total merchandise exports has increased from 10.9% in April-Nov, 2019-20, to 14.4% in April-Nov, 2020-21.

As compared to the previous year (April-Nov, 2019-20), the agri and allied exports in the year 2020-21 (April-Nov) increased by 15.87% to Rs. 1,87,874.42 crores. The increase in agri and allied exports during 2020-21 (April-Nov) was primarily on account increased exports of commodities like cotton raw(140%), rice-other than basmati (118%), sugar (72%), oil meals (32%), basmati rice(13%), fresh vegetables (12%), and spices (8%) which witnessed high growth in April-Nov, 2020-21 as compared to the previous year.

Major destinations of exports for India's agri and allied commodities are the United States of America, Vietnam, the United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom.

The export of agri-allied sector during the last 5 years is as below:



Source: Department of Commerce, Government of India.

India's top 10 agricultural export commodities (in terms of value) for the year 2016-17 to 2020-21(April-Nov, 2020) are given in the Table-1 below:

Table 1: India's Exports of Top-10 Agricultural Commodities

[Value in Rs. Crores, Quantity in '000' Tonnes]

S. No.	Commodity	2016-17		2017-18		2018-19		2019-20		2020-21 (Upto Nov-20)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
1	RICE -BASMOTI	3985.2	21512.9	4056.9	26870.7	4414.6	32804.3	4454.8	31026.3	3047.5	20026.7
2	RICE(OTHER THAN BASMOTI)	6770.8	16929.9	8818.5	23437.2	7648.0	21171.2	5056.3	14400.3	7025.1	19779.8
3	SPICES	1014.5	19111.3	1096.3	20084.9	1133.9	23217.8	1193.4	25642.0	1021.7	19093.8
4	BUFFALO MEAT	1323.6	26161.4	1350.3	26035.2	1233.4	25091.4	1152.3	22661.1	705.2	15489.2
5	SUGAR	2544.0	8659.5	1757.9	5225.6	3989.7	9523.1	5798.5	13981.6	4569.8	12121.4
6	COTTON RAW INCLD. WASTE	996.1	10907.3	1101.5	12200.1	1143.1	14627.6	657.8	7539.5	597.3	6085.5
7	OIL MEALS	2632.3	5410.1	3570.8	7043.2	4493.3	10557.5	2655.8	5861.4	2190.9	5241.6
8	CASTOR OIL	599.2	4521.5	697.1	6730.0	619.4	6170.1	593.9	6323.8	485.7	4367.7
9	FRESH VEGETABLES	3404.1	5790.7	2448.0	5297.7	3192.5	5679.1	1930.5	4617.3	1772.7	3826.7
10	MISC PROCESSED ITEMS	0.0	3053.8	0.0	3549.0	0.0	4613.4	0.0	4586.8	0.0	3769.3
Total Agri & Allied Exports		226651.9		251564.0		274571.3		252976.1		187874.4	

Source: Department of Commerce, Government of India

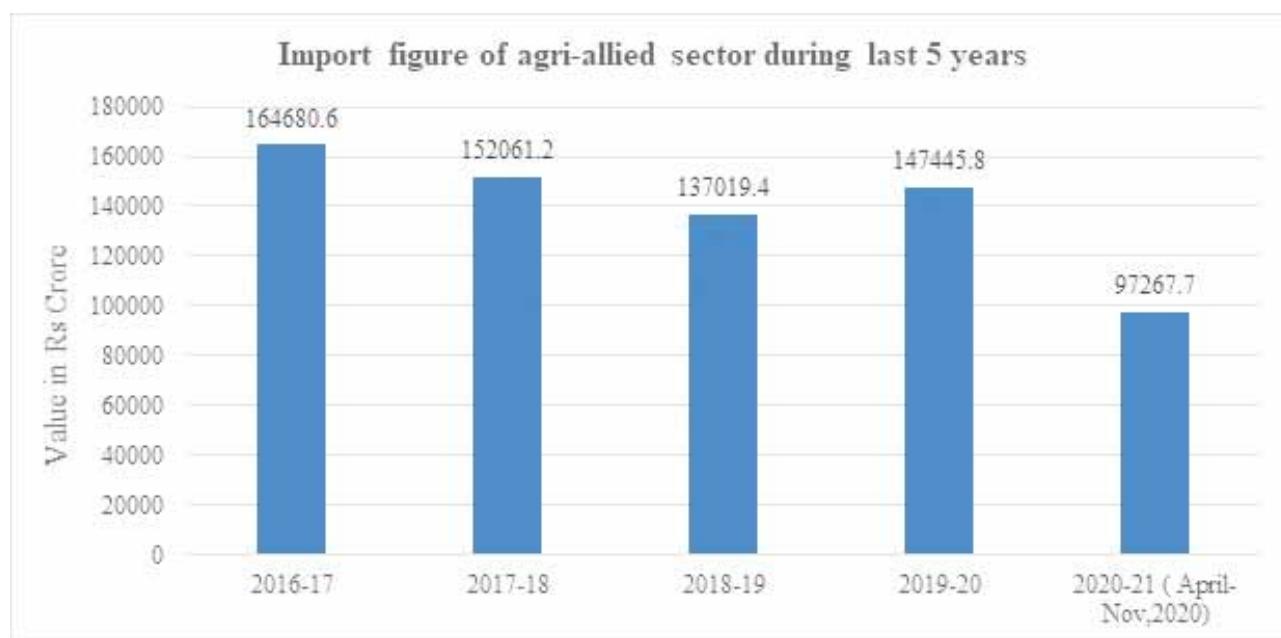
15.2.2 Agri-Imports:

As compared to the previous year (April-Nov, 2019-20), the agri and allied imports in the year 2020-21 (April-Nov) declined by -3.55% to Rs 97267.66 crore. Decrease in value of agri and allied imports during 2020-21 (April-Nov) were primarily on account of lower imports of cotton raw incld. waste (-79), spices (-33.6), cashew (-15.7), pulses (-6.5), etc. Similarly, the total merchandise imports dropped more significantly, therefore the share of agri and allied imports increased

from 4.4% in April-Nov, 2019-20 to 5.9 % in April-Nov, 2020-21.

Major sources of import of India's agri and allied commodities are Indonesia, Ukraine, the United States of America, Argentina, Malaysia, Brazil, Singapore, Afghanistan, China, Thailand, Vietnam, the United Arab Emirates, Cote d'Ivoire, Australia and Myanmar.

The import of the agri-allied sector during the last 5 years is as below:



Source: Department of Commerce, Government of India

India's top 10 agriculture import commodities in terms of value for the year 2016-17 to 2020-21(April-Nov, 2020) are given in the Table 2 below:

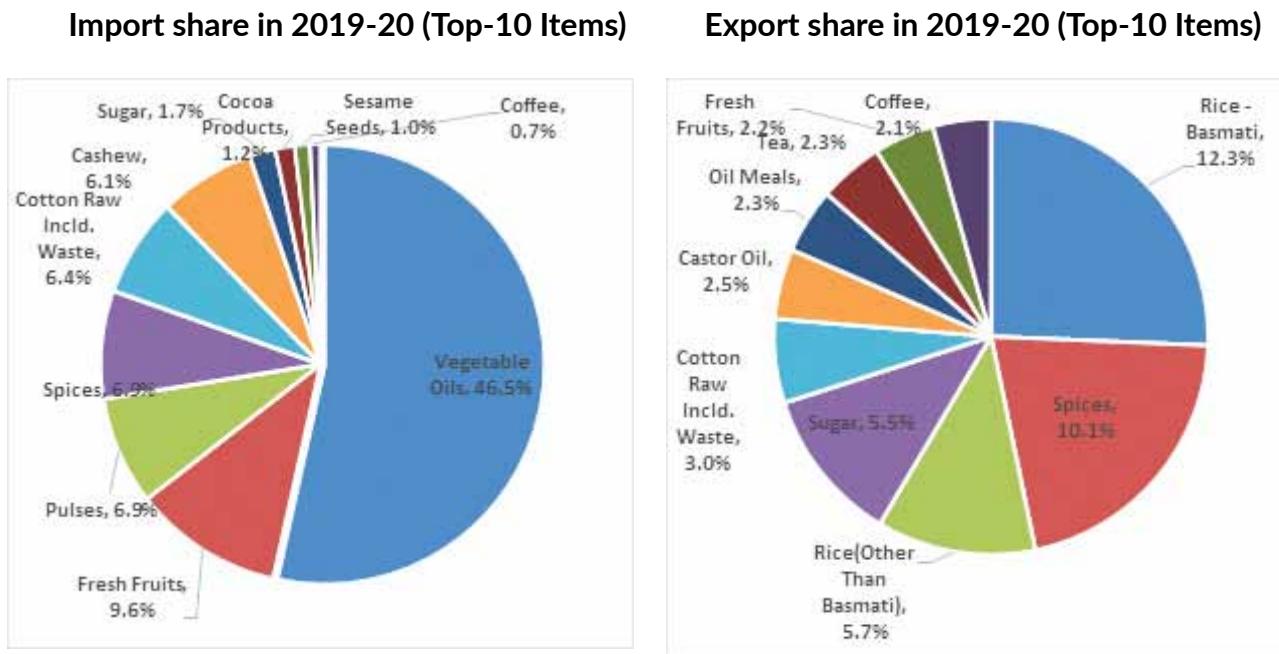
Table 2: India's Imports of Top-10 Agricultural Commodities

[Value in Rs. Crores, Quantity in '000' Tonnes]

S. No.	Commodity	2016-17		2017-18		2018-19		2019-20		2020-21 (Upto Nov-20)	
		Qty	Value	Qty	Value	Qty	Value	Qty	Value	Qty	Value
1	VEGETABLE OILS	14009.9	73047.7	15361.0	74995.9	15019.3	69023.8	14722.1	68558.2	9272.6	50517.0
2	FRESH FRUITS	1040.2	11241.0	994.7	12524.6	1124.2	13931.7	993.7	14137.1	637.3	9471.4
3	PULSES	6609.0	28523.9	5607.5	18748.6	2527.9	8035.3	2898.1	10221.4	1532.3	7148.4
4	CASHEW	774.3	9027.1	654.0	9134.3	839.6	11162.3	941.4	9026.3	668.8	5898.8
5	SPICES	240.4	5757.8	222.3	6385.3	240.6	7932.7	320.9	10186.9	218.3	4952.0
6	SUGAR	2146.2	6868.6	2403.0	6035.8	1490.6	3175.4	1117.7	2473.2	1507.3	3530.5
7	ALCOHOLIC BEVERAGES		3581.1		3876.1		4678.7		4643.5	0.0	2551.1
8	COTTON RAW INCLD. WASTE	498.7	6337.4	469.1	6306.8	299.3	4383.4	744.3	9371.2	143.1	1705.4
9	OTHER OIL SEEDS	117.2	394.8	127.4	364.6	220.5	745.4	410.9	1527.8	353.3	1538.2
10	MISC PROCESSED ITEMS		2116.2		2249.7		2560.2		2635.9	0.0	1304.1
Total Agri & Allied Imports			164680.6		152061.2		137019.4		147445.8		97267.7

Source: Department of Commerce, Government of India

Share (in value terms) of top 10 exported and imported agricultural commodities during 2019-20 are as follows:



Source: Department of Commerce, Government of India

15.3. EXIM Policy of Agricultural Commodities:

15.3.1 EXPORT:

- ❖ At present, export of most of the agricultural commodities (excluding allied products) is free i.e. without any restriction. Only export of seeds is under restriction and mustard oil is permitted in branded consumer packs of upto 5 kgs with a Minimum Export Price (MEP) of USD 900/MT.

15.3.2 IMPORT:

- ❖ As of now, import of peas, moong, urad, tur, refined palm oil, potato and some seeds of vegetables/spices/cereals/oilseed only are under restriction and other agricultural commodities (excluding allied products) are free for import.

Details of restriction:

- ❖ To protect the interest of domestic

growers/farmers and their livelihood from cheap import of the commodity and also to take care of consumer interests , the GoI notified different kinds of import restrictions in consultation with Department of Agriculture, Cooperation & Farmers Welfare, Department of Commerce, Department of Consumer Affairs, Department of Food & Public Distribution and Department of Revenue during 2019-20 and 2020-21:

- ✓ The import of all kinds of Refined Palm Oil (HS Code 1511 90) has been restricted w.e.f. 08th January, 2020 to encourage the domestic production of vegetable oil particularly palm oil in the country.
- ✓ Minimum Import Price (MIP) has been imposed on import of the following items to check their cheap import from abroad:

- MIP of Rs 500/kg on Pepper (w.e.f. 06th December, 2017)
 - MIP of Rs 251/kg on Arecanut (w.e.f. 17th January, 2017)
 - MIP of Rs 680/kg on Cashew Kernel, Broken (w.e.f. 12th June, 2019)
 - MIP of Rs 720/kg on Cashew Kernel, Whole (w.e.f. 12th June, 2019)
 - MIP of Rs 200/kg on Peas (w.e.f. 18th December, 2019)
 - MIP of Rs 150/kg on Desiccated Coconut (w.e.f. 08th January, 2020)
- ✓ In view of surplus production of wheat and higher availability in the domestic market, import tariff on wheat has been increased from existing 30% to 40% in April 2019.
- ✓ To take care of demand supply gap, quotas were allowed for import of Peas and Moong to the tune of 1.5 lakh MT/fiscal year and for import of Tur (Arhar) and Urad to the tune of 4 lakh MT/fiscal year.
- ✓ DGFT vide Notification dated 9th July, 2020 has put port restriction on import of Cut Flowers under HS Code 0603 to encourage the Indian floriculture industry. Import would be allowed through Chennai airport only.
- ✓ To supplement the shortage of production in potato, Govt. of India has made the following intervention:
- a) Department of Revenue vide Notification dated 28th October, 2020 has allocated Tariff Rate Quota upto 10 lakh MT of potato (HS Code 0701 90 00) @ 10% custom duty upto 31st January, 2021.
- b) DGFT vide Public Notice dated 30th October, 2020 has notified the procedure for import of 10,00,000 MT of potatoes, at in quota tariff of 10% till 31.01.2021 under HS Code 0701 of Chapter 7 of ITC (HS), 2017, Schedule - I (Import Policy).
- c) DGFT vide Notification dated 30th Oct, 2020 has allowed import of potatoes (HS code 0701 90 00) from Bhutan without license upto 31st January, 2021.
- ✓ **Onion and Onion Seeds:** To ensure availability at reasonable rates to consumers during the lean season, the export of fresh/chilled onion was prohibited w.e.f. 14th Sept, 2020. but, export of Bangalore Rose Onions and Krishnapuram Onion upto the quantity of 10,000 MT each, was still allowed for the period upto 31st March, 2021 as these are specifically grown for export markets. Besides this, export of onion seeds (HS Code 1209 91 30) has also been prohibited w.e.f. 29th October, 2020.
- ✓ However, keeping in view the encouraging sowing and production prospects the prohibition on export of onion has been lifted from 01st January, 2021 to help farmers get a better price for their produce.
- ✓ With a view to support the Indian

bamboo industry, Department of Revenue vide notification no. 27/2020-Custom dated 09th June, 2020 has withdrawn the concessional rate of 10% available to the import of bamboo for the manufacture of agarbattis, and levied a uniform rate of 25% on import of bamboos [HS 1401 10 00].

15.4. Foreign Direct Investment (FDI) Policy in the Agriculture Sector:

As per extant FDI Policy, 100% FDI is allowed in the following sectors through the automatic route:

- Floriculture, Horticulture, Cultivation of Vegetables & Mushrooms under controlled conditions;
- Development and Production of seeds and planting material;
- Animal Husbandry (including breeding of dogs), Pisiculture, Aquaculture, Apiculture and
- Services related to agro and allied sectors

Further, **100% FDI is also permitted** in the tea sector including Tea plantations, Coffee plantations, Rubber plantations, Cardamom plantations, Palm Oil plantations and Olive oil tree plantations through the automatic route.

FDI in **Multi-Brand retail** is also permitted upto 51% through the Government route in the agricultural sector with some conditions.

The details of FDI inflows in the agriculture sector (Agriculture Service and Agriculture Machinery) in India is given in Table 3 below:

Table 3: FDI Inflows in the Agriculture Sector in India

Year	Amount of FDI Inflows	
	(In Rs. Crore)	(In US\$ Million)
2012-13	1392	257
2013-14	845	140
2014-15	796	130
2015-16	673	103
2016-17	618	92
2017-18	821.3	127.4
2018-19	664.7	93.9
2019-20	1040.64	148.04
2020-21 (Apr-Sept)	1502.72	201.07

Source: Department for Promotion of Industry and Internal Trade (DPIIT)

15.5 Goods and Services Tax

15.5.1 GST envisages a single tax on supply of goods and services or both, by amalgamating all the central indirect taxes (excise duty, countervailing duty and service tax) and state indirect taxes (VAT, luxury tax, entry tax, octroi, etc).

15.5.2 GST rates on most of the raw agricultural items are at 0% (zero per cent). Apart from this, most of the agricultural activities and services are also exempted from imposition of GST. However, for primary processed agriculture items, the GST rate is 5% and for secondary/tertiary processed products, the GST rate is 12%. On some farm machinery/components and fertilizers, the GST rate is in the range of 12-18%.

Considering the representations/inputs from various stakeholders/firms/associations/farmers etc, this Division has been taking up GST related issues with the GST Council, Department of Revenue, Ministry of Finance from time to time.

15.6. Trade Agreement:

15.6.1 FTA/CECA/CEPA/CECPA

Free Trade Agreements/ Preferential Trade Agreements/ Comprehensive Economic Cooperation Agreements/ Comprehensive Economic Partnership Agreements / Comprehensive Economic Cooperation & Partnership Agreements provide opportunities for exports with the trading partners at preferential duties. India has signed agreements with a number of regional trading blocs/ countries namely, the South Asia Free Trade Area (SAFTA), Asia Pacific Trade Agreement(APTA), Association of South East Asian Nations (ASEAN), Afghanistan, MERCOSUR (trade block of countries viz. Argentina, Brazil, Paraguay and Uruguay), Japan, South Korea, Malaysia, Singapore, Thailand, Bhutan, Nepal, Chile and Sri Lanka.

Trade agreement negotiations with the European Union, Thailand, EFTA (Iceland, Liechtenstein, Norway and Switzerland), SACU (South Africa, Botswana, Lesotho, Swaziland and Namibia), BIMSTEC, Peru, Israel, Mauritius, Australia, New Zealand, Canada and Indonesia are in various stages of discussion.

15.7 WTO Meetings/Notifications:

15.7.1 WTO Meeting: The Committee on Agriculture oversees the implementation of the Agreement on Agriculture. Its key responsibility is to monitor WTO members' compliance to their commitments/ obligations. The committee, composed of all WTO members, usually meets three or four times a year. Officers of the Trade Division participate in the meetings of the Committee on Agriculture (CoA) at the World Trade Organisation in Geneva, Switzerland. Issues related to India's pulses policy, short-term loan, input subsidies and Minimum Support Price (MSP) were responded to in coordination with the Department of Commerce.

15.7.2 WTO Notifications: As part of India's commitments to the WTO, India needs to notify any new or modified domestic agricultural support measures applied by India during a year and this needs to be notified to the WTO on an annual basis in the form of Domestic Support-1 and Domestic Support-2 Notifications. In this regard, DAC&FW has provided requisite inputs to the Department of Commerce for preparation and filing of India's DS notification to WTO. The filed/ submitted notifications are available online and can be accessed at the WTO website <http://agims.wto.org/>.

15.7.3 Trade Policy Reviews under WTO:

WTO conducts Trade Policy Review of its members at regular intervals with a view to reviewing the member country's trade policies and practices under multilateral trade disciplines, to make an assessment of compliance with country obligations. India's last Trade Policy Review was held on 2-4 June, 2015 and the latest TPR is going on in 2020. The review is an extensive exercise requiring inter-ministerial coordination and detailed preparation. Submission of the report is followed by detailed question answer session which requires compilation of huge trade related documents/data. DAC&FW is required to furnish relevant inputs/information to the Department of Commerce for compilation and forwarding to the WTO Secretariat as a part of India's Trade Policy Review (TPR) at the WTO.

15.8. Strengthening India's Agri Export-Creation of Agri-Cells in nations abroad

At the insistence of DAC&FW, Agri-cells were created by the Ministry of External Affairs in 15 Indian Missions abroad i.e. at Vietnam, USA, Bangladesh, UAE, China, Saudi Arabia, Iran, Malaysia, Japan, Nepal, Indonesia, Argentina, Singapore, Ukraine and Brazil to help bring focus on agricultural exports and optimize the potential available in those countries for

Indian products. The Agri Cells also compile information on demand and supply of various commodities in the host countries which could be utilized by exporters.

15.9 Export Promotion Forum (EPF):

15.9.1 Product specific Export Promotion Forums (EPF) for eight agri products i.e. grapes, mango, banana, onion, rice, dairy products, pomegranate and floriculture have been created by DOC under the aegis of APEDA at the insistence of DAC&FW. They will work on promoting the export of identified potential products in a focused manner.

15.9.2 Each Export Promotion Forum shall have exporters of the related commodity as its members along with official members from the DOC, DAC&FW and MOFPI along with relevant expert institutions and State Governments. Presently, Chairman APEDA is the chairman of each of these forums. The forums are required to meet regularly to discuss/ make recommendations on issues pertaining to export of the respective commodity and invite experts etc. to the meeting for interaction, as required. The Forums will constantly monitor and identify/ anticipate developments in the external/

internal situation pertaining to the production and export of their respective commodity and recommend /intervene for taking necessary policy/ administrative measures.

15.10. Institutional Mechanism for in-house Knowledge Management

15.10.1 Commodity Profile

Trade Division has been regularly publishing commodity profiles of six prime agricultural products viz. rice, wheat, pulses, vegetable edible oils, sugar and cotton. The profile gives a snapshot on the trends in production, export, import, price movements and explains trade policy in brief for the commodity concerned.

The commodity profiles are placed in the public domain and are updated once in each month. These profiles can be viewed by clicking 'Agriculture Trade Policy, Promotion and Logistics Development Division' at <http://agricoop.nic.in/divisions>.

15.11 Audit Para

No audit para/observation is pending in the Agriculture Trade Policy, Promotion and Logistics Development Division of this Department.



Chapter 16

Rashtriya Krishi Vikas Yojana (RKVY)

16.1 Overview

The Rashtriya Krishi Vikas Yojana (RKVY) was launched as a flagship scheme of the Department of Agriculture, Cooperation & Farmers' Welfare (DAC & FW) in 2007-2008 to incentivize States to draw up comprehensive agriculture development plans, taking into account agro-climatic conditions, natural resources and technology for ensuring more inclusive and integrated development of agriculture and allied sectors. The scheme was implemented as a State Plan Scheme till the end of the financial year 2013-14 and is being implemented as a CSS (State Plan) scheme thereafter. In accordance with the directions of the Ministry of Finance, the funding pattern of the scheme from 2015-16 onwards has been altered i.e., it is to be shared between the Centre and States in the ratio of 60:40 (90:10 for North-Eastern and Himalayan States) against 100% funding by the Central Government till the end of the financial year 2014-15.

The Scheme has been revamped as the Rashtriya Krishi Vikas Yojana - Remunerative Approaches for Agriculture and Allied Sector Rejuvenation (RKVY-RAFTAAR) for implementation from 2017-18 to 2019-20 with a major focus on pre & post-harvest infrastructure, besides promoting agri-entrepreneurship, innovations & value addition with the approval of the Union Cabinet on 01.11.2017. Continuation of the scheme has been extended up to 31.3.2021 in the present format. A State Level Sanctioning Committee (SLSC) constituted under the Chairmanship of the Chief Secretary of

the concerned State/UT is empowered to approve projects under the scheme. The State Agriculture Department is the nodal Department for implementation of the scheme in the State. The scheme is available for the entire spectrum of agriculture & allied sector activities such as crop development, horticulture, agricultural mechanization, marketing, pre & post-harvest management, animal husbandry, dairy development, fisheries, extension, etc.

16.2. Objectives of RKVY-RAFTAAR scheme

The objectives of the scheme are:

- (i) To strengthen the efforts of farmers through creation of pre and post-harvest agricultural infrastructure that increases access to quality inputs, storage, market facilities etc. and enables farmers to make informed choices.
- (ii) To provide autonomy and flexibility to States to plan and execute schemes as per local/ farmers' needs.
- (iii) To promote value chain addition linked production models that will help farmers increase their income as well as encourage production/productivity
- (iv) To mitigate the risk of farmers with focus on additional income generation activities - integrated farming, mushroom cultivation, bee keeping, aromatic plant cultivation, floriculture etc.
- (v) To attend to national priorities through several sub-schemes.

- (vi) To empower youth through skill development, innovation and agri-entrepreneurship based agribusiness models that attract them to agriculture.

16.3 Funding pattern under RKVY-RAFTAAR:

RKVY-RAFTAAR funds would be provided to the States in the following streams:

- (a) Regular RKVY-RAFTAAR - 70% of annual outlay for the following activities:
- (i) Infrastructure and assets - 50% (of 70%) of regular RKVY-RAFTAAR outlay (20% for pre-harvest infrastructure and 30% for post-harvest infrastructure)
 - (ii) Value addition linked production projects- 30% (of 70%) of regular RKVY-RAFTAAR outlay
 - (iii) Flexi-funds - 20% (of 70%) of regular RKVY-RAFTAAR outlay. States can use this for supporting any projects as per the local needs.
- (b) RKVY-RAFTAAR special sub-schemes as per national priorities -20% of annual outlay ; and
- (c) Innovation and agri-entrepreneur development -10% of annual outlay including 2% for administrative costs.

16.4. District and State Agricultural Plans:

RKVY guidelines recognize the need for convergence and integration of the various programmes implemented at district / State level through District Agriculture Plans (DAPs) and State Agriculture Plans (SAPs). Revised operational guidelines of RKVY also mandate each State to prepare a State Agriculture Infrastructure Development Programme (SAIDP) in a similar manner to that of DAPs and SAP for identifying a shelf of projects for RKVY -RAFTAAR.

16.5. Income/Production and Target/Achievement

RKVY-RAFTAAR fund is provided to the States/UTs as grant in aid. There is no physical target set for any States at the Central level. Projects under the scheme are approved and implemented by the States in various agriculture and allied sectors as per their priorities and available resources to meet the needs of farmers for the holistic development of this sector. The state-wise allocation and release of funds and the sector-wise cost of projects approved by States under the scheme during the last two years and fund release during the current year as on 31.12.2020 are given respectively at annexures- 16.1 & 16.2.

16.6. Implementation of Sub-schemes

RKVY-RAFTAAR also has provision for implementing national priorities through initiating special programmes as sub-schemes without affecting the autonomy and flexibility of States. Seven sub-schemes with focused interventions are being implemented during the current financial year under RKVY-RAFTAAR.The details of the sub-schemes being implemented during the current year and their objectives are given as under:

- i. **Bringing Green Revolution to Eastern India (BGREI):** Initiated in 2010-11, BGREI has targeted productivity improvement in the rice based cropping system of Assam, West Bengal, Odisha, Bihar, Jharkhand, Uttar Pradesh and Chhattisgarh. The allocation for this programme during 2017-18, 2018-19 & 2019-20 is Rs.450 crore , Rs.315 crore and Rs.375 crore respectively. The allocation for the programme for 2020-21 is Rs.327 crore.

- ii. **Programme for Diversification of Paddy (PDP):** This scheme is launched as a pilot scheme in 2020-21 to supplement the efforts of States by targeting shifting paddy area to low water and inputs requiring alternative crops like maize, pulses, oilseeds and cotton. The allocation for this programme during 2020-21 is Rs. 120 crore.
 - iii. **Reclamation of Problem Soil (RPS):** This programme was initiated as a sub-scheme of RKVY during 2016-17 for enhancing soil fertility & productivity to meet the demand for food grains in the country. The allocation for this programme for 2017-18, 2018-19, 2019-20 is Rs.30 crore, Rs.20 crore and Rs.20 crore respectively. The allocation for the programme for 2020-21 is Rs.25 crore.
 - iv. **Swachh Bharat:** This scheme has been initiated in 2017-18 with an allocation of Rs. 47.50 crore for 2017-18 for solid and liquid waste management in agriculture. The allocation for the programme in 2018-19 was Rs.36 crore and for 2019-20 was Rs.55 crore. The allocation for the programme for 2020-21 is Rs.55 crore.
 - v. **Animal Health & Disease Control:** This programme was launched as a sub-scheme in 2018-19. An amount of Rs.50.62 crore was earmarked for controlling Brucellosis in female calves and strengthening of veterinary infrastructure and mobile veterinary clinics under this programme during 2018-19. During 2019-20 an amount of Rs.40 crore was earmarked for the Rabies control programme, mobile veterinary units and glanders surveillance units under this sub-scheme. The allocation for this programme for 2020-21 is Rs.20 crore.
 - vi. **Area Expansion of Cashew:** This programme was launched as a sub-scheme during 2018-19 in order to augment area and production of cashew in backward districts including tribal districts of States like Kerala, Karnataka, Andhra Pradesh, Odisha and Maharashtra. The allocation for this programme in 2018-19 was Rs.40 crore and for the year 2019-20 was Rs.25 crore. The allocation for this programme for 2020-21 is Rs.20 crore.
 - vii. **Pilot Intervention for Most Vulnerable Drought Prone Districts:** This programme was also initiated as a sub-scheme in 2018-19 for drought proofing of identified districts of Andhra Pradesh, Karnataka and Rajasthan. The allocation for this programme for 2018-19 was Rs.10 crore and for the year 2019-20 was Rs.5.40 crore. The allocation for this programme for 2020-21 is Rs.5.43 crore.
- 16.7. Innovation & Agri-Entrepreneurship programme:** A new programme called Innovation and Agri-Entrepreneurship Development has been launched under the Rashtriya Krishi Vikas Yojana (RKVY-RAFTAAR) in 2018-19 with the objective to promote innovation and agripreneurship by providing financial support and nurturing the incubation ecosystem. Start-ups pertaining to agriculture and allied sectors are being encouraged in order to contribute directly and indirectly to enhancing the income of farmers by providing opportunities to them and to provide employment to youth. In this connection, five Knowledge Partners (KPs) and twenty four Agribusiness Incubators (R-ABIs)

have been appointed by this Department to advise on smooth and efficient execution of this programme in various States across the country.

As on 31.12.2020, 424 startups operating in agriculture and allied sectors have been selected for financial assistance of Rs. 45.38 crore in installments. Rs.19.70 crore has been released. These start-ups were trained for two

months at various agribusiness incubation centres i.e KPs & RABIs.

16.8. Success Stories

Some of the success stories reported by the States under RKVY scheme and by Agri business Incubators under the Agri-Entrepreneurship Programme of RKVY are given hereunder:

I. Guar Gum – A remunerative crop for dryland Agriculture



The Initiative:

In Karnataka, a total of 12.31 million hectares of land (64% of the state's total area) is cultivated mostly under rainfed conditions as only 26.5% of the sown area is irrigated. Agricultural production in rainfed areas have always remained low and unstable due to the impact of climate change and an erratic monsoon leading to natural disasters

such as droughts. Nearly 2/3 rd of the cropped acreage is vulnerable to drought leading to severe reduction in yields and total agricultural production making farming economically unviable. Thus the prime objective of the RKVY sponsored project was to improve the livelihood of dry land farmers by introducing an alternate crop for rainfed areas with higher productivity fetching good economic returns to farmers.

The Beneficiaries:

Farmers of the rainfed areas of Chitradurga, Davangere, Chikmagalur and Shivamogga districts of southern Karnataka.



The Challenge:

- Guar (cluster bean) for vegetable purpose was an age old practice but cultivating guar for galactomanan (gum) was a new concept for the farmers of Karnataka. So, introducing the crop in rainfed areas in the initial stages was a great challenge.
- Procurement of inputs (seeds of different varieties) from Rajasthan was cumbersome.
- Establishing market linkages between the farmers and procuring agencies was a tedious task.

The solution:

- **Training:** The importance of guar as a drought tolerant crop and its applications in many industries has made guar an export oriented crop.

The University of Agricultural and Horticultural Sciences, Shivamogga conducted training for both the farming community as well as officials. A total of 699 participants took part in the training programme, among them 93 officers from the line departments, 523 men and 83 farm women.

- **Demonstrations:** A total of 100 demonstrations were planned of 1.0 ha (means 100 hectares) in four districts i.e. Chitradurga, Chikmagalur, Davangere and Shivamogga to introduce guar as a major crop and cropping systems. Demonstrations in 105.5 hectares were conducted as per the farmers demand and interest.

- o Market linkages were developed to help farmers to sell their produce at reasonable prices and get benefitted. Such linkages include,
 - KVK Rao, Raichur
 - Guar traders from Andhra Pradesh and Rajasthan
 - Procurement rate was equal to the existing spot prices at Rajasthan markets with less transportation and overhead charges.
- o A guar research, training and market facilitation centre has



- Alternate option for groundnut, horsegram and minor millets in rainfed areas.

been established in the University of Agricultural and Horticultural Sciences, Navile, Shivamogga to encourage farmers growing guar gum large scale by providing inputs and to disseminate relevant information on agronomic practices, advanced technologies of processing of the gum, value addition and market linkages.

The Impact:

- A climate resilient crop for dry lands has emerged with good economic returns to farmers.



- Market facilitation for an export oriented crop was established.
- A total package of practices for gum guar production was evolved



II. Agri startup success stories

Aditya BioInnovation Pvt Ltd

Aditya Biolnnovation Pvt Ltd is an agritech startup having developed a patented nanofertilizer, Kohinoor & Sujalam, a proprietary & 100% natural formulation as a plant nutrients, growth regulator and health booster. The herbal formulation of this product is highly effective and needs a few drops to cater to a large area to protect crops against pests, fungus, viruses, insects etc. Post successful trials & product validation, the startup has partnered with marketing channels in B2B space and is gearing up for the B2C segment to ensure reach to a large number of farmers. Currently, the startup is generating revenue through channel partner sales (offline) which is the network of marketing associates operating in Maharashtra, MP and Rajasthan states.

Intech Harness Pvt. Ltd. (Maharashtra)

Intech Harness Pvt. Ltd. is an agritech company that has developed and patented an AI-driven and IoT-ready Farmer Obedient Motor Controller for electric water pumps to irrigate agriculture farms. Jalaprayah Pump Controller - ensures water supply to the crop, irrespective of power timings. The startup has addressed the key challenge faced in water conservation i.e. a depleting water table, increasing farm yields through precise irrigation, convenience to farmers by eliminating undue manual effort in pump operation, helping increase farm income, eliminating extended pump operations. The key benefits of the technology are, it runs through an automatic setting, responds to disruptions on its own, adjusts water supply based on multiple parameters is capable of

cloud connectivity for data logging & analytics and no manual operation is required.

Prakriti O Prakritik Consumer Products Pvt. Ltd. (Odisha)

Prakriti O Prakritik Consumer Products Pvt. Ltd. has been established with an objective of manufacturing & marketing various FMCG, processed food and organic products. The startup manufactures and markets various tuber crop value-added products (under the brand name-TUBER) and provides consumers with more nutritious, value-added products for better living. The company strongly believes in catering to the rising global demand for tuber crop value-added products specially in Odisha.

Bhairaj Organics Pvt. Ltd. Rajasthan

Desigo is developing a unique and innovative cost efficient model for production of high quality A2 milk and delivering it through an end to end traceable model. It is evolving a robust ecosystem at remote villages for the production of high quality A2 milk in order to ensure end to end traceability. It has developed a model backed by technology which can track location, breed, quality and all transit details in real time. Currently the pilot projects are going on at several locations across Rajasthan. It not only ensures that farmer's income from dairy increases but also that the urban population gets high quality milk at very competitive prices. Its innovative model is very effective for restoring and developing indigenous cow breeds.

Hydro Greens Agri Solutions Pvt Ltd

Hydro Greens is a next generation solutions company based out of Bengaluru, who designs, installs and maintains Hydro Green fodder stations named "Kambala"

that exclusively cater to the feeding needs of livestock. Hydrogreens uses advanced hydroponics technology (fogponics) and provides solutions for sustainable dairy yield even in summer by upto 3 litres per cattle. It enables the user to harvest 25 to 30 kgs fresh hydro green nutritious fodder every

day, even when the temperature outside is 45 to 50 degrees, with less than a bucket of water a day thereby reducing labour as well as electricity costs. "Kambala" ensures significant positive returns on investment right from the first year.



Chapter 17

Drought Management

17.1 In accordance with the Government of India (Allocation of Business) Rules, the Department of Agriculture, Cooperation and Farmers Welfare (DAC&FW) is mandated to coordinate relief measures necessitated by **drought, hailstorm, pest attack and cold wave/frost**. Spatial distribution and quantum of rainfall during the South West Monsoon (June-September) mainly determines the incidence of drought in the country, as the South West Monsoon (SWM) accounts for more than 70% of annual rainfall. DAC&FW closely monitors progress of SWM in the country, in coordination with the India Meteorological Department (IMD), Ministry of Earth Sciences and keeps a watch over deficient/large deficient rainfall conditions.

17.2 State Governments initiate necessary relief measures in the wake of natural calamities from the State Disaster Response Fund (SDRF), which is readily available with them. Contribution to SDRF is made by the Central and State Governments in the ratio of 3:1 for 18 General Category States namely, Andhra Pradesh, Bihar, Chhattisgarh, Goa, Gujarat, Haryana, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and West Bengal and in the ratio of 9:1 for 10 Special Category States namely the North Eastern States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura and hilly States of Himachal Pradesh and Uttarakhand. The Government of India supplements the efforts of the State Governments by providing requisite financial and logistic support in the wake of natural calamities. Additional financial assistance

over and above SDRF is considered from the National Disaster Response Fund (NDRF) for natural calamities of severe nature, as per established procedure and extant items and norms for assistance from SDRF/NDRF. Allocation under SDRF is made on the basis of recommendations of the Finance Commission and allocation under SDRF is for State Governments only.

17.3 During the year 2020-21, the Government of Madhya Pradesh has submitted a Memorandum seeking financial assistance from NDRF in the wake of pest and insect attack on Kharif crops. An Inter-Ministerial Central Team (IMCT) has visited the State to assess the loss/damage to crops etc. and recommended appropriate financial assistance from NDRF. The Government of Rajasthan has also submitted a memorandum seeking financial assistance from NDRF in the wake of drought (Kharif). IMCT has been constituted to assess the cross loss/damage.

17.4 DAC&FW has reviewed and updated the Crisis Management Plan (CMP) for Drought during the current year i.e. 2020. The Plan defines the roles and responsibilities of various agencies involved in crisis management including media management during drought. CMP, 2020 was circulated to all States/Union Territories for preparation of State Crisis Management Plan.

17.5 Central Research Institute for Dryland Agriculture (CRIDA), under the Indian Council of Agricultural Research (ICAR), has developed detailed district-wise contingency plans to provide a broad advisory to farmers. These contingency plans prescribe alternate strategies in the event of climate variability

by factoring in crops/livestock/aquaculture practices/pattern, soil characteristics, infrastructural facilities, etc. These plans have been developed based on certain simulated models for different weather conditions like occurrence of flood, drought, cyclone, cold wave/frost, etc. CRIDA has so far prepared Contingency Plans for 650 districts of the country.

17.6 Every Ministry/Department is mandated to prepare a Disaster Management Plan under Sections 36/37 of the Disaster Management (DM) Act, 2005. A National Agriculture Disaster Management Plan (NADMP) has been prepared by the Department. NADMP is designed as a practical guidance document, a work agenda and a roadmap to include key aspects of Disaster Risk Reduction (DRR) into the sustainable development agenda of agriculture, especially for crop production, sustainable land management and post-harvest management. The plan

seeks the synergy of resources and efforts to holistically address disaster risk reduction, climate change adaptation and sustainable development goals related to the agriculture sector.

17.7 The Department had initiated the work of preparation of District-wise Action Plan for drought proofing with the technical support of CRIDA. In the first stage, 24 districts in three States, Karnataka (16), Andhra Pradesh (4) and Rajasthan(4), which were affected by more than 10 drought events during the period from 2000-15, were identified for preparation of District Drought Proofing Plans (DDPPs). These Plans were submitted to NRAA for preparing a convergence map and expenditure plan for implementation in consultation with State Governments. NRAA has also prepared guidelines for development and implementation of DDPPs enumerating roles/ responsibilities of all government agencies at the national and state level.



Chapter 18

International Cooperation

18.1 Overview

18.1.1 Mandate and Nature of Work: The mandate of the International Cooperation Division is to foster mutually beneficial partnerships with other countries of the world in a multilateral as well as bilateral format. Department of Agriculture, Cooperation & Farmers Welfare is the Nodal Department in India for the Food & Agriculture Organization (FAO) and World Food Programme (WFP) of the United Nations. Bilateral Agreements, Memoranda of Understandings (MoUs), Protocols and Work Plans with countries of strategic interest are signed and implemented for furthering cooperation in the field of Agriculture & allied sectors in coordination with the Ministry of External Affairs, other concerned ministries and departments and Indian Missions abroad.

18.1.2 Minister (Agriculture), Embassy of India, Rome: The Office of Minister (Agriculture), EoI, Rome is a subordinate office under the administrative control of the DAC&FW. The Indian Ambassador in Rome is the Permanent Representative of India to the FAO, IFAD and WFP for the purpose of maintaining liaison and coordination with these three Rome Based Agencies (RBAs). Keeping in view, the specialized nature and the increasing volume of interaction with UN agencies and their associated bodies, an agricultural wing headed by an officer of the rank of Joint Secretary to the Government of India with the designation of Minister (Agriculture), EOI, Rome has been set up and designated as India's Alternate Permanent Representative (APR). Minister (Agriculture),

EoI, Rome represents Indian interests, particularly in the field of agriculture and allied sectors at the meetings of various UN Agencies.

18.2 Release of Special Commemorative Coin on the Occasion of the 75th anniversary of FAO by Hon'ble Prime Minister on 16th October 2020

Hon'ble Prime Minister, Shri Narendra Modi released a non-circulatory commemorative coin of Rs.75 denomination in a virtual function organised on the occasion of the 75th anniversary of the Food and Agriculture Organisation of the United Nations and World Food Day on 16th October 2020. The commemorative coin released aptly combined the link of agriculture production and nutrition for meeting the national objective of "Sahi Poshan Desh Roshan"- nutrition is the basis for the progress of the country. On this occasion, various Central Government Ministers including Hon'ble Minister for Agriculture and Farmers Welfare Shri Narendra Singh Tomar, Hon'ble Minister of State for Agriculture and Farmers Welfare Shri Parshottam Rupala, Hon'ble Minister of State for Agriculture and Farmers Welfare Shri Kailash Choudhary, Hon'ble Minister for Women and Child Development Ms Smriti Irani, Hon'ble Minister of State for Women and Child Development Ms. Debasree Chaudhary were amongst other dignitaries who graced the occasion. The meeting was also attended by the senior officers of the Ministry of Agriculture & Farmers Welfare, Ministry of Women and Child Development,

Ministry of Finance, Ministry of External Affairs etc. All Aanganwadis, Krishi Vigyan Kendras, Organic and Horticulture Missions of the country and others from India and abroad also participated in the virtual release function. The Hon'ble Prime Minister also released 17 varieties of bio-fortified seeds and 8 hybrid varieties of seeds of wheat, paddy and other crops developed by ICAR on the occasion.

18.3 Cooperation with International Organisations :

18.3.1 Food & Agriculture Organization (FAO):

India collaborates with FAO in the form of training, consultancy services, equipment and material in the field of agriculture and allied sectors under its Technical Cooperation Programme (TCP). FAO, India has formulated a Country Programming Framework (CPF) for India for the period, 2019-2022 in line with the UN Sustainable Development Goals (SDGs) within the framework of the United Nations Sustainable Development Framework (UNSDF) and the same has been agreed upon and signed between FAO India and the Government of India.

Important FAO events/meetings attended:

- i. 164th FAO Council meeting was held during 6-10th July, 2020 in Rome via video conferencing. Minister(Agriculture) in Embassy of India (EoI) Rome along with Joint Secretary(IC), DAC&FW and Joint Secretary(Crops), DAC&FW participated in the meeting and discussed issues relating to report of the Committees of Council, Budget matters and the COVID-19 situation and impact on food security etc.
- ii. 35th FAO Regional Conference for Asia and the Pacific -The thirty-fifth session of the FAO Regional Conference for Asia and the Pacific was held from 1-4 September, 2020. Senior officers meeting was held on 1-2 September, 2020. The Ministerial session was held on 3-4 September, 2020. The delegation of Senior Officers Meeting was headed by Additional Secretary and Agriculture Commissioner. The delegation from India included senior officers from DAHD, DARE, & MoEFCC. Shri Parshottam Rupala, Hon'ble Minister of State for Agriculture participated the Ministerial Session and addressed the meeting. Shri Kailash Choudhary, Minister of State for Agriculture also participated in the meeting.
- iii. Committee on World Food Security High-Level Special Event on "Strengthening Global Governance of Food Security and Nutrition" was held from 13th-15th October, 2020: DAC&FW was represented by Joint Secretary (Crops) and Minister (Agriculture), Embassy of India(Rome). Plenary sessions were held on 'Overview of the Global Food Security and Nutrition Situation', 'COVID-19 and its Impacts on Global Food Security and Nutrition' and 'Food Systems Transformation'. Hon'ble Minister of State for Agriculture and Farmers Welfare Shri Kailash Choudhary addressed the Plenary Session on 14th October, 2020 and participated in the panel discussion on 'Coping strategies, lessons learnt and building resilience to prevent future pandemics'. Hon'ble MoS addressed the participants elaborating on India's effort in the agriculture sector to ensure food security during the COVID-19 pandemic and future strategies to cope with such calamities.
- iv. The 165th Session of the FAO Council through Video Conference was held

during 30th November to 04th December, 2020.

The details of major projects which are currently under implementation with FAO assistance in States are as under:

- (i) **Technical Assistance for Development of Sustainable Agricultural Value Chains in Mizoram:-** Project is implemented in the State of Mizoram to strengthen capacities of government institutions and extension services in Mizoram to support local communities in improved jhum management, sustainable value chain development, and exposure of project staff to best agro-ecological practices.
- (ii) **Technical Assistance for Development of Sustainable Agricultural Value Chains in Nagaland:-** The project is implemented in the state of Nagaland to strengthen capacities of government institutions and extension services in Nagaland to support local communities in improved jhum management, sustainable value chain development, and exposure of project staff to best agro-ecological practices.
- (iii) **Scaling-up Agroecology through Policy Support and Farmer Field Schools (FFS) on Zero Budget Natural Farming:-** To strengthen methodologies and capacities on agroecology to improve farmer livelihoods and ecosystem resilience in India
- (iv) **Support for the Development of Integrated Strategies on Crop Residue Management:-** To increase synergy across national and state level policies for sustainable crop residue management to reduce crop residue burning in India.
- (v) **Sustainable and Resilient Livelihood Options for Rain-fed areas of India through Improved Integrated Crop Livestock Farming Systems:-** To enhance

resilience and sustainability of livelihood options in rural rain-fed areas farmers through integrated crop livestock farming systems.

- (vi) **Time-Critical Measures to Support the Sustainable Management of the Fall Army Worm (FAW) in India:-** To improve pest monitoring and surveillance systems, enhance awareness and capacities of farmers and trainers and strengthen institutional frameworks to contain the FAW spread and manage it sustainably.
- (vii) **Green-Ag: Transforming Indian agriculture for Global Environmental Benefits and the Conservation of Critical Biodiversity and Forest Landscapes:-** The Green-Ag project aims to catalyze transformative change for India's agricultural sector to support achievement of national and global environmental benefits and conserve critical biodiversity and forest landscape in 5 States.
- (viii) **Fostering Climate Resilient Upland Farming Systems in the Northeast (FOCUS) Project Mizoram:-** Environmental sustainability and profitability of the farming systems in hill areas.

18.3.2 World Food Programme (WFP):

Set up in 1963, the WFP seeks to provide emergency feeding in places facing acute food insecurity due to natural calamities and man-made causes. The present share of Government of India towards WFP Pledge Contribution is US \$ 1.92 million for a biennium which is used to support the WFP India Country Programme. Besides, GoI makes an annual payment of Rs. 30 Lakh to UNWFP Country Office towards their Local Operating Cost (LOC). Under a seat sharing arrangement with Afghanistan, India will be member of the Executive Board in 2020 and 2021.

WFP India Country Strategic Plan (CSP: 2019-2023) has been approved in the 2nd Regular Session of the WFP Executive Board Meeting in Rome during 26-29 November, 2018. A Memorandum of Understanding (MoU) between GoI and the UNWFP has been signed for 2019-2023 and is being implemented.

18.3.3 International Fund for Agriculture Development (IFAD)

India is a founder member of IFAD and a key contributor among the member countries. IFAD funds are derived from member contributions (made in replenishment cycles), investment incomes and special funds. Department of Economic Affairs is the nodal agency for IFAD in India.

Currently, the following projects with assistance from IFAD are under implementation in the Agricultural sector by the concerned Departments of Agriculture at the state level :

- (i) **Convergence of Agricultural Interventions in Maharashtra's Distressed Districts Programme** - Implemented by the State Government and having a project size of USD118.65 million. The overall goal of the programme is to develop resilient, sustainable and diversified households, on-farm and off-farm livelihoods, allowing households to face climatic and market risks without falling back into poverty and distress.
- (ii) **Andhra Pradesh Drought Mitigation Project** - Implemented by the State Government of Andhra Pradesh and having a project size of Rs.1103 Crore. The overall goal of the programme is to improve the incomes and strengthen the drought resilience of 165,000 farm households. The development objective is to strengthen the adaptive capacity

and productivity of agriculture in the rainfed areas of five districts in southern AP.

- (iii) **Fostering Climate Resilient Upland Farming System in the Northeast (FOCUS)** (Nagaland & Mizoram) – Implemented by the states of Mizoram and Nagaland for a project size respectively of Rs.5.4 billion and Rs 6 billion. The overall goal of the project is to increase agricultural income of 201,500 households, and to enhance their resilience to climate change.

18.3.4 Other International Organizations: In addition to the three Organisations already mentioned, this Department is a member of the following International Organizations (IOs) and annual contributions to these International Organizations are made as per agreed commitment/agreement:

1. Trust Fund of FAO for Desert Locust in the Eastern Region.
2. Trust Fund for International Desert Locust.
3. Organization for Economic Cooperation & Development (OECD).
4. Asia and Pacific Coconut Community (APCC).
5. Asia and Pacific Plant Protection Commission (APPPC).
6. Global Crops Diversity Trust Fund (GCDT)

18.4 Bilateral Cooperation

18.4.1 MoU/MoC/Agreements/Work Plans: Department of Agriculture, Cooperation and Farmers Welfare has entered into 70 MoUs/ MoCs/Agreements with 66 countries in the field of agriculture till date.

18.4.2 As a follow up of the various MOUs, meetings of the following Joint Working Groups (JWGs) were held in 2020:

SI No	Event and country	Date	Venue
1	8 th India Nepal JWG meeting	30.01.2020	New Delhi
2	1 st India-Brazil JWG meeting	17.02.2020	Through Video Conferencing
3	1 st India-Saudi Arabia JWG meeting	22.06.2020	Through Video Conferencing
4	1 st India-Argentina JWG meeting	01.07.2020	Through Video Conferencing
5	5 th India Australia JWG meeting	03.12.2020	Through Video Conferencing

18.4.3 USAID: National Institute of Plant Health Management (NIPHM), Hyderabad has been collaborating with the United States Agency for International Development (USAID) for training purposes and capacity building programmes. The National Institute of Agriculture Extension Management (MANAGE), Hyderabad and the National Institute of Agriculture Marketing (NIAM), Jaipur are also collaborating with USAID to provide training for nationals of three African countries viz. Liberia, Kenya and Malawi under trilateral cooperation envisaged under MoU with USA. Seventeen countries namely Botswana, DR Congo, Ghana, Kenya, Liberia, Malawi, Mozambique, Rwanda, Sudan, Tanzania, Uganda from Africa and Afghanistan, Cambodia, Lao PDR, Mongolia, Myanmar, Vietnam from Asia have now been included under the India-USAID Trilateral Cooperation.

The National Institute of Agricultural Extension Management (MANAGE), Hyderabad in collaboration with the USAID India organised three International Webinars during July – September, 2020 as mentioned below:

Webinar # 1 : Agricultural Extension strategies in Africa and Asia during Covid-19 pandemic: MANAGE in collaboration with the USAID India organised an International Webinar on Agricultural Extension strategies in Africa and Asia during Covid-19 Pandemic on 8th July, 2020. The focus of the webinar

was on extension innovations and strategies implemented during the COVID-19 pandemic.

Webinar # 2 : Core Competencies for Agriculture Extension professionals : MANAGE in collaboration with the USAID India organized an International Webinar on Core Competencies for Agriculture Extension professionals on 17th July, 2020. Focus of the webinar was on the core competencies of extension personnel and ways to enhance them.

Webinar # 3 : MANAGE in collaboration with the USAID organized an international webinar on Presentation on Back at Work Plan Success Stories of Feed the Future India Triangular Training (FTF ITT) Trainees on 8th September, 2020. The webinar intended to give an opportunity to the selected FTF ITT trainees for showcasing the successfully implemented Back At Work Plans. Back at Work Plan (BAWP) is a plan of work proposed by the participants of the FTF ITT training to address one important agriculture problem in their jurisdiction of work.

18.5 Strategic Groups :

India is a member of multilateral groupings such as G-20 - a forum for global cooperation on international economic and financial issues; BRICS (Brazil, Russia, India, China and South Africa); IBSA (India, Brazil and South Africa); SCO (Shanghai Cooperation Organization); SAARC (South Asian Association for Regional Cooperation); ASEAN (Association of South

East Asian Nations); BIMSTEC (Bay of Bengal Initiative for Multi-Sectoral Economic & Technical Co-operation) etc.

18.5.1 G-20: An Indian delegation led by Shri Narendra Singh Tomar, Hon'ble Minister (Agriculture & Farmers' Welfare) participated in an **Extraordinary Virtual G20 Agriculture & Water Ministers Meeting** on 21.04.2020 and discussed matters related to response to COVID-19 impacts on Food Security and Nutrition.

(i) **1st meeting of the G-20 Agriculture and Water Deputies** under the Saudi Presidency was held in Riyadh on 25-26 January, 2020. The Indian delegation was led by Additional Secretary.

(ii) **2nd Meeting of the G-20 Agriculture and Water Deputies** meeting under the Saudi Presidency was held virtually on 10-11th September, 2020. The Indian side was led by Additional Secretary, Department of Agriculture Cooperation & Farmers Welfare.

(iii) **G-20 Agriculture and Water Ministers meeting** was held on 12th September, 2020. Shri Parshottam Rupala, Hon'ble Minister of State for Agriculture participated in the Ministerial Session and addressed the meeting. Shri Kailash Choudhary, Minister of State for Agriculture also participated in the meeting. In his address, the Hon'ble Minister of State touched upon the issues of global food security and nutrition which have profound implications for people's well-being, economic growth and ability to cope with the challenges of a growing world population. Hon'ble MoS mentioned about measures taken by India so as not to disturb the world food supply chain by continuing exports of agricultural commodities as before. Hon'ble Minister also highlighted India's successful efforts in controlling the

attack of desert locusts and called upon the G-20 members to work together and put in place an action plan to fight trans-boundary pests.

- (iv) The G-20 Riyadh Summit culminated with the successful endorsement of the G20 Leader's Declaration and of the Agriculture & Water Ministers' Communiqué.
- (v) DAC&FW participated in a virtual conference titled B-20 Global Dialogue in India on 7th October 2020. Shri Suresh Prabhu, Hon'ble Member of Parliament (Rajya Sabha) and India's Sherpa to G7 & G20 was the Chief Guest. The coalition organised the virtual conference to analyse the industry response to the pandemic and the role of G-20. The Conference deliberated upon the B-20 Saudi Arabia recommendations to the G-20 leaders and views of experts from T-20 and S-20 fraternity as well as officials from the Government of India.

18.5.2 Shanghai Cooperation Organization (SCO): The Shanghai Cooperation Organization (SCO), is a Eurasian political, economic, and security alliance. India officially joined SCO as a full Member on 9 June, 2017 at a summit in Astana, Kazakhstan.

- (i) Meeting of the Permanent Expert Working Group on Agriculture of the Shanghai Cooperation Organisation (SCO) Member States was held on 16th October, 2020: The Indian side was led by Joint Secretary (International Cooperation). Agriculture Commissioner, DAC&FW also participated in the meeting as the focal point. Action Plan for 2021-2025 on the implementation of the Agreement between the Governments of the SCO Member States on Cooperation in the Field of Agriculture, Plan on the implementation of the SCO Cooperation Programme on Food Security, SCO

Cooperation Concept on Food Security, Framework Concept on the Formation of the SCO Demonstration Base for Exchanges and Training in Agricultural Technologies etc were among the issues taken up for discussion.

- (ii) 5th Meeting of the Ministers of Agriculture of the SCO Member States on 21st October, 2020: The Indian side was led by Hon'ble Minister of State for Agriculture and Farmers Welfare, Shri Parshottam Rupala. Hon'ble Minister addressed the meeting and inter alia elaborated on the measures taken by India for ensuring smooth agricultural operations for continued food security and farmers' welfare in the COVID-19 pandemic, India's commitment to attain Sustainable Development Goal 2 i.e. End Hunger, achieve food security and nutrition, and efforts in the direction to double farmers' income by 2020 etc.

18.5.3 BRICS:

- (i) **Meeting of the BRICS Agriculture Cooperation Working Group** was held on 18th September, 2020 under Russian Chairship. The meeting was held virtually and the Indian delegation was led by Joint Secretary, IC.
- (ii) **Xth meeting of the BRICS Ministers of Agriculture and Agrarian Development** was held on 23rd September, 2020. The Indian delegation was led by Shri Parshottam Rupala, Hon'ble Minister of State for Agriculture and Farmers Welfare. The Ministerial meeting comprised of two sessions- One on **The Food and Agriculture Policy Response to Covid-19** and the other on **The BRICS Agricultural Cooperation**. Hon'ble MoS addressed the meeting in both the sessions and elaborated on India's prompt response

to COVID-19 by suitably and efficiently mobilising the available resources with supportive policies to ensure continuity in the supply chain not only across the country but also in the world food supply chain by continuing exports of agricultural commodities as before. He further elaborated on other IT related efforts undertaken by the Department to help farmers tide over the crisis.

The MoS called upon all the member countries to work closely by sharing experiences, best practices in R&D, technological innovations and ensure implementation of the BRICS Action Plan, 2017-20.

18.6 External Assistance:

18.6.1 There are various projects which are being implemented in different States of India with the help of external assistance provided by various foreign agencies/countries such as the World Bank, International Fund for Agricultural Development (IFAD), JICA, GEF, Asian Development Bank (ADB) etc.

18.6.2 **World Bank Assisted Projects:** Currently, the projects being implemented by the State governments in the agriculture sector with the assistance of the World Bank through DEA are as under:

1. Assam Agribusiness and Rural Transformation Project;
2. National Agricultural Higher Education Project (NAHEP);
3. National Neeranchal Watershed Project;
4. Himachal Pradesh Horticulture Development Project;
5. Maharashtra Project on Climate Resilient Agriculture;
6. Tamil Nadu Irrigated Agriculture Modernization Project;

7. Jharkhand Opportunities for Harnessing Rural Growth Project;
8. AP Integrated Irrigation & Agriculture Transformation Project;

18.6.3 Japan International Cooperation Agency (JICA): Himachal Pradesh Crop Diversification Promotion Project is being implemented with support from JICA.



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Chapter 19

Integrated Scheme on Agriculture Census & Statistics

19.1 Overview

The Agriculture Census Scheme is a component of the Integrated Scheme on Agriculture Census, Economics and Statistics under which 100 per cent financial assistance is provided to States/UTs for payment of salaries, office expenses, honoraria, tabulation and printing of schedules etc. It aims at collecting information related to structural characteristics of operational holdings in the country. Periodic Census is the main source of information on number, area and other basic characteristics of operational holdings such as land use, cropping pattern, irrigation, tenancy status, input use etc. The Agriculture Census is conducted at five yearly intervals and the current Agriculture Census 2015-16 is the tenth in the series.

The constituent activities of the Agriculture Census Programme are carried out in three distinct Phases which are statistically linked together. The Agriculture Census data is collected following a Census-cum-Sample Survey approach, after completion of the reference year. During Phase -I of the Census, data on primary characteristics of operational holdings, like the number of holdings and area operated by different size class (marginal, small, semi-medium, medium and large), social groups (SC, ST, Others), gender (male/female), types of holding (individual, joint and institutional), etc. is collected. The second Phase of the Census collects data on detailed characteristics of operational holdings such as, land use, irrigation status, tenancy particulars, cropping pattern etc.

Phase-III of the Agriculture Census, (referred as Input Survey) is conducted as a follow up survey to the Agriculture Census (reference year as next Agriculture year to that of the Agriculture Census) to collect data on input use pattern of operational holdings in the country. Time series data generated through the Agriculture Census provides valuable information on structural changes that take place over time in the agriculture sector. The results of the Agriculture Census are published in the form of reports and are placed on the website of the Department (<http://agcensus.nic.in>) for public use.

19.2 Target and Achievement during 2020-21

The tenth Agriculture Census with reference year 2015-16 has been completed in the country. The preparatory activities for the next Agriculture Census due for the reference year 2020-21 has also been initiated. The progress during 2020-21 is given below:

Agriculture Census during 2020-21	
Target	Achievement
Completion of Phase-I, II & III of Agriculture Census 2015-16	Report of Phase-I & II and III published and placed in the public domain.
Preparation of schedules for all three phases & instruction manual for next Agriculture Census 2020-21.	Schedules for all three phases & instruction manual prepared.

19.3 New Initiatives during Agriculture Census 2015-16:

Data of land holdings are being computerized in the country. Since Agriculture Census is predominantly based on land records, the feasibility of extraction of data using computerized land records were experimented in a few States viz., Andhra Pradesh, Telangana, Jharkhand, Maharashtra and Gujarat during Agriculture Census 2015-16.

19.4 The Way Forward in the Forthcoming Agriculture Census 2020-21

For compliance of survey timelines and to ensure reliability & quality of data, collection of data through hand-held devices like smart phones/tablets, extraction of data from computerized land records where land records have been fully computerized and separate reference year for each of the three

phases are being planned in the Department for the ensuing 11th Agriculture Census 2020-21.

19.5 Gender Perspective in Agriculture Census

Since 1995-96, the following recommendations of the Central Statistics Office, Ministry of Statistics and Programme Implementation, gender dis-aggregated data in Agriculture Census are collected. The scope of collection of gender dis-aggregated data is restricted to the number of operational holdings, corresponding operated area by different size classes of holdings, social group (SC, ST and others) and types of holdings (individual, joint and institutional).

Percentage of female operational holdings as per results of the latest Agriculture Census 2015-16 and Agriculture Census 2010-11 is given in the following table:

Sr. No.	Size Group	2010-11	2015-16
1	Marginal (Below 1.00 ha.)	13.63	14.68
2	Small (1.00-2.00 ha.)	12.15	13.44
3	Semi-Medium (2.00-4.00 ha.)	10.45	11.76
4	Medium (4.00-10.00 ha.)	8.49	9.76
5	Large (Above 10.00 ha.)	6.78	7.83
	All Size Groups	12.78	13.96

Increase in percentage of female operational holders during different Agriculture Censuses indicates participation of more and more women in operation and management of agricultural holdings in the country.

19.6 Agriculture Census in the North Eastern States (NE):

Agriculture Census 2015-16 was conducted in all the North Eastern States comprising of Arunachal Pradesh, Assam, Meghalaya, Manipur, Mizoram, Nagaland, Sikkim and Tripura. The final results of Phase-I, Phase-II and Phase-III have been published.

Furnishing Information on Action Taken Note as per format of Department of expenditure in Appendix-II:

Sl. No.	Year	No. of Paras/ PA reports on which ATNs have been submitted to PAC after vetting by Audit	Details of the Paras/PA reports on which ATNs are pending		
			No. of ATNs not sent by the Ministry even for the first time	No. of ATNs sent but returned with observations and Audit is awaiting their resubmission by the Ministry	No. of ATNs which have been finally vetted by audit but have not been submitted by the Ministry to PAC
So far as Agriculture Census is concerned nothing is pending.					

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Chapter 20

Sub-Mission on Agricultural Extension (SMAE)

Agriculture Extension:

20.1 Overview

The Sub Mission on Agricultural Extension (SMAE) under Green Revolution – Krishonnati Yojana is being implemented with an objective to restructure and strengthen the agricultural extension machinery with a judicious mix of extensive physical outreach of personnel, enhancement in quality through domain experts & regular capacity building, interactive methods of information dissemination, Public Private Partnership, pervasive & innovative use of Information & Communication Technology (ICT) / Mass Media federation of groups and convergence of extension related efforts under various Schemes and programmes of Government of India and the State Governments. The SMAE aims to appropriately strengthen, expand and upscale existing Extension Schemes. The ongoing Extension Schemes include Central Sector and Centrally Sponsored Schemes being implemented by the Extension Division/Directorate of Extension. Even in the case of Central Sector Schemes which have been subsumed within the Mission, a greater role has been envisaged for the States through their active involvement in planning, implementation and monitoring.

20.2 Objectives and Achievement of Major Schemes

20.2.1 SUPPORT TO STATE EXTENSION PROGRAMMES FOR EXTENSION REFORMS SCHEME (ATMA SCHEME)

The Scheme ‘Support to State Extension Programmes for Extension Reforms (ATMA)’ implemented since 2005 has now been

included as a Centrally Sponsored component of the Sub-Mission on Agriculture Extension (SMAE) under Green Revolution – Krishonnati Yojana. It is now under implementation in **691 districts of 28 States & 5 UTs** of the country. The Scheme promotes a decentralized farmer-driven and farmer accountable extension system through an institutional arrangement for technology dissemination in the form of an Agricultural Technology Management Agency (ATMA) at district level. Under the Scheme, grants-in-aid is released to states with an objective to support State Governments efforts of revitalization of the extension system and making available the latest agricultural technologies in different thematic areas to increase agricultural production through extension activities viz. Farmers Training, Demonstrations, Exposure Visits, Kisan Mela, Mobilization of Farmers Groups and Setting up of Farm Schools. Through these activities, latest agriculture technologies are disseminated to farmers of the country.

In order to promote key reforms under the Scheme, ATMA Cafeteria 2018 continues to support activities in line with the following policy parameters:

- **Multi-agency extension strategies:** Atleast 10% of allocation on recurring activities at district level is to be used through non-governmental sector viz. NGOs, Farmers' Organization (FOs), Panchayati Raj Institutions (PRIs), para-extension workers, agripreneurs, input suppliers, corporate sector, etc.
- **Farming system approach:** The activities

- specified in the cafeteria are broad enough to promote extension delivery consistent with a farming systems approach and extension needs emerging through Strategic Research and Extension Plan (SREP).
- **Farmer centric extension services:** The cafeteria provides for group-based extension and it has necessary allocation for activities related to organizing and supporting farmer groups. In order to supplement these efforts, a provision for rewards and incentives to the best organized farmer groups has also been provided.
 - **Convergence:** The SREP and SEWP would also be mechanisms for ensuring convergence of all activities for extension. At present, resources for extension activities are being provided under different Schemes of Centre/ State Governments. It is mandated that the SEWP, submitted by the State Governments for funding under the Scheme shall explicitly specify the activities to be supported from within the resources of other ongoing Schemes as well as from this Scheme.
 - **Mainstreaming gender concerns:** It is mandated that at least 30% of resources on programmes and activities are utilized for women farmers and women extension functionaries.
- Implementation Status:**
- Institutional arrangements viz. Inter Departmental Working Group (IDWG)/ in 28 States and 5 UTs, ATMA Core Committees – Governing Board (GB) & ATMA Managing Committee in 691 Districts; Block Technology Team (BTT) in 6093 Blocks & Block Farmer Advisory Committees (BFACs) reconstituted in 5025 Blocks; District FACs have been constituted in 537 districts and State Level FACs in 20 States.
 - SEWPs of 28 States/5 UTs have been prepared and approved based on District Agriculture Action Plans of 691 ATMA districts. Since the inception of the Scheme in 2005-06 up to 31st December, 2020 funds to the tune of **Rs.5817.87 crore** have been released to States under the scheme. During 2020-21, against the B.E. of Rs.824.02 crores, an amount of **Rs.436.78 crore has been released** to the States up to 31st December, 2020 for implementation of the Scheme.
 - Physical performance of the Scheme since its inception in 2005-06 (April 2005 to December, 2020) is as below:
 - ✓ Over 56446413 farmers including 13858982 farm women (24.55%) have participated in farmer oriented activities like Exposure Visits, Trainings, Demonstrations, Farm Schools & Kisan Melas.
 - ✓ Over 307982 Commodity based Farmer Interest Groups (CIGs)/ FIGs have so far been mobilized under the Scheme.
 - ✓ Over 166585 Farm Schools have been organized on the fields of outstanding farmers.
 - Progress of implementation during 2020-21 (up to December, 2020):
 - ✓ 1932976 farmers including 485564 farm women (25.12%) have reportedly participated in farmer oriented activities like Exposure Visits, Trainings, Demonstrations & Kisan Melas.
 - ✓ 11896 CIGs/ FIGs organized.
 - ✓ 11534 Farm Schools organized.
 - ✓ 16224 specialists & functionaries have been reported as deployed under ATMA upto December, 2020.

- ✓ 179061 Farmer Friends also identified by the states.
- ✓ **Projections for the period January - March, 2021:**
 - Over 12,60,402 farmers are projected to be benefited in farmer oriented extension activities like Trainings, Exposure Visits, Demonstration, Farm Schools and Kisan Melas.
 - 5206 Farmers Interest Groups (FIGs) are projected to be mobilized.
 - 4507 Numbers of Farm Schools are to be set-up in the field of farmers.

20.2.2 MASS MEDIA SUPPORT TO AGRICULTURAL EXTENSION

This Scheme is utilizing countrywide infrastructure and networks of All India Radio and Doordarshan and focusing dissemination of latest farm practices through Radio and Television networks. The Prasar Bharati, a 'National Public Service Broadcaster' is implementing this Scheme. The objective of the Scheme is to enhance and boost the Agriculture Extension system in the present scenario. At present the farmers need technology, investment, better quality inputs, real time information and most of all the latest know-how for sustaining commercial and cost effective sustainable agriculture. A major shift in the methodology of delivering knowledge to the farm has taken place. Radio and TV have the advantage of reaching a wide audience at a very low cost.

Telecast of Krishi Darshan Programmes on Doordarshan: Under this Scheme, a 30 minute programme is being telecast 5 days a week through 01 National and 18 Regional Kendras of Doordarshan. Similarly, 96 Rural FM Radio Stations of All India Radio are being utilized to broadcast a 30 minute programme namely, Kisan Vani (6 days a week) and 03 programmes namely – Krishi Darshan (30 minutes), Hello Kisan (60 minutes) and

Choupal Charcha (30 minutes)(5 days a week) on DD Kisan – a 24 hour dedicated channel for agriculture and the farming community. A programme 'Kisan Ki Baat', on the lines of Kisanvani is being broadcast from News on AIR (erstwhile FM Gold channel) Delhi since September 2018.

Broadcast of Kisan Vani Programme on All India Radio: Under this component, 96 FM/ AM stations of All India Radio are broadcasting a 30-minute programme six days a week from 6.30-7.00 PM. Each station is broadcasting separate programmes in respective dialects/languages.

Telecast/ Broadcast of spots/ jingles advisories under 'Free Commercial Time (FCT)' on AIR and DD: In addition to above regular programmes, the Free Commercial Time (FCT) available under Krishi Darshan and Kisanvani programme is being utilized for dissemination of Advisories on Rabi / Kharif season, jingles on Cooperatives, spots on Kisan Call Centers, judicious use of fertilizers, safe use of pesticides, machinery and technology, Farm School, NFSM, Kisan Credit Card and Agri -Clinic and Agri -Business Centers (ACABC), package of practices available to farmers under the National Food Security Mission (NFSM) and other important flagship programmes like Pradhan Mantri Krishi Sichai Yojana, Crop Insurance Scheme, National Agriculture Market, Soil Health Card, Bee Keeping, Paramparagat Krishi Vikas Yojana etc and contingency plan developed by State Governments and emergent issues like drought, flood etc.

Focused Publicity & Awareness Campaign through other media platforms: Besides the above, a '**Focused Publicity & Awareness Campaign**' which would cut across all the Divisions of the Ministry was launched on July 5, 2010 to create awareness about the assistance available under various Schemes of the Department of Agriculture, Cooperation

& Farmers Welfare. This campaign continued in an aesthetic, professional and politically neutral manner. Video Spots and Audio spots are being broadcast/telecast through AIR, DD, Lok Sabha TV and also on Private TV Channels. The above spots are being broadcast/telecast through AIR/DD and private national and regional TV channels during news and entertainment programmes. In addition to this, the Ministry is using various multimedia platforms i.e. railway panels/stations, bus panels, exhibitions through Directorate of Field Publicity, web based digital platforms, hoardings etc. for a media campaign on the above flagship programmes.

Technical Support to DD Kisan Channel: DD Kisan, a 24 hour agriculture based channel is catering to the requirements of the farming community inclusive of research updates, extension advisories, market rates and weather updates and is also utilized extensively under the Mass Media Support to Agriculture Extension (MMSAE) for dissemination of information.

Support to Community Radio Stations (CRS): To promote agriculture extension through mass media at community level, the Ministry of Agriculture & Farmers Welfare is also providing support for setting up of Community Radio Stations (CRS) which would make a major contribution to agricultural extension by utilizing the reach of radio transmitters and disseminating information and knowledge produced locally and having relevance for a specific area in local dialects/languages. As on date, 8 CRS are operational in KVKS and NGOs under this Scheme broadcasting agriculture programmes.

Print Media/Social Media: Awareness is also created through print advertisements in leading newspapers across the country. Besides, social media platforms viz. Facebook, Twitter, YouTube etc. are also being utilized. National and regional newspapers are being

utilized based on their circulation figures.

Physical and Financial Progress:- During 2020-21 (up to December, 2020), 4125 programmes were telecasted on DD and 22825 broadcasted through All India Radio. During the year 2020-21, out of 219.00 crore (BE), an amount of Rs.90.34 crore has been incurred upto 31.12.2020 under Central Sector Scheme 'Mass Media Support to Agriculture Extension' for Krishi Darshan and Kisan Vani Programmes being implemented through Prasar Bharati including 'Focused Publicity and Awareness Campaign' through Radio/ TV /Print and other outdoor media platforms.

Projections for the period January – March, 2021: 1335 programmes are projected to be telecast on Doordarshan and 7439 programmes broadcast through All India Radio.

20.2.3 Establishment of the Agri-Clinics and Agri-Business Centres (AC&ABC)

The AC&ABC Scheme is under implementation since April, 2002. The Scheme aims at creating gainful self-employment opportunities to unemployed agricultural graduates, agricultural diploma holders, and intermediates in agriculture apart from science graduates with post-graduation in agriculture related courses for supporting agriculture development and supplementing the efforts of public extension. **MANAGE** is the implementing agency for the training component under the Scheme through a network of identified Nodal Training Institutes (NTIs) in various states. **NABARD** is implementing the subsidy component under the Scheme on behalf of Government of India and is monitoring credit support to Agri-Clinics and Agri-Business Centres through Commercial Banks. Credit linked back-ended subsidy @ 36% of the Total Financial Outlay (TFO) capital cost of the

project funded through bank loan is available under the Scheme. This subsidy is 44% in respect of candidates belonging to SC/ST, Women and all categories of candidates from North-Eastern and Hill States. Now, benefits of MUDRA Scheme loans also are made available to entrepreneurs establishing agri-ventures under the Scheme.

The Scheme has been on-boarded with DBT Bharat Mission on 18-04-2017 and Aadhaar particulars have been made mandatory for getting benefits under the Scheme. Online process for training programme has been rolled out on 01-01-2018 through the module www.acabcmis.gov.in. Development of software for complete online process for subsidy is underway. Now benefits of Mudra Loan Scheme have been extended for ACABC Ventures. Provision of extension service to farmers by these agripreneurs has been made a mandatory component of the Scheme. Details of the Scheme may be seen at www.agriclinics.net.

So far, 72784 candidates have been trained and 31401 agri-ventures have been established in the country during the period of implementation of the Scheme upto December, 2020. Out of the ventures established since inception, 2814 have been subsidised as on December, 2020. During the year 2020-21, starting from April, 123 candidates have been trained, 228 agri-ventures have been established and 187 ventures were subsidized upto December, 2020.

Projections for the period January – March, 2021:

- a) 577 Numbers of Candidates are projected to be trained.
- b) 122 Numbers of Ventures are projected to be established.

20.2.4 Kisan Call Centers (KCC)

The KCC Scheme was launched on 21st January 2004 to provide answer to farmers' queries on agriculture and allied sectors through toll free telephone lines. A country wide common eleven digit number '**1800-180-1551**' has been allocated for KCC. The replies to the queries of the farming community are being provided in 22 local languages. KCCs operate from 21 locations in the country covering all the Sates and UTs. Calls are attended from 6.00 am to 10.00 pm on all 7 days of a week.

In order to make farmers aware of this facility, audio and video spots on Kisan Call Centres have been broadcasts/telecast through All India Radio, Doordarshan and other channels. A Kisan Knowledge Management system (KKMS) has been created at the backend to capture details of the farmers calling KCCs. Modified Call Escalation Matrix has also been put in place. If the queries are not answered by FTA, it is escalated to concerned Officer for replying the query through KKMS interface within the given time frame.

The restructured Kisan Call Centre programme has many unique features viz. all in one PCs; 100% call recording; call barging; voice mail service; customized IVRS; call conferencing through experts; feedback at the end of each call; playing state specific advisories during call wait time and SMS to caller farmers giving a gist of answers given by the KCC Farm Tele Advisor, CCTVs and Biometric attendance system at each KCC location, PRI lines with capacity to handle requisite number of incoming and outgoing lines and call holding time of less than 30 seconds. The farmer calling KCC can also register for receiving SMSs from experts on the subject. With these modernized facilities at each KCC location, there has been encouraging response from farmers.

Since inception of the Scheme till December, 2020 over 518.22 lakh calls have been registered in the KCCs. During the current

year around 45.07 lakh calls have been received upto December, 2020.

Projections for the period January–March, 2021: Expected number of calls to be answered from KCCs are 13,00,000.

20.2.5 Human Resource Development (HRD) Support

DAC&FW has strengthened the network of training institutions in the country by supporting the National Institute of Agricultural Extension Management (MANAGE) at Hyderabad; four Regional Extension Education Institutes (EEIs) at the regional level and the State Agricultural Management & Extension Training Institutes (SAMETIs) at the State level.

MANAGE is providing training support to senior and middle level functionaries of the State Governments. It is also providing necessary support to the States in implementation of Extension Reforms (ATMA) Scheme. Against 200 training courses planned for 2020-21, MANAGE has not conducted training programs during current year due to COVID-19. Against BE of Rs.2397.00 lakh, an amount of Rs.1173.50 lakh has been released till December, 2020. The implementation of self-financing professional courses viz. two-year Post Graduate Program in Agri-Business Management, one-year Post Graduate Diploma in Agricultural Extension Management in distance learning mode and one year Diploma in Agricultural Extension Services for Input Dealers (DAESI) by MANAGE (organized on weekends/weekly holidays) are being continued during the year 2020-21.

Extension Education Institutes (EEIs): Four Extension Education Institutes namely, Nilokheri (Haryana), Hyderabad (Telangana), Anand (Gujarat), Jorhat (Assam) are functioning at the Regional Level. The objectives of EEIs are to improve the skills

and professional competence of middle level extension field functionaries of agriculture and allied departments of the State/UTs in the areas of (a) Extension Education; (b) Extension Methodology; (c) Information and Communication Technology; (d) Training Methodology; (e) Communication; (f) Market led Extension; etc. During 2020-21, a total of 175 training programmes have been planned, out of which the EEIs have conducted 106 training programmes with 4105 participants during 2020-21. Against the budget grant of Rs.17.26 crore an amount of Rs.8.74 crore has been released to the EEIs during 2020-21.

Projections for the period January– March, 2021: 69 courses are projected to be organized by 4 Regional Extension Education Institutes (EEI Nilokheri – 18, EEI Anand- 22, EEI Hyderabad – 20 and EEI Jorhat – 09).

Diploma in Agricultural Extension Services for Input Dealers (DAESI): DAESI is of one year (expanded to 48 weeks) regular course launched in October, 2015 with an objective to impart education in agriculture and other allied areas to Input Dealers so that they can establish linkage of their business with extension services, besides discharging regulatory responsibilities enjoined on them. This programme was earlier implemented through MANAGE @ Rs.20,000 per candidate in self-financing mode in Andhra Pradesh, Maharashtra, Tamil Nadu, Odisha, Jharkhand & West Bengal. It has been decided to implement DAESI programme across the country through SAMETIs involving Agribusiness Companies, ATMAs, KVKS, Agricultural Colleges & NGOs. So far 35073 input dealers have been trained upto 2019-20. During 2020-21, 3 batches of DAESI programme has been conducted and 120 input dealers have been trained till December, 2020.

Projections for the period January – March,

2021: In DAESI 190 batches are proposed to be conducted by MANAGE, Hyderabad.

20.2.6 National Gender Resource Centre in Agriculture (NGRCA)

NGRCA of the Department of Agriculture Cooperation & Farmers Welfare is established in Extension Division and is supported under the Scheme of Extension Support to Central Institutes/ Directorate of Extension. NGRCA reflects the national commitment of empowerment of women through 'strategy of mainstreaming and agenda setting'. The Centre acts as a focal point for convergence of all gender related activities and issues in agriculture and allied sectors within and outside DAC&FW; addressing the gender dimension to agriculture policies and programmes; rendering advocacy/ advisory services to the States/UTs to internalize gender specific interventions for bringing farm women in the mainstream of agriculture development.

Being a Nodal Agency for women in agriculture in DAC&FW, Ministry of Agriculture & Farmers Welfare; the Centre is actively involved in the revision of guidelines of various beneficiary oriented schemes/programmes of DAC&FW to ensure allocation of resources and flow of benefits to women farmers in proportion to their participation in agricultural activities.

The major activities undertaken by NGRCA:

1. On the occasion of Mahila Kisan Diwas-2020-The Centre organized events on the occasion of Mahila Kisan Diwas, on October 15, 2020 through Video Conferencing under the guidance of Hon'ble Minister for Agriculture & Farmers Welfare which was graced by the Hon'ble Minister of State for Agriculture & Farmers Welfare and Secretary (DAC&FW) in the presence of other senior officers of the Department. The State

Agriculture Departments, Ministries/ Departments and Progressive Women Farmers from different States joined the conference through video link. A series of activities were undertaken on this occasion which included launch of an e-Book on 'Inspiring Stories of Progressive Women Farmers'; short films on 'प्रगतिशील कृषक महिलाओं की कहानियाँ' encompassing successful women farmers of India and "वैश्विक स्तर पर महिला किसानों की सफलता की कहानी" elucidating the women involved in agriculture, their struggles and journey to empowerment facing all odds from several countries including India. The event also included an interaction of Progressive Women Farmers and agripreneurs with Hon'ble MoS (AC &FW) from States. At the State and District level, webinars, felicitating women farmers and experience sharing workshop involving Progressive Women Farmers and agripreneurs were organized on this occasion.

2. Publication of women friendly literature: A compilation of 51 Success Stories of Progressive Women Farmers in the form of an e-Book titled 'Inspiring Stories of Progressive Women Farmers' was published.

Pre-Seasonal DAC&FW-ICAR Interfaces:

The Extension Division of DAC&FW has been organizing pre-seasonal Interfaces before Kharif & Rabi every year involving Department of Agriculture Cooperation & Farmers Welfare (DAC&FW) and Indian Council of Agricultural Research (ICAR). The effort is aimed at understanding key issues - both from the Research and Development

perspective in agriculture and allied sectors and evolving joint strategies to address those issues in the coming Kharif/ Rabi season. The issues so emerge that warrant actions by States are then flagged in the National Conference on Agriculture for Kharif / Rabi and are discussed threadbare with the States in respective sessions to avoid any gap in their addressal. The Interface provides a forum to delve deep in to emerging issues and finalizing specific recommendations for the subsequent crop season & are also circulated to State Development Departments, ICAR Institutes, KVks and concerned organizations for implementation of recommendations at field level.

The Pre-Rabi 2020 DAC&FW-ICAR Interface was organized on 14th September, 2020 and the group recommendations of the said interface were shared with senior officers of State Agriculture Department.

20.3 Programmes of North-Eastern States:

The status of implementation of Schemes in the North Eastern Region is as follows:

a. Support to State Extension Programme for Extension Reforms:

S.No.	Name of the State	No. of ATMA Registered
1.	Arunachal Pradesh	35
2.	Assam	756
3.	Manipur	472
4.	Meghalaya	36
5.	Mizoram	35
6.	Nagaland	184
7.	Sikkim	09
8.	Tripura	05
	Total	1532

During the current financial year 2020-

21, Budget estimate of Rs.74.20 crore was earmarked for North Eastern States for implementing the Scheme whereas, an amount of Rs.52.15 crore has been released to North Eastern States – Arunachal Pradesh (Rs.11.32 crore), Assam (Rs.10.01 crore), Manipur (Rs.4.19 crore), Meghalaya (Rs.8.35 crore), Mizoram (Rs.5.05 crore), Nagaland (Rs.6.29 crore), Tripura (Rs.5.29 crore) and Sikkim (Rs.1.65 crore) till December, 2020.

Establishment of Agri-Clinics and Agri-Business Centres (AC&ABC): Candidates from North-Eastern States are entitled for an additional benefit of 44% subsidy on the Total Financial Outlay (TFO) as against to 36% for General Category Candidates. Details of candidates trained and venture established since the inception till December, 2020 is given below:

S.No.	State	Candidates Trained	Ventures Established
		Since Inception	Since Inception
1.	Arunachal Pradesh	35	03
2.	Assam	756	227
3.	Manipur	472	128
4.	Meghalaya	36	03
5.	Mizoram	35	00
6.	Nagaland	184	21
7.	Sikkim	09	01
8.	Tripura	05	01
	Total	1532	384

Kisan Call Centers (KCCs): The KCC located at Guwahati caters to the needs of Arunachal Pradesh, Assam, Manipur and Nagaland; and the KCC located at Agartala caters to the needs of Tripura, Mizoram and Meghalaya. For Sikkim, the KCC is located at Kolkata (West Bengal). Queries are replied in

different languages depending upon the area from where the query is received. Since the beginning of Scheme, the calls registered from various states of North-Eastern Region upto December, 2020 are: Arunachal Pradesh (11711), Assam (345370), Manipur (33953), Meghalaya (17465), Mizoram (8682), Nagaland (5395), Sikkim (17979) and Tripura (49899). The calls registered from these states during current year up to December, 2020 are Arunachal Pradesh (1107), Assam (18672), Manipur (1501), Meghalaya (545), Mizoram (460), Nagaland (1013), Sikkim (1818) & Tripura (2997).

Extension Education Institute (EEI): EEI set up at Jorhat (Assam) in 1987 has been providing training support at the regional level to the middle level field functionaries of 8 States of North Eastern Region and West Bengal. During the year 2020-21, 17 courses have been organized with 1021 participants trained. An amount Rs. 100.00 lakhs has been released to EEI Jorhat during 2020-21 as against the Budget Estimate of Rs. 353.00 lakh.

Mass Media Scheme in NE Region: The programmes under the Scheme are being disseminated throughout the country including NE region benefiting the farmers of the area. In the NE Region the programmes are being disseminated in regional languages & local dialects through Six FM stations and One Regional Kendra.

20.4 Initiative taken during 2020-21:

An Outreach Program for creating awareness among farmers & all stakeholders on reforms in the agriculture sector has been undertaken by the Extension Division. These reforms include recently enacted Farms Acts namely "The Farmers Produce Trade and Commerce (Promotion and Facilitation) Bill, 2020"; and

"The Farmers (Empowerment and Protection) Agreement on Price Assurance and Farm Services Bill, 2020". The brief outcomes of the outreach program are as under:

- A three tier outreach campaign consisting of Master Trainers at the upper level, Sub-Master Trainers (SMTs) at the middle level and farmers at the grassroots level was planned through webinars. The first tier consisting of Master Trainers were identified from National/Regional/State Level Institutes including National Institute of Agricultural Extension Management (MANAGE), National Institute of Agricultural Marketing (NIAM), National Institute of Plant Health Management (NIPHM), Extension Education Institutes (EEIs), National Bank for Agriculture and Rural Development (NABARD), State Agricultural Management and Extension Training Institutes (SAMETIs), National Centre for Organic Farming (NCOF), National Seed Corporation (NSC) and Directorate of Marketing & Inspection (DMI). The second tier consisted of Sub-Master Trainers at State & District levels including ATMA functionaries, Farmer Producer Organizations (FPOs), Custom Hiring Centres (CHCs), Seed/Fertilizer/Pesticide Associations and Self Help Groups (SHGs).
- As a part of the programme, 2 educational films and 3 promotional films have been developed in 12 regional languages. Orientation programme of 235 Master Trainers of National/States/Regional training Institutes was conducted for further training to Sub-Master Trainers.
- An outreach module for Master Trainers & Sub-Master Trainers (SMTs)

was developed and web links were provided to access training material in almost all vernacular languages and the same was uploaded on social media platform & website of the Department.

- The Master Trainers began orientation of Sub-Master Trainers (SMT) at State & District level through webinars from 10th October, 2020 onwards. 204 webinars for 12358 SMTs have so far been organized. Over 134.83 lakh farmers have so far been covered till December, 2020.
- Salient features of farm reforms in 5-6 pages were developed & shared with Gram Pradhans. The Audio clip of Hon'ble Agriculture Minister was recorded & forwarded to Gram Pradhans to conduct outreach campaign for rural masses across the country. The Gram Pradhans (GPs) have been grouped as per language requirements for conducting webinars. Kisan Call Center (KCC) are used to call the GPs a day in advance and inform of the webinar schedule. Web-link was sent to individual GPs as per schedule, using m-Kisan Portal of the Department. Web-link was also sent to the Master Trainers.

Background technical support team provided necessary training. 67 webinars involving 1619 Gram Pradhans have also been conducted.

- Programmes comprising of presentations, panel discussions and live response to queries of farmers and best practices adopted by the States on Farm Acts were telecast through Doordarshan, DD Kisan & AIR. Interviews of experts and promotional films on Farm Acts are also being broadcast and telecast on Farm Acts.
- Print advertisements were published in newspapers across the country in Hindi and regional languages.
- The activities of the Outreach Campaign were shared on the Social Media Platform of the Department for wide publicity. Infographics and public hashtags were prepared and regular Tweets and Infographics were used with the following hashtags:

- ✓ # AatmaNirbharKrishi
- ✓ #MSPhaiAurRahega
- ✓ #JaiKisan

Two hashtags trended at number 1 position in the country in Twitter trending.

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Chapter 21

Sub-Mission on Seed and Planting Material (SMSM)

20.1 Overview

The mandate of Seeds Division is to promote production and multiplication of quality seeds of all crops so that the required quantities of seeds can be made available in time to farmers in the country. Functions/ responsibilities include:-

- Formulation and implementation of policy and programmes on quality seed production.
- To recommend proposals for import and export of seeds and planting material.
- To supplement the efforts of States / Union Territories in production and distribution of certified / quality seeds.
- To deal with matters relating to Intellectual Property Rights in Agriculture, Biodiversity, International Treaty on Plant Genetic Resources for Food and Agriculture, UPOV Convention, Import / Export of seeds.
- Matters relating to Central PSU - National Seeds Corporation.
- Matters relating to Protection of Plant Varieties & Farmers' Rights (PPV&FR) Authority - an autonomous organization and National Seeds Research & Training Centre (NSRTC), Varanasi, Uttar Pradesh- a subordinate office.
- Matters relating to International Rice Research Institute (IRRI) South Asia Regional Centre (ISARC), Varanasi, Uttar Pradesh.

21.2 Major Schemes – Objectives

- (i) **Sub-Mission on Seed and Planting Material (SMSM):** Sub Mission on Seed and Planting Material (SMSM) is under implementation with the objective to develop/strengthen the seed sector and to enhance production and multiplication of high yielding certified/ quality seeds of all agricultural crops and making it available to farmers at affordable prices and also place an effective system for protection of plant varieties, rights of farmers and plant breeders to encourage development of new varieties of plants. The existing components of the SMSM scheme are as under :

Sl no.	Intervention
i.	Strengthening for seed quality control
ii.	Strengthening of Grow Out Test(GOT) facilities
iii.	Support to seed certification agencies
iv.	Seed Village Programme
v.	Certified seed production of oilseeds, pulses , fodder and green manure crops through Seed Villages
vi.	Seed processing facilities
vii.	Seed storage facilities
viii.	Transport subsidy on movement of Seeds to NE States etc
ix.	National Seed Reserve
x.	Assistance for boosting seed production in the private sector
xi.	Support to Sub-Mission Director and survey / studies
xii.	PPV&FRA

(ii) Production of Breeder, Foundation and Certified/Quality Seeds: Seeds are the basic and critical input for agricultural production. The Indian Seeds programme recognizes three generations of seeds, namely breeder,

foundation and certified seeds. The details of production of breeder, foundation and certified seeds from 2011-12 to 2019-20 are shown in the following table:-

YEAR	Production/Availability of Seed (Metric Tonnes)		
	Breeder Seed (Production)	Foundation Seed	Certified / Quality Seed
2011-12	12338	222681	3536200
2012-13	11020	161700	3285800
2013-14	8229	174307	3473130
2014-15	8621	157616	3517664
2015-16	9036	149542	3435248
2016-17	11071.44	220907	3802904
2017-18	10508.59	195415	4194111
2018-19	10426	180096	3988767
2019-20	9269.21	222504	4310095
2020-21	8402.22(target)	241207.00	4836632.00

(iii) Strengthening of Seed Quality Control Organizations (State Seed Certification Agencies and State Seed Testing Laboratories):- The responsibility of execution of seed law enforcement is vested with the State Governments. Seed Inspectors notified under the relevant provisions of the Seeds Act, 1966 and the Seeds (Control) Order, 1983, inspect the premises of seed distribution agencies to draw samples for testing. Appropriate action is taken against sellers of sub-standard seeds as per the provisions of the Seeds Act/Rules and Seed (Control) Orders. These Inspectors are also authorized to stop the sale of sub-standard seeds and to seize their stocks. Seed Inspectors have also been provided with powers of enforcement under the Environment (Protection) Act, 1986 to regulate the quality of genetically modified (GM) crops.

(iv) Policy on Export/Import of Seeds and Planting Materials: - The export/import of seeds has increased with rationalization and simplification of the export/import regime. This has benefited Indian farmers, the seed industry and entrepreneurs. **115** cases were recommended for issue of export and **86** cases were recommended for import of seeds and planting material during the year **2019-20**. During the year **2019-20** 180 cases of export and **117** cases of import have been recommended to make available the best seed and planting material to farmers.

(v) Use of Bt. Cotton Hybrid Seeds: - Bt. Cotton is the only transgenic crop approved in the country for commercial cultivation. The Genetic Engineering Appraisal Committee (GEAC) of the Ministry of Environment, Forests and Climate Change is the nodal agency for grant of permission for environmental release of Bt. Cotton hybrids under the

Environment Protection Act, 1986 in the country. At present, about 1400 Bt. Cotton hybrid seeds are available for cultivation in the country. These Bt. Cotton hybrids are grown in ten (10) States i.e., Gujarat, Madhya Pradesh, Maharashtra, Andhra Pradesh, Telangana, Karnataka, Tamil Nadu, Haryana, Punjab and Rajasthan. The area under Bt. Cotton has expanded from 29,000 ha in 2002-03 (0.38% of the total cotton area) to about 117.47 lakh hectare in 2019-20 (93% of the total cotton area) and production of cotton has increased from 86.21 lakh bales in 2002-03 to 354.91 lakh bales in 2019-20.

In order to provide an effective system for fixation of a uniform maximum price and to ensure the availability of Bt. Cotton hybrid seeds to farmers at fair, reasonable and affordable prices, the Government of India issued a Cotton Seeds Price (Control) Order (CSPCO), 2015 on 07.12.2015 under section 3 of the Essential Commodities Act, 1955. Accordingly, the Government has regulated the sale of Bt. Cotton seed by evoking the provisions of the EC Act. For 2019, the price of seed of Bt. Cotton has been fixed at Rs.635/- (with trait value of zero) and for BG-II, Rs.730/- (including trait value of Rs.20/-) has been fixed for a packet of 450 grams.

(vi) **National Seed Reserve:** - In order to meet the requirement of seeds of short and medium duration crop varieties during natural calamities and unforeseen conditions, the National Seed Reserve (NSR) a component of Sub-Mission on Seeds & Planting Material is being implemented by 22 implementing agencies in the country namely National Seeds Corporation, State Seed Corporations and State Department of Agriculture, Jharkhand, Tamil Nadu, Himachal Pradesh and Jammu & Kashmir.

Under the scheme, financial assistance is provided to the implementing agencies for revolving funds (Cost of Seeds), maintenance cost to maintain certified and foundation seeds of short and medium duration crop varieties and price differential for left over stock of seeds. Financial assistance is also provided for construction of seed godown, establishment of seed processing plant, cost of material handling equipment, cost of out sourced service and computerization & networking facilities. If a contingency situation occurs, the implementing agencies make available seeds to farmers for re-sowing purpose at a reasonable cost.

The targets, achievements and amount released to the implementing agencies during last three years are as under:-

S. No.	Year	Physical Targets (in lakh qtls.)	Physical Achievements (in lakh qtls.)	Amt. Released (Rs. lakh)
1	2017-18	3.66	3.36	2677.90
2	2018-19	3.71	3.14	1149.64
3	2019-20	3.73	2.70	937.13

(vii) GM Crop in India

Bt. Cotton is the only genetically modified crop approved for commercial cultivation by Genetic Engineering Appraisal Committee (GEAC) of the Ministry of Environment, Forests & the Climate Change (MoEF&CC) in the major cotton growing States viz. Andhra Pradesh, Telangana, Tamil Nadu, Karnataka, Maharashtra, Madhya Pradesh, Gujarat, Rajasthan, Haryana and Punjab. The area under Bt. cotton has expanded from 29,000 ha in 2002-03 (0.38% of total cotton area) to about 117.47 lakh hectare in 2019-20 (93% of total cotton area) and production of cotton has increased from 86.21 lakh bales in 2002-03 to 354.91 lakh bales in 2019-20.

(viii) Saarc Seed Bank:

India signed an Agreement on establishment and maintenance of a SAARC Regional Seed Bank in November, 2011 at the XVII SAARC summit held at Maldives in 2011 with the objective to provide regional support to national seed security efforts; address regional seed shortage through collective actions, foster inter-country partnerships, to promote increase of Seed Replacement Rate (SRR) with appropriate varieties at a faster rate as far as possible so that the use of quality seed for crop production can be ensured and to act as a regional seed security reserve for the Member States.

Accordingly, the National Seeds Corporation Limited (NSC), New Delhi has been declared as the National Designated Agency to coordinate for establishment and maintenance of the SAARC Regional Seed Bank in India. The National Designated Agency (NDA) would be entrusted with the task of establishing the SAARC Seed Bank as per provisions contained in the agreement. It will work as the National Focal Point also. National Seeds Corporation Limited, State

Seeds Corporations and State Department of Agriculture are declared as implementing agencies for establishment and maintenance of the SAARC Regional Seed Bank in the country.

In addition, the Government of India constituted a National Technical Committee to coordinate all related activities i.e working out modalities and technicalities of participation in the SAARC Regional Seed Bank in the country.

(ix) Seed Village Programme: - In order to upgrade the quality of farmer saved seeds which is about 60-65% of the total seeds used for the crop production programme, the following interventions are made:

- (a) 50% assistance for seeds of cereal crops and 60% for oilseeds, pulses, fodder and green manure crops is provided for distribution of foundation/certified seeds required for one acre area per farmer.
- (b) Farmers' Trainings : Financial assistance of Rs.15000 per group (50-150 farmers each group) is provided for training of farmers on seed production and post harvest seed technology (Rs.0.15 lakh)
- (c) Seed treating/dressing drums : Financial assistance for treating seeds produced in the Seed Village is available @ 3500 per seed treating drum of 20kg capacity and Rs. 5000 per drum of 40kg capacity.
- (d) Seed storage bins: To encourage farmers to develop storage capacity of appropriate quality, financial assistance is available to farmers for purchasing seed storage bins. The rate of assistance is as under.
@33% for SC/ST farmers for 10 qtls. capacity upto a maximum of Rs.1500
@33% for SC/ST farmers for 20 qtls.

capacity upto a maximum of Rs.3000 @25% for General farmers for 10 qtls. capacity upto a maximum of Rs.1000 @25% for General farmers for 20 qtls. capacity upto a maximum of Rs.2000

Assistance for purchase of only one seed bin for each identified farmer is available in the Seed Village Programme. The implementing agency may also distribute smaller seed bins as per demand of farmers and financial assistance is reduced accordingly.

The year-wise physical progress of the programme since 2011-12 is as under: -

Year	Number of Seed Village Organized	Quantity of Seed Produced (In Lakh Quintals)
2011-12	89,244	199.28
2012-13	78,943	116.708
2013-14	68455	145.14
2014-15	48004	193.71
2015-16	29277	91.82
2016-17	24405	62.93
2017-18	100735	126.65
2018-19	102631	207.00
2019-20	77028	186.56
2020-21 (as on 23.11.2020)	7159	30.17

* The progress from most implementing agencies is yet to be received after crop harvest.

(x) **Boosting Seed Production in the Private Sector:** - Under this component of credit linked back ended subsidy, @40% of the capital cost of the project in general areas and 50% in case of hilly and scheduled areas subject to an upper limit of Rs 150 lakhs per project is funded. Two percent (2%) of the total fund utilized under the component is provided as administrative charges to the nodal agency. So far, **651** such projects have been sanctioned

for small entrepreneurs in **18** States with **160.52** lakh qtls. seed processing capacity and storage capacity of 60.06 lakh qtls as on 31.10.2020.

(xi) **Programme being implemented in the North-Eastern States:** - Details of the programmes being implemented in the NE region is at **Annexure-21.1**.

21.3 Modifications in new policy on Seed Development: - The National Seed Policy, 2002 provides that all imports of seeds and planting materials etc. will be allowed freely subject to EXIM Policy Guidelines and the requirements of the Plants, Fruits and Seeds (Regulation of import into India) Order, 1989 as amended from time to time. Import of parental lines of newly developed varieties will also be encouraged. The policy also provides that seed and planting materials imported for sale into the country will have to meet minimum seed standards of seed health, germination, genetic and physical purity as prescribed. All importers will make available a small sample of the imported seed to the Gene Bank maintained by the National Bureau of Plant Genetic Resources (NBPGR). In order to harmonize the New Policy on Seed Development, 1988 with the National Seed Policy, 2002, the following two modifications have been made in the New Policy on Seed Development, 1988:

(i) Seeds of wheat and paddy – In order to provide to the Indian farmer the best planting material available in the world to increase productivity, the import of seeds of wheat and paddy may also be allowed as per provisions of the Plant Quarantine Order, 2003 as amended from time to time for a period not exceeding two years by companies, which have technical/financial collaboration agreement for production of seeds with companies abroad, provided the foreign supplier

agrees to supply parent line seeds/nucleus or breeder seeds/technology to the Indian company within a period of two years from the date of import of the first commercial consignment after its import has been recommended by DAC. For trial and evaluation of the variety sought to be imported by eligible importers, 16 kg. seed in case of wheat and 5 kg. in case of paddy will be given to ICAR or farms accredited by ICAR for sowing. After receipt of satisfactory results of trial/evaluation, an eligible importer may apply for bulk import of such seeds to the DAC.

- (ii) Similar procedure of trial/evaluation has been recommended for import of seeds of coarse cereals, pulses and oil seeds.

Further, Seeds Division has simplified the forms for export and import of seeds and planting material.

21.4 Implementation of OECD Seed schemes in India

The objective of the Organization for Economic Co-operation and Development (OECD) Seed Schemes is to encourage the use of seeds of consistently high quality in participating countries. The scheme authorizes the use of labels and certificates for seeds produced and processed for international trade according to OECD guidelines. The scheme also facilitates the import and export of seed, by the removal of technical trade barriers through internationally recognized labels. India's participation in OECD schemes aims to enhance seed export capabilities and probabilities.

The Department of Agriculture, Cooperation & Farmers Welfare has become a member of the OECD Seed Scheme from 23rd October, 2008 and 251 varieties in more than 20 crops have been listed in OECD list of varieties till

now. An International Workshop on OECD Seed Certification had been organized by Telangana State Seed & Organic Certification Authority (TSSOCA), Hyderabad to accelerate seed export through the OECD seed scheme. A National Task Force on OECD Scheme has also been constituted to enhance India's share of seed export through this scheme.

21.5 Gender perspective in agriculture

Sub-Mission for Seeds and Planting Material (SMS) is under implementation w.e.f. 01.04.2014 with the view to develop/strengthen the seed sector and to enhance production and multiplication of high yielding certified/ quality seeds of all agricultural crops and making it available to farmers at affordable prices and also place an effective system for protection of plant varieties, rights of farmers and plant breeders to encourage development of new varieties of plants.

Financial assistance/ subsidy benefits are equally available/open to all farmers including women farmers. Implementing States/UTs/ agencies have been requested to allocate sufficient funds and ensure participation of women farmers.

The Government is implementing a Seed Village Programme to upgrade the quality of farmer's saved seeds under the Sub-Mission on Seeds and Planting Material (SMS). Under this programme, financial assistance for distribution of foundation/certified seeds at 50% cost of the seeds for cereal crops and 60% for pulses, oilseeds, fodder and green manure crops for production of quality seeds is available for one acre per farmer. The benefits/financial assistance are equally available/open to all farmers including women farmers. Fund/budget exclusively for women farmers is not provided under the scheme, however states are requested to cover an adequate number of women farmers

under the scheme. During the year 2019-20, a total of 6.22 lakh women beneficiaries have benefitted under the scheme Seed Village Programme-Certified Seed Production through Seed Village. During the year 2020-21, as on date 0.84 lakh women farmers have benefitted.

21.6 Organisations under the Seed Division

(i) Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA)

Implementation of Protection of Plant Varieties and Farmers' Rights

The Authority was established in the year 2005 by the PPV&FR Act, 2001 passed by the Parliament. In the year 2019-20 it received a total of 204 applications belonging to three categories of farmers' (10), new (62) and extant (132) varieties. So far, the Government of India has notified 158 crops species on the recommendations of the PPV&FR Authority for plant variety registration. During the reporting period, the Authority has notified in the Government Gazette melia crop species commonly known as Malabar Neem vide S.O.2576 (E) dated 18th July, 2019. Out of 204 applications, 123 applications were filed by the private sector, 71 applications were filed by the public sector and 10 by farmers. Under extant notified category, 56 applications were received, 76 under extant VCK, 62 under New and 10 under farmer's variety category were also filed for registration. During 2019-20, 204 applications were received in respect of 32 crop species. The highest number of applications was received for rice (37), maize (25), potato (24), tetraploid cotton (22), pearl millet (15), tomato (12), chilli (11), wheat (10) etc. The Authority has notified 22 crop species whose time limit for registration under extant variety (extant notified varieties under Section 5 of Seeds Act, 1966 and

extant varieties about which there is common knowledge) category had expired.

In the year 2019-20, a total of 430 certificates of registration of variety protection on breeders' and farmers' rights were issued. Excluding the Farmers' varieties (119), other categories including new varieties (84), EDV (13), varieties of common knowledge (133) and extant notified varieties (82) plant varieties were registered. Similarly, the highest number of certificates were issued for cereals (161) followed by vegetables (131), fibre crops (60), fruits (41) and legumes (25).

On 22nd October, 2019, the Hon'ble Union Minister for Agriculture & Farmers Welfare, Government of India Sh. Narendra Singh Tomar conferred the Plant Genome Saviour Community Awards on five communities; Plant Genome Saviour Farmer Rewards to three farmers and the Plant Genome Saviour Farmer Recognition to six farmers from different states of India. An exhibition showcased the agro biodiversity being conserved by the Awardees, to mark the special occasion.

During the period, two Authority meetings were held. In the 31st meeting of the Authority held on 30th April, 2019, several issues relating to revision of DUS test guidelines of pearl millet and sorghum, creation of new posts, amendments in certificate of registration, restoration of special policy for career advancement and proposal for conducting awareness programmes/ workshops were approved. In the 32nd Meeting of the Authority, held on 25th September, 2019 DUS test guidelines of crop species for pointed gourd, crossandra and cowpea, annual fee return form were discussed.

Renewal fee for the registered varieties have been substantially reduced and notified in the Official Gazette vide S.O.863(E) dated

20th November, 2019. 24 Public Notices have been issued streamlining, expediting and clarifying registration procedures and processes some of which are being carried out for the first time in the world as required in the Act.

(ii) National Seed Research and Training Centre (NSRTC), Varanasi

The National Seed Research and Training Centre (NSRTC) Varanasi (Uttar Pradesh) has been functioning since October 2005 and has been notified as a Central Seed Testing and Referral Laboratory (CSTL) with effect from 01.04.2007. The objective of CSTL, NSRTC is to maintain uniformity in seed testing and to ensure supply of quality seeds at the national level. It also acts as a Referral Laboratory under the Court of Law for seed related issues. NSRTC is a premier institute for capacity building in relation to maintaining Seed Quality Assurance by offering HRD activities round the year. The CSTL is working under the ambit of NSRTC and is a member laboratory of the International Seed Testing Association (ISTA) since 2007. As per the national programme to maintain uniformity in seed testing, during 2020-21 (till Oct, 2020) NSRTC has received 12384 nos. of seed samples under 5% re-testing programme, 36 nos. of Court referred seed samples and 06 nos. of seed samples under PT programme from ISTA, Switzerland.

NSRTC has organized 6 national training programmes on seed testing and 08 farmers training programme on outreach.

(iii) International Rice Research Institute (IRRI), South Asia Regional Center (ISARC): IRRI South Asia Regional Centre (ISARC), Varanasi, India

IRRI South Asia Regional Centre (ISARC),

Varanasi

The International Rice Research Institute (IRRI) South Asia Regional Centre (ISARC) in 2020 continued its activities on facility development as well as research on grain quality, nutrition, climate resilience and capacity development through its three units-

1. Center of Excellence in Rice Value Addition (CERVA)
2. Broader Program for Research and Partnership (BPRP)
3. IRRI Research and Education Program (IREP)

Research and research for development outputs delivered by the three ISARC units are mentioned below-

1. Center of Excellence in Rice Value Addition (CERVA)

CERVA is progressing well towards getting accreditation from the National Accreditation Board for Testing and Calibration Laboratories for various test parameters. Highlights of research activities include a) profiling of bioactive compounds in black rice; b) identification of donor landraces for head rice recovery, cooking time, antioxidants, and selenium; c) validated methods for pre-shipment pesticide residue testing for European Union basmati export; and d) development of innovative and value-added rice-based products.

CERVA identified several traditional lines with high head rice recovery (HRR) of up to 72.2 percent. In the long slender group, the line Juhi Bengal showed HRR of 70 percent as against 48 percent HRR of Pusa Basmati 1. Preliminary data suggested variabilities in polyphenols with potential antioxidant properties

such as P-Coumaric acid, caffeic acid, transferulic acid and sinapic acid as well as in mineral composition amongst the Indian traditional rices. Aroma profiling of Kalanamak and Basmati lines revealed the possibility of differential levels of distinct volatile compounds such as 2-Acetyl-1-pyrroline and 2,3,5,6-Tetramethylpyrazine responsible for the unique fragrance of these two aromatic rices. Preliminary data also identified some rice accessions with shorter cooking time as well as lower glycemic index (GI) with a GI value ~56.8. Several rice based products with potential nutritional quality enrichment such as popped black rice laddu, roasted flaked rice bar, energy rich flaked puffed rice laddu are also developed and tested at ISARC.

2. Broader Program for Research and Partnership (BPRP)

BPRP also established laboratories for molecular breeding, agronomy, soil science, plant physiology and biochemistry research and geospatial information system (GIS) applications. Breeding lines with tolerance to multiple biotic and abiotic stresses and for dry direct seeded situations have been developed. These included- breeding lines with tolerance to multiple stresses developed through combining multiple genes/QTLs for biotic and abiotic stresses like for bacterial leaf blight-Xa4, xa5, xa13, Xa21, Xa23, blast-Pi9, Pita2 gall midge-GM4, GM8, BPH-BPH3, BPH17, seedling stage cold tolerance-qCTS4a, qCTS11, drought- qDTY1.1, qDTY3.1, qDTY2.2, qDTY4.1, qDTY12.1, submergence- Sub1 in the background of four popular varieties (Swarna Sub1, Naveen, Lalat and Sahbhagi dhan) and

one promising line (IR 91648-B-1-B-3-1). New breeding lines having genes/QTLs for early uniform emergence (qEUE3.1, qEUE11.1), anaerobic germination (qAG9.1,qAG9.2), seedling vigor (qEVV9.1), high nutrient uptake (qNR5.1), nodal root number(qNR4.1, qNR5.1), root density (qRHD1.1, qRHD5.1, qRHD8.1), culm strength (qCS1.1), lodging resistance (qLDG3.1 ,qLDG4.1), grain yield under DSR (qGYDS1.1,qGYDS6.1, qGYDS9.1,qGYDS10.1), biotic stress (BLB- Xa4, xa5, xa13, Xa21, blast-Pi9, Pita2 gall midge- GM4, GM8, BPH- Bph3, Bph17) and abiotic stress tolerance (qDTY1.1, qDTY2.1, qDTY3.1 and qDTY12.1) in the background of MTU1010, IR91648-B-89-B and IR09N538 have also been developed for cultivation under dry direct seeded situation.

BPRP is also working to develop matching management practices for new stress-tolerant rice varieties to enhance crop resilience, productivity, and profitability for farmers; and innovative crop and resource management practices for high-yielding, climate-resilient, and hi-tech cropping systems that can address the sensitive food-water-energy nexus. The mature and successful location-specific technologies emerging from research experiments were demonstrated on the farmers' fields in collaboration with partnering National Agricultural Research and Extension Systems (NARES). Site-specific tailored management practices developed for stress-tolerant rice varieties could further improve crop resilience and productivity. An abundant supply of nutrients (zinc, calcium, and iron in combination with nitrogen, phosphorus, and potash) helped the rice plants of drought tolerant varieties to cope with

water-stress more efficiently with a lesser reduction in grain yield. 75%-85% water-saving was achieved with similar yield under drip irrigation. The Rice-Wheat Crop Manager has provided site-specific nutrient management recommendations and advisories to more than 200,000 farmers; 2,500 staff of the Department of Agriculture in Odisha, Bihar and UP were trained to use the app and obtained an average additional rice yield of 0.5 tons/ha. The geospatial component of ISARC, contributed to developing geodatabases and maps on rice-fallow, site suitability of pulses, cropping intensity and soil moisture variability of all the districts of Assam and Odisha. Additionally, pulse cluster demos for around 24 districts in Odisha and 8 districts in Assam were accomplished. A geospatial techniques based app called Rice Pulse Monitoring System (RPMS) was also developed and Odisha agriculture department staff were trained. First version of rice-fallow atlas of Odisha was launched in September 2019.

3. IRRI Research and Education Program (IREP)

IREP has made significant progress under ISARC and strengthening agricultural human capital across rice-growing countries in both South Asia and Africa and enhancing south-south collaboration through world class training and capacity development facility in the broad areas of science, technology, leadership including social skills, and enterprise development were undertaken. Short- and medium-term training has been provided to more than 2,100 farmers, extension agents, and agriculture researchers. Considering changes under the current COVID-19 circumstances, IREP has designed

and developed a robust online learning platform through which more than 10 courses have already been held. IRRI has supported 42 PhD, MS, BS, on-the-job training (OJT), and internships from South Asian countries. IREP has also been supporting localized rice knowledge bank development for Assam and Odisha states in India.

(iv) National Seeds Corporation: The National Seeds Corporation Limited is a Schedule-B Central Public Enterprise under the administrative control of the Department of Agriculture, Cooperation and Farmers' Welfare. It enjoys Mini Ratna (Category-I) status with ISO 9001:2005 & 14001:2015 certification. The performance of NSC during 2019-20 is as under:-

During 2019-20 NSC has produced/procured 15.42 lakhs quintal seeds. NSC is undertaking seed production of more than 627 varieties/hybrids/lines including parental lines of about 80 crops consisting of cereals, millets, oilseeds, pulses, fodder, fibers, green manure, potato and a wide range of vegetable crops. During the financial year 2019-20 NSC has distributed 15.85 lakh quintals of seed in the country. NSC earned Profit After Tax (PAT) of Rs. 29.92 crores during 2019-20. NSC will pay dividend @ 30% on Profit After Tax amounting to Rs. 8.98 crores (excluding Dividend Tax) pertaining to year 2019-20, as per the approval of the shareholders at their Annual General Meeting held on 8.12.2020.

The company is producing all kinds of seeds i.e Test Stock, Breeder Seed, Foundation Seed and Certified Seed. Seed is being produced in the Company's own farms and through seed growers. In addition to seed, the company is providing saplings of fruits & forestry trees and fish seeds to farmers.

21.7 Photographs



Dr. Matthew Morell, Director General, IRRI Visiting Hon'ble Union Minister of Agriculture, Govt of India Shri Narendra Singh Tomar



Secretary, Agriculture, Govt. of India Shri Sanjay Agarwal and Director General, IRRI Dr. Matthew Morell presiding over the third Co-ordination Committee meeting of ISARC



Secretary, Agriculture, Govt of India Shri Sanjay Agarwal, and Joint Secretary Seeds, Govt of India Shri Ashwani Kumar, visiting experiential facilities at ISARC

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Chapter 22

Sub Mission on Agricultural Mechanization (SMAM)

22.1 Overview

Agriculture Mechanization is an essential input to modern agriculture to increase productivity and for making judicious use of other inputs like seeds, fertilizers, chemicals & pesticides and natural resources like water, soil nutrients etc. besides reducing human drudgery and the cost of cultivation. Agriculture Mechanization also helps in improving the safety and comfort of the agricultural worker, improvements in the quality and value addition of farm produce and also enabling farmers to take a second and subsequent crops making Indian agriculture more attractive and profitable. It also helps Indian farming to become commercial instead of just subsistence. There is a linear relationship between availability of farm power and farm yield. Therefore, there is a need to increase the availability of farm power from 2.02 kW per ha (2016-17) to 4.0 kW per ha by the end of 2030 to cope up with the increasing demand for food grains.

About 85 % of the total land holdings in the country are in small and marginal size groups which need special efforts for mechanization. Subsequently, recognizing the need to mechanize marginal and small farmers, and for inclusive growth of the farm mechanization sector in the country, a Sub Mission on Agricultural Mechanization (SMAM) was launched in the year 2014-15 with the following objectives:

- Increasing the reach of farm mechanization to small and marginal farmers and to the

regions where availability of farm power is low;

- Promoting 'Custom Hiring Centers' to offset the adverse economies of scale arising due to small landholding and high cost of individual ownership;
- Creating hubs for hi-tech & high value farm equipments;
- Creating awareness among stakeholders through demonstration and capacity building activities;
- Ensuring performance testing and certification at designated testing centers located all over the country.

22.2 Financial assistance in SMAM under its various components: The financial assistance as cost subsidy to the tune of 40-50% is being provided for the individual ownership of farm machinery which is also applicable for farm machinery components under RKVY, NFSM, MIDH schemes for different categories of machinery & equipment. Financial assistance @40% is provided for establishment of farm machinery banks to provide custom hiring services for the benefit of small and marginal farmers. To promote mechanization in selected villages with low level of farm mechanization, financial assistance @80% of the project cost for farm machinery banks is provided to a group of minimum 8 farmers.

As a result of different programmes implemented by the Government of India over the years and equal participation from the private sector, farm mechanization has been increasing steadily over the years. This

is evident from the sale of tractors and power tillers, taken as an indicator of the adoption of the mechanized means of farming, during the last five years is as follows:

Year wise sale of tractors and power tillers.

Year	Tractor Sales (NOS.)	Power Tiller Sales (Nos.)
2011-12	5,35,210	60,000
2012-13	5,90,672	47,000
2013-14	6,96,828	56,000
2014-15	5,51,463	46,000
2015-16	6,26,839	48,882
2016-17	5,80,000	45,200
2017-18	7,96873	51,680
2018-19	8,97548	51,523
2019-20	7,85,059	46,476

Average farm power availability for the cultivated areas of the country has increased from 0.48 kW/ha in 1975-76 to 1.84 kW/ha in 2012-13 and crossed 2.02 kW/ha by 2016-17.

22.3 Training of Farmers & Technicians:

The Farm Machinery Training & Testing Institutes (FMTTIs) located at Budni (Madhya Pradesh), Hisar (Haryana), Garladinne (Andhra Pradesh), and Biswanath Chariali (Assam), as per details given below are imparting training to different categories of beneficiaries like farmers, technicians, under graduate engineers, entrepreneurs and foreign nationals nominated under international exchange treaties on selection, operation, maintenance, energy conservation and management of agricultural equipments.

1.	Central Farm Machinery Training & Testing Institute, Tractor Nagar, P.O.Budni -466455, Distt. Sehore (MP)		
	Phone : 07564-234729	E-Mail : fmti-mp@ nic.in	Website: http://fmttibudni.gov.in/
2.	Northern Region Farm Machinery Training & Testing Institute, Sirsa Road, Hisar (Haryana)-125001		
	Phone : 01662-276984	E-Mail : fmti-nr@ nic.in	Website: http://nrfmtti.gov.in/
3.	Southern Region Farm Machinery Training & Testing Institute Tractor Nagar, P.O. Garladinne-515731 Distt. Anantpur (Andhra Pradesh)		
	Phone : 08551-286441	E-Mail : fmti-sr@hub.nic.in	Website: http://srfmtti.dacnet.nic.in/
4.	North Eastern Region Farm Machinery Training & Testing Institute P.O. Biswanath Chariali -784176, Distt. Sonitpur, (Assam)		
	Phone : 03715-222094	E-Mail : fmti-ner@hub.nic.in	Website: http://nerfmtti.nic.in/

During the year 2019-20, a total of 10065 trainees were trained till 31st March, 2020 against the annual target of 9000 in different courses. To supplement the efforts of the FMTTIs, outsourcing of training through identified Institutions, ICAR Institutions, ATMA Institutions, National Innovation Foundation was done. Training programmes

are funded as per norms prescribed by the Ministry of Skill Development and Entrepreneurship. During the year 2020-21 till December 2020, a total of 7690 trainees were trained. During the year 2020, a special drive for Skilling Migrant Labourers in the area of agricultural machinery under the *Aatma Nirbhar Bharat Abhiyan* of the Government of India has been initiated.



Visit of Ms.Dolly Chakrabarty, Additional Secretary, DAC&FW to SRFMTTI, Ananatapur

22.4 Testing and Evaluation of Farm Machinery & Equipment: The Farm Machinery Training and Testing Institute at Budni is authorized to conduct commercial tests on tractors and other agricultural machines as per relevant BIS test codes, besides conducting the testing of tractors and power tillers under CMV Rules 1989. CFMTTI is also the national designated authority for testing of tractors as per OECD codes. The institute at Hisar, conducts commercial tests on self-propelled combine harvesters, plant protection equipment, agricultural implements and other machines as per relevant BIS codes and is authorized to issue the CMVR certificate in respect of combined harvesters under CMVR 1989. The

Institute at Garladinne is authorized to test power tillers and also conduct tests on various agricultural implements & equipment. The Institute at Biswanath Chariali (Assam) tests bullock drawn implements, manually operated equipment, tractor drawn implements, self propelled machines and small hand tools. During the financial year 2019-20, the four FMTTIs altogether have tested 543 machines of various categories, including tractors, power-tillers, combine harvesters, and other machinery and equipments, till 31st March, 2020 against the target of 320. During the year 2020-21 till December 2020, total 347 machines were tested.



Draw bar Testing of Tractor at CFMTTI,Budni

To cope with the ever increasing demand of testing of agricultural machines and equipments, DAC&FW has designated 35 testing centers of SAU, ICAR and State Governments. During 2019-20, Farm Machinery Testing Center, JNKVV, Jabalpur (M.P.) was approved as a designated testing center of DAC&FW.

22.5 Demonstration of Newly Developed Agricultural/Horticultural Equipment:

To support and encourage agriculture mechanization at field level and to bring awareness of new technologies among the



Drawbar Performance Test of Power Tiller

farmers, demonstrations of newly developed agricultural equipment including post harvest, horticultural equipment have been included under component 1 & 2 of the SMAM scheme. Under these components, 100% financial assistance as Center Sector Scheme is provided for procurement of advance agricultural machines and equipments and also for the field demonstration of farm machinery and post harvest technology/equipment on the farmer's field. Total 497 field demonstrations have been conducted by the FMTTIs during the financial year 2019-20. During the year 2020-21 till December 2020, total 222 demonstrations were conducted.



Demonstration Activities at the Field

22.6 Custom Hiring Centres: To promote the mechanization of small and marginal farm holdings and farm holding in difficult areas with low level of mechanization, efforts has been made to concentrate on establishment of Farm Machinery Banks & Hi Tech, High Productive Farm Machinery Hubs for custom hiring services. Under the components 4,5 &

6 of the SMAM total 1964 Farm Machinery Banks and 2215 Custom Hiring Centers for providing custom hiring services in the country in 2019-20 and during the year 2020-21 till December 2020, total 3506 Farm Machinery Banks and 2184 Custom Hiring Centers and 45 Hi-Tech Hubs were established .



Training on Tractor Driving at SRFMTTI, Anatapur



Visit of Bhutan Technical Delegation
at NERFMTTI, Assam

22.7 Farm Mechanization Programmes under various schemes of Agriculture: Financial Assistance in the form of subsidy at the rate of 40-50 percent under RKVY, NFSM, MIDH is applicable as per guidelines of SMAM to the farmers for individual ownership of agricultural equipment including hand tools, bullock-drawn/ power-driven implements, planting, reaping, harvesting and threshing equipment, tractors, power-tillers and other specialized agricultural machines.

22.8 Multi lingual Mobile App: The Government has also developed and launched a Multi lingual Mobile App "FARMS-Farm Machinery Solutions" which helps the farmers for getting rented farm machinery and implements through Custom Hiring Service Centers (CHC) in their area. As on

date, 49,029 CHCs with 1,45,839 Agricultural machinery for renting out are registered on this Mobile app. More than 4 lakh farmers as users are registered on this Mobile App.

22.9 Activities in the North-Eastern States: A FMTTI has been established at Biswanath Chariali in the Sonitpur district of Assam, to cater to the needs of human resource development in the field of agricultural mechanization and also to assess the quality and performance characteristics of different agricultural implements and machines in the region. During 2019-20 a total of 1018 trainees were trained at this NERFMTTI at Biswanath Chariali, Assam against the target of 1000 and the Institute has tested 30nos. of agricultural implements and machinery against the annual target of 30. To support

agricultural mechanization in North Eastern States where the mechanization level is very low, the maximum permissible subsidy per machine per beneficiary is provided @ 50% limited to Rs. 1.25 lakhs/beneficiary for procurement of various agricultural machinery and equipments for individual ownership and 95% of the cost of the machinery/implement up to Rs 10 lakhs per farm machinery bank for the establishment of Farm Machinery Banks with a minimum of 8-10 farmers respectively. During the year 2019-20, cost subsidy of Rs.91.06 crores has already been released to NE States under the different components of SMAM. During the year 2020-21, cost subsidy of Rs.78.41 crore

has already been released.

22.10 Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total 3648 women have been trained during the Financial Year 2019-20. A list of about 30 identified gender-friendly tools and equipment developed by the Research and Development Organization for use in different farm operations has already been sent to all States and UTs for popularizing them. State governments have been directed to earmark 30 per cent of total funds allocated under SMAM for women beneficiaries.



Training programme for women
at SERFMTTI, Anatapur



Field Demonstrations for women
at CFMTTI, Budni

22.11 State Agro Industries Corporations: The Government of India had advised the State Governments in the year 1964, to set up State Agro Industries Corporations (SAICs) in the public sector to act as catalysts in providing access to industrial inputs to farmers, for their use in agriculture. Thus, 17 SAICs were set up in the joint sector with equity participation of the Government of

India and the respective State Governments of Andhra Pradesh, Assam, Bihar, Gujarat, Haryana, Himachal Pradesh, Jammu and Kashmir, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Uttar Pradesh, Tamil Nadu and West Bengal during 1965 to 1970. Many of the State Governments have increased their equity participation as a result of which the Government of

India, at present, is a minority shareholder. SAICs have since expanded their basic functions by commencing manufacture and marketing of agricultural inputs, implements, machines, after-sales service, promotion and development of agro-based units/industries. The Government of India is implementing a policy of disinvestment of its shares in SAICs with a view to give greater decision making power to the State governments by allowing transfer of its shares to State Governments. At present only 10 SAICs are functioning which have Government of India equity.

22.12 Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi (CRM).

Objectives of the Scheme

- (I) Protecting the environment from air pollution and preventing loss of nutrients and soil micro-organisms caused by burning of crop residue.
- (II) Promoting in-situ management of crop residue by retention and incorporation into the soil through the use of appropriate mechanization inputs.
- (III) Promoting Farm Machinery Banks for custom hiring of in-situ crop residue management machinery to offset the adverse economies of scale arising due to small land holding and high cost of individual ownership.
- (IV) Creating awareness among stakeholders through demonstration, capacity building activities and differentiated information, education and communication strategies for effective utilization and management of crop residue.

Components of Scheme

1. The Scheme has the following components (100% Central Share)

(i) **Establish Farm Machinery Banks for Custom Hiring of in-situ crop residue management machinery** - financial assistance @ 80% of the project cost is provided to co-operative societies of farmers, FPOs, Self-Help Groups, registered farmers societies / farmers groups, private entrepreneurs, group of women farmers or Self-Help Groups for establishment of farm machinery banks or custom hiring centers of in-situ crop residue management machinery. Groups of farmers / individual farmers having their own tractor / combine harvester would be preferred for establishing Custom Hiring Centre (CHC). Old established CHCs, with non-crop residue machinery, will also be eligible for a fresh projects under the scheme.

(ii) **Financial Assistance to farmers for procurement of Agriculture Machinery and Equipment for in-situ crop residue management**- financial assistance @ 50% of the cost of machinery/equipment is provided to individual farmers for purchase of machinery/equipment for crop residue management.

(iii) **Information, Education and Communication for awareness on in-situ crop residue management** - financial assistance is provided to the State Governments, KVKs, ICAR Institutions, Central Government Institutions, PSUs etc. for the activities to be undertaken towards Information, Education and Communication (IEC). The activities will involve mass awareness campaigns through short and long films, documentaries, radio and TV programmes, demonstration camps at various levels, capacity-building programmes, advertisements in print media, star campaigning, award for

village/ gram Panchayat for achieving zero straw burning, panel discussions on Doordarshan, DD Kisan and other private channels, etc.

**Impact of implementation of the scheme
Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the**

States of Punjab, Haryana, Uttar Pradesh and NCT of Delhi has been very positive. In this scheme Super Straw Management, Happy Seed Drill, Chopper/Shredder, Reversible Mould Board Plough, Zero Seed Drill, Shrub Master and Mulcher has been used by farmers.



Demonstration of Happy Seeder Machine



Demonstration of Mulcher



Germination of wheat crops sown by Happy Seed Drill



Chapter 23

Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ)

23.1 Overview

The Plant Protection Division performs regulatory, monitoring, surveillance and Human Resource Development functions through a scheme called Sub Mission on Plant Protection and Plant Quarantine (SMPPQ) under the Green Revolution-Krishonnati Yojana. The primary aim of this Sub Mission is to minimize loss to quality and yield of agricultural crops from the ravages of insect pests, diseases, weeds, nematodes, rodents etc. and to shield our bio-security from the incursion and spread of alien species. The Sub Mission also seeks to facilitate exports of Indian agricultural commodities to global markets and to promote good agricultural practices, particularly with respect to plant protection strategies and techniques. In this regard, the Destructive Insect and Pests Act, 1914 and the Insecticides Act, 1968 provide the legal framework for the regulatory function. The SMPPQ has four important components (i) Strengthening and Modernization of Pest Management Approach (SMPMA), (ii) Strengthening and Modernization of Plant Quarantine Facilities (SMPQF), (iii) Monitoring of Pesticide Residues at National Level (MPRNL) and (iv) National Institute of Plant Health Management (NIPHM).

- (i) **Strengthening and Modernization of Pest Management Approach in India (SMPMA)** which includes the following sub components:
 - a. **Implementation of Insecticide Act, 1968:** The Insecticides Act, 1968 regulates

import, manufacture, sale, transportation, distribution and use of insecticides with a view to prevent risk to humans or animals and for matters connected therewith. A Registration Committee, constituted under Section 5 of the Act, is empowered to register pesticides/insecticides under Section 9 of the Act after verifying that it is efficacious and safe for use by farmers. In order to bring about greater transparency and efficiency in the process of registration of pesticides, on-line registration of insecticides has been partially operationalized. The system enables partial on-line filing of applications for registration in all categories viz under section (4)/9(3B)/9(3)/Export/ Endorsements. The Certificates of Registration under section 9(4) along with label and leaflets are being generated from the database of 9(3) created in the Secretariat of CIB&RC in Computerized Registration of Pesticides (CROP) Software. Label/leaflets of pesticides containers have been revised to facilitate farmers in the safe use of pesticides.

During 2019-20, 17157 numbers of certificates of registration/letters/permits have been issued from April to March, 2020. During 2020-21, 8503 numbers of certificates have been issued from April to December, 2020 in different categories.

As per the Insecticide Act, 1968, the quality control of pesticides is primarily a responsibility of the States. The Central and State Governments have notified

Insecticide Inspectors respectively. These inspectors draw samples of insecticides from manufacturers/ dealers and analyse them in 70 State Pesticide Testing Laboratories (SPTLs) spread across the country. At present, 10,303 officers of various State Governments are notified as Insecticide Inspectors to check the quality of pesticides and its management. The Central Government supplements the resources of State/ UT Governments in quality control testing of pesticides. At present, 191 Central Government officers are notified as Central Insecticide Inspectors and there exists one Central Insecticide Laboratory and two Regional Pesticides Testing Laboratories at Chandigarh and Kanpur under the Directorate of Plant Protection, Quarantine & Storage (DPPQ&S) with an annual testing capacity of 4,700 samples. For the States which do not have facilities for testing pesticides, two Regional Pesticide Testing Laboratories (RPTLs) have been set up by the Central Government at Chandigarh and Kanpur. In addition, the Central Government has established the Central Insecticides Laboratory (CIL) at Faridabad as a referral laboratory. In case of dispute, the samples are referred to the CIL. For quality assurance, the CIL has obtained accreditation from the National Accreditation Board for Testing and Calibration Laboratories (NABL) for biological and chemical testing as per ISO/ IEC17025:2005. The RPTLs have also obtained NABL accreditation for chemical testing. Keeping in view the growth in consumption of bio-pesticides and need to regulate their quality, assistance for setting up bio-pesticide testing facilities is being provided to states. Eight labs and NIPHM have

been notified as CIL for testing bio-pesticides. Quality of pesticides is also ensured during registration process by verification of source of Import from Designated National Authority (DNA) of the exporting country. In addition, to ensure quality of pesticides manufactured by Indigenous Manufacturers, provisions have been made to verify consent from Technical Manufacturer to prevent the use of unregistered technical pesticides in making pesticide formulations. Funds are also provided to State Governments through RKVY for setting up/ strengthening pesticide testing labs.

During 2019-20, 1255 Investigational/ PRV/ referral/ samples for Quality Control under Insecticides Act, 1968 received from Courts of Law/Competent Authorities were analyzed. During 2020-21, 897 Investigational/PVR/referral/ samples have been analyzed from April to December.

A Techno-Legal Cell is a component of the implementation of the Insecticides Act and its main objective is to make concerted efforts to ensure timely availability of quality pesticides to the farming community by ensuring effective implementation of the provisions of the Insecticide Act, 1968. The Techno-Legal Cell also coordinates with States, RPTLs, SPTLs, BPTLs and provides technical and legal expertise to SPTLs, RPTLs and Insecticide Inspectors of Central and State Govt. starting from drawal of samples up to the launching of prosecution in case of misbranded samples and illegal practices adopted by any manufacturer/importer. A total no. of 191 officers of the Directorate have been notified as Central Insecticide Inspectors (CIIs). State Governments have also

notified 10303 Insecticide Inspectors respectively to check the quality of pesticides. Insecticide samples are drawn on a regular basis and analyzed in 70 State Pesticide Testing Laboratories and two Regional Pesticide Testing Laboratories.

During 2019-20, 70367 samples were analyzed, 1812 were found misbranded and prosecution has been launched in 627 cases against firms which were found to be involved in selling and manufacturing of sub-standard pesticides and illegal import of pesticides. During this year (2020-21) till December, 31113 pesticide samples have been analysed, 616 found misbranded and prosecution has been launched in 47 cases.

Vide Gazette Notification No. G.S.R. 355 (E) dated 4th June, 2020 Government amended the Insecticides Rules, 1971 related to labels and leaflets. Ministry of Agriculture and Farmers Welfare vide Notification No.S.O. 3645 (E) dated 16.10.2020 has nominated (i) Director of Health Services, Directorate of Health Services, Government of Assam, (ii) Director of Agriculture, Government of Haryana and (iii) Director of Agriculture, Government of Madhya Pradesh in the Central Insecticide Board constituted under the Insecticides Act, 1968. Further, Department after consultation with the Central Insecticides Board, have included six substances i.e Tetflupyrolimet, Fluoxapiprolin, Ipflufenquin, Triflusulfuron methyl, Tecloftalam and Dimpropyridaz in the Schedule to the Insecticides Act, 1968.

- b. Integrated Pest Management (IPM):** IPM is an eco-friendly approach, which aims at keeping pests below economic threshold level by employing all available alternate pest control methods and techniques

such as cultural, mechanical and biological with greater emphasis on use of bio-pesticides. The use of chemical pesticides is advised as a last resort when pests cross the economic threshold level (ETL). The Central Government has established 35 Central Integrated Pest Management Centres (CIPMCs) of the Directorate of Plant Protection, Quarantine & Storage (DPPQ&S) in 28 States and two UTs. The mandate of these Centres is to monitor insects, pests and diseases for forewarning, conservation of natural enemies in farmers' fields, production and field release of bio-control agents, promotion of eco-friendly IPM inputs like bio-pesticides/plant based pesticides and Human Resource Development in IPM by imparting training to extension officers and farmers through Farmers Field Schools (FFSs) and IPM programs.

IPM activities are propagated through Farmers Field Schools (FFSs). This is a form of "learning by doing" concept evolved from the concept that farmers learn optimally from field observations and experimentation. FFSs are organized to empower farmers to take appropriate crop protection measures on their own. These FFSs are conducted separately for the Kharif and Rabi seasons and each FFS lasts 14 weeks.

During 2019-20, 712 FFSs were conducted in which 24920 farmers were trained. A total of 101 two-days and 11 five-days Human Resource Development Programmes were conducted in which 4480 number of state extension officers, pesticide dealers and farmers were oriented about Integrated Pest Management. During 2020-21 (up to December, 2020), 102 FFSs were conducted in which 3150 farmers

were oriented about Integrated Pest Management. Further, 249 FFSs are going on in Rabi season where 7470 farmers are being trained.

Fall Army Worm (FAW) infestation was reported in many States of the country this year. The Indian Council of Agriculture Research prepared a detailed Package of Practice (POP) against FAW in the maize crop, The POP was circulated to all the States for implementation. Timely advisories were issued regularly to State Departments of Agriculture to adopt preventive measures. Regular surveys, surveillance and monitoring were conducted by the Central Integrated Pest Management Centres (CIPMCs) in collaboration with State Departments of Agriculture, SAUs and ICAR etc. Awareness cum training programmes were conducted on management of FAW in different States. A virtual Regional meeting on Global Action for Fall Armyworm Control was organized on 15th September, 2020. Project TCP/ IND/3709-FAW proposed by FAO Technical Cooperation Programme on Fall Army Worm is extended upto Kharif season 2021.

Apart from conducting FFS, the CIPMCs carry out pest/disease monitoring, production, release and conservation of bio-control agents. During 2019-20, the pest and disease situation was surveyed covering 810 thousand hectares area. A total of 2111 million bio-control agents were mass produced in laboratories and released against targeted insect-pests in various crops. Augmentation and conservation was taken up in 937.7 thousand hectares. During 2020-21, the pest and disease situation surveyed have been conducted in 567 thousand hectares.

A total of 1083 million bio-control agents were mass produced in laboratories and released against targeted insect-pests in various crops. Augmentation and conservation was taken up in 441 thousand hectares upto December 2020. During 2020-21, 14 Nos. of IPM packages of practices for different crops have been developed in consultation with ICAR. These IPM packages of practice have also been circulated to State Departments of Agriculture/ Horticulture/ICAR Institutions/State Agriculture Universities & all States/UTs. Further, a protocol for mass multiplication of bio-control agents at farm level has also been developed during August 2020 in consultation with ICAR and distributed among stakeholders.

Besides, Seed Treatment and Grow Safe Food (GSF) programmes were also taken up under IPM FFSs programmes. Seed treatment is the application of chemical and biological agents on seeds to control primary soil and seed borne infestation of insects and diseases, which are serious threats to crop production. Since 2006, a seed treatment campaign is taken up every year by Department of Agriculture Co-operation and Farmers Welfare (DAC&FW) during Kharif and Rabi seasons involving State Departments of Agriculture and CIPMCs. In IPM, FFSs farmers are being sensitized about seed treatment and also about safe judicious and need based use of pesticides.

- c. **Locust Control and Research:** Locust is a trans-boundary migratory pest. It has the ability to fly hundreds of kilometres collectively in swarms. Found in Africa, the Middle East and Asia, they can inhabit some sixty countries and can cover one-fifth of the earth's land surface. Desert

locust plagues can threaten economic livelihood by destroying crops. Swarms of locusts come to India from spring breeding areas of Africa, the Middle East and South West Asia during the monsoon season for summer breeding in the Scheduled Desert Areas of Rajasthan and Gujarat. The scheme of Locust Control and Research is being implemented through an Organisation known as the Locust Warning Organisation (LWO) established during 1939 and later merged with the Directorate of PPQ&S in 1946. The Locust Warning Organisation (LWO) monitors locust development and its activities over an area of 2.00 lakh sq km of the Scheduled Desert Area (SDA) mainly in the states of Rajasthan and Gujarat and partly in Haryana. The Scheme is being executed through ten Locust Circle Offices (LCOs) located at Bikaner, Jaisalmer, Barmer, Jalore, Phalodi, Nagaur, Suratgarh, Churu in Rajasthan and Palanpur & Bhuj in Gujarat, Locust Warning Organisation (LWO) Field Headquarters at Jodhpur (Rajasthan) and Locust Division at Central Headquarter at Faridabad (Haryana). Besides, there is one Field Station for Investigation on Locust (FSIL) situated at Bikaner (Rajasthan). To strengthen locust monitoring and forecasting and as per the recommendations made during the 28th Session of the FAO Commission for Controlling the Desert Locust in South-West Asia (SWAC), an advanced device named eLocust3 and software RAMSES V4 has been made functional in LWO from January, 2016 with the cooperation of FAO. LWO has a wireless network for exchanging information on locust survey and control between various field offices and Hqrs. Faridabad. Satisfactory locust

control potential is being maintained in the form of pesticides, plant protection equipment, wireless sets, GPS, eLocust3 and trained manpower. This type of survey is in the field to monitor the presence of locust, ecological conditions and also to determine whether locust population has crossed the economic threshold level [adults more than 10,000 per km. and 5-6 hoppers per bush] that may require control. Surveys are undertaken in sandy areas with green vegetation and about two weeks after rain fall. These surveys are conducted regularly during the whole year.

During the year 2019-20, after a gap of 26 years, India witnessed a locust attack of a large magnitude in Rajasthan and Gujarat which was successfully controlled in a total of 4,03,488 hectare area. This year (2020-21), it was predicted by Food and Agriculture Organization that, an invasion would occur in India that may be of a far greater magnitude than last year. Keeping in view the FAO's prediction, last years' experience, the widespread presence of locust population in African and Gulf countries, information of residual locust population in Pakistan and anticipating locust attacks of a much larger magnitude, the Government of India undertook advance preparations to combat the locust menace in order to minimize the damage to crops and hardship to farmers. Review meetings and VCs were organized with State Governments and locust control preparedness was strategized, capacity building and awareness campaigns were organized in districts, blocks and villages, advisories were issued, training programs and mock drills were conducted. When

Covid-19 struck, awareness literature & videos were shared through virtual medium to orient both functionaries and farmers. Control rooms were established in Locust offices and District Hqs. and WhatsApp groups were created in all affected States for real time exchange of information and coordination. Government undertook various steps to enhance control capabilities. Last year, Locust Circle Offices had undertaken control operations with 37 spray equipments and 10 new equipments were added in January this year. **To further strengthen capabilities, 60 more equipments were imported from UK in June/July during Covid times, with assistance from Indian High Commission, UK and Air India to strengthen ground control teams to 104.** Such large number of teams has been a game changer. Financial assistance was extended to State Governments through various Central Schemes for hiring and purchase of equipments, vehicles and pesticides. The inclusion of admissibility of hiring of vehicles, tractors with spray equipments and purchase of plant protection chemicals for locust control under new norms of assistance under State Disaster Response Fund and National Disaster Response Fund by Home Ministry facilitated the State in locust control operations. State Governments deployed large number of tractor mounted sprayers and fire tender vehicles for locust control. The Government of India left no stone unturned in capacity building of States. A new dimension was added by using of drones in locust control for the first time in the world after finalizing protocols. The disaster brought together the domain expertise of Department of Civil Aviation,

DGCA, and Pawan Hans with the Agriculture department to facilitate the deployment of drones and a Bell Helicopter for locust control. Indian Air Force also strengthened air control capability by customizing Mi17 Helicopter for aerial spray. More than 200 Central Government personnel were deputed in these operations. Braving the Covid situation these personnel travelled by road from different parts of the country to join the operations. The States have also deployed hundreds of staff from agriculture and revenue departments for locust survey and control. **All personnel worked day and night on all days in far flung areas, worked even on holidays and festivals, sometimes without adequate food and shelter due to the lockdown situation, to ensure that the locust was effectively controlled.** This year the arrival of swarms has been much earlier and manifold as compared to what was experienced last year and it intensified in the month of June-July. There are millions of locusts in a swarm having potential to decimate crops in their path. **This unprecedented Desert Locust attack was a threat to food security and swarms travelled east traversing 10 States for the first time since 1962 but early preparations and anticipation of the locust situation helped in undertaking control operations from day one and minimizing the damage.** This year, the challenges were multi-fold. Pink immature locust adults flew high and covered long distances during day hours from one place to another along with the westerly winds. Most of these pink immature adults settle on trees during the night and mostly fly during the day. **When the locust settled**

down at night around 8 to 9 pm and its location was tracked and verified control operations are planned and executed jointly by Locust offices and District Agriculture officials in the late night to early morning hours and went on till the remaining population of locusts took flight. For such control operations, vehicle mounted sprayers are deployed by LCOs, tractor mounted sprayers and fire tender vehicles are deployed by State Governments for spray of pesticides. **This exercise continued without a break from May to July during which time more than 100 locust swarms and groups were eliminated.** This situation, however, changed with monsoon rains and more and more yellow mature adults were observed which were settling on the ground for breeding and later on hopper population was observed. During last few weeks, control operations were predominantly focussed against hoppers and no major yellow/pink adults were reported. Regular surveys were undertaken by Locust offices and State Government authorities in enlisted places where control operations were carried out against yellow copulating adults for possibility of emergence of hoppers. Awareness campaigns were carried out and farmers were trained to control the hoppers by using chemicals or by mechanical practices. **India has put forth another example to the world, by strategically mapping each control site and emerging hoppers were killed in their tracks thereby arresting the development of the next generation of locusts. No locust activity has been reported since the last 4 weeks of September 2020.** Till now no significant crop losses have been reported in the

States of Gujarat, Uttar Pradesh, Madhya Pradesh, Maharashtra, Chhattisgarh, Bihar, Punjab, Haryana and Uttarakhand. However, some crop losses have been reported in some districts of Rajasthan. **The successful control operations have demonstrated well-knit coordination and cooperation between officials of Central and State Governments at every level along with the local representative and the farmers.** Effective strengthening of ground and aerial control capacity, tireless commitment of human resources, constant monitoring, quick reaction and adaption to the situation are some of the other factors which have contributed to the effective control operations. Clearly if this had not been the case, tremendous crop damage would have occurred in many States that would have had significant impacts on food security and livelihoods in India and beyond. Perhaps, swarms would be moving east across northern India towards Bangladesh similar to the 1950s when there were devastating plagues that lasted up to 14 consecutive years. However, vigil is still being kept with regular surveys to detect and negate any possible emergence in the area. The locust situation remained alarming in the Horn of Africa this year and unprecedented threat to food security and livelihood in Ethiopia, Kenya, Somalia with a continued presence and spread of locust swarms being reported by FAO. Somalia and even Pakistan declared National Emergencies due to locust attacks. India, on the contrary, very effectively averted the situation by strategic and operative actions. During 2020-21, control operations against locusts were carried out in an area of 2,87,986 hectares by Locust Circle

Offices and 2,83,268 hectares by State Governments. To strengthen the control capabilities, the division has placed purchase order for five aerial spray kits from M/s. Micron U.K. Out of five aerial spray kits, two aerial spray kits arrived in November 2020 and were handed over to Logistic Division, Air Force, Chandigarh for fitting in Mi-17 Helicopter.

- (ii) **Strengthening and Modernization of Plant Quarantine Facilities in India (SMPQF):** The objective of SMPQF primarily is to prevent introduction and spread of exotic pests, diseases and weeds which are harmful to crops and bio-security of the country by regulating import of plants/ plant products and monitoring import of agriculture commodities as per the agreed conditions prescribed in the Plant Quarantine Order, 2003 notified under provisions of the Destructive Insect and Pests Act, 1914. Consequently, the Department has established Plant Quarantine facilities to administer various entry points. Post entry quarantine inspection is undertaken in case of propagating plant material. Phytosanitary Certificates (PSC) are issued for exports as per International Plant Protection Convention (IPPC), 1951 of the Food and Agricultural Organization (FAO). These functions are being discharged by 70 Plant Quarantine Stations (PQS) functioning under the Directorate of Plant Protection Quarantine & Storage (DPPQ&S), Faridabad at various international airports, seaports and land customs stations across the country to facilitate international trade in agricultural products. The SMPQF also assists in gaining market access for India's agriculture products through

negotiations with other countries. It prepares Standard Operating Procedure (SOP) for commodities to be imported / exported and undertakes Pest Risk Analysis (PRAs) of different agricultural commodities with respect to their import or export in relation to the countries concerned.

During 2020-21, 2010 treatment agencies have been accredited for undertaking various phytosanitary treatments. Among these, for fumigation with methyl bromide (MBr): 776 under NSPM-12 and for Aluminum Phosphide (Alp): 579 under NSPM-22, whereas for Forced Hot Air Treatment (FHAT): 598 under NSPM-9. Hot Water Immersion Treatment (HWIT) of mango: 42 under NSPM-15, Irradiation: 4 under NSPM-21, Vapour Heat Treatment (VHT): 9 under NSPM-20 and Heat Treatment of niger seed (HT): 2 under NSPM-18 have been registered to ensure pest free export of agriculture commodities for international trade. A total of 581 pack houses/ processing units have been registered to meet requirement of importing countries as per bilateral agreements. Among these 153 processing units for export of rice to USA, 69 for export to China, 101 Processing units of export of peanut to Vietnam, 157 dry chilli warehouses and 82 pack houses for fresh fruit and vegetables export to the European Union, 16 mango pack house for USA and 03 farm units for export of cut flower to Australia.

During 2020-21 conducted Pest Risk Analysis (PRA) for 24 agricultural commodities to determine potential bio-security risk if imported while for getting market access of Indian products in other

countries, technical information for 10 commodities to the various National Plant Protection Organizations were provided. We got market access for Indian agriculture products (polished basmati rice, wheat flour) from Uzbekistan; tomato, onion and okra from the then Royal Government of Bhutan, mango fruits and basmati rice from Argentina, pomegranate fruits, pomegranate arils and grapes from Australia, maize/corn seeds from Brazil. India granted market access for five agriculture products (arecanut, mandarin, apple, potato and ginger) originating from Bhutan and notified vide Gazette Notification No:S.O.3646(E) dated 16.10.2020.

During 2019-20, 137527 Import Release Order (IROs) and 472896 Phytosanitary Certificates (PSCs) were issued. During 2020-21 (upto December 2020), 86171 nos. Import Release Order (IROs) have been issued for consignment of plant and plant materials and 445070 nos. Phytosanitary Certificates (PSCs) have been issued for consignments of export.

Plant Quarantine stations played an important role in biosecurity as during inspection of imported commodities for various countries during 1st April, 2020 to 31st December, 2020 intercepted 1553 quarantine pests and 5916 non-quarantine pests.

A new National Standard for Phytosanitary Measures (NSPM) related to "Guidelines for Phytosanitary Service Agency and Phytosanitary Service Provider for Inspection of Plants/ Plant Products & other Regulated Articles in Export" was issued. Ministry of Agriculture and Farmers Welfare relaxed

the conditions for import of onions into India vide letter No:18-5/2014-PP.II dated 21.10.2020 in order to stabilize the price and availability of onion in the local market. Further, to facilitate the export of agricultural commodities, the Department has authorised the Assistant Plant Protection Officers (Group B non-Gazetted) for issuance of Phytosanitary Certificates from 38 Plant Quarantine Stations. Earlier, only Group A and B Gazetted officers were authorised for it.

- (iii) **Monitoring of Pesticide Residue at the National Level (MPRNL):** This Scheme was launched in 2005, as a Central Sector Scheme to collect, collate and analyze data and information on a centralized basis, on prevalence of pesticide residues in agricultural products at farm-gate and market yards. Samples of agricultural commodities and food commodities including animal produce are drawn and analyzed in 32 participating laboratories of the Central Government and Agricultural Universities. All the participating laboratories are accredited by National Accreditation Board for Testing and Calibration of Laboratories (NABL) in the field of pesticide residue analysis as per ISO/IEC 17025:2005. The pesticide residue data generated is shared with concerned State Governments for corrective action for judicious and proper use of pesticides on crops with an integrated pest management approach. The participating laboratories collect the food commodity samples from various Agriculture Produce Marketing Committee (APMC) markets and Public Distribution System (PDS), irrigated water and soil samples from intensive agricultural fields across various parts

of the country and analyse them for pesticide residues. The reports of the Scheme are being shared with the States highlighting preponderance of pesticide residues and requesting them to take corrective measures by exhorting the extension machinery to propagate Integrated Pest Management (IPM) and Good Agriculture Practices (GAP).

Under the central sector scheme, Monitoring of Pesticide Residues at National Level sponsored by the Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare, 32 participating laboratories collected samples of vegetable, fruits, spices, curry leaves, red chilli powder, rice, wheat, pulses, milk, fish/marine, tea, meat, egg, oilseeds and water from retail outlets, APMC markets, Mother Dairy, organic outlets, farm gate located in different parts of India and tested the samples for the possible presence of pesticide residues.

During 2019-20, a total of 30,664 samples were collected and analysed and 948 (3.1%) samples were found exceeding FSSAI MRL. During 2020-21, a total of 13663 samples were collected and analyzed, for the possible presence of pesticide residues during April-20 to November' 20 and residues in 471 (3.4%) samples were found exceeding FSSAI MRL.

- (iv) **National Institute of Plant Health Management (NIPHM):** The NIPHM was established in the year 1966 as a Central Plant Protection Institute (CPPTI) at Hyderabad. The Institute became an autonomous body in the year 2008 with the expanded scope

of promoting sustainable Plant Health Management practices in diverse agro-climatic conditions and Plant Bio-security Management and Pesticide Management through capacity building programs. The NIPHM organizes capacity building programs in areas like Plant Health Management, Bio-Security & Incursion Management, Pesticide Management and Market Access, provides consultancy services & policy support and undertakes adaptive research in the plant protection domain.

During 2019-20, NIPHM conducted 176 trainings with a participation of 5121 officers. During 2020-21, NIPHM started conducting online training programmes to officers from June 2020. So far the institute has conducted 86 training programmes with a participation of 3786 officers during 2020-21 (upto December). The physical mode of training programmes started from November 2020 with special training programme for phytosanitary inspectors and the first batch has been successfully completed. Other statutory training programmes are scheduled from January 2021.

Farmers programmes also were conducted by the Institute in physical as well as online mode, in collaboration with KVKs. Further, farmer's interaction and trainings were regularly conducted through established plant health clinics.

During 2020-21, from April-December a total of 298 samples were analyzed for laced chemical pesticides. Under the MPRNL scheme 1264 samples were analyzed for pesticide residues form Apr- Dec-2020, 55 samples of Green Leafy Vegetables were analyzed under

Analysis of Heavy metals during Apr-Dec 2020.Under the Project "How Safe are your Veggies?" 70 samples of vegetables were analyzed so far.Further, PMD also analyzes samples of tobacco sent by the Tobacco Board. During Apr-Oct 2020, 181 samples of tobacco were analyzed for pesticide residues.

During Apr-December 2020, proficiency testing was conducted for three pesticides in pesticide formulation analysis in which 395 government laboratories participated for total pesticide compound. During Apr- Dec 2020, three programs were conducted for Proficiency Testing in Pesticide Residue Analysis and 101 laboratories participated in the program.

NIPHM proposed to establish a state of the art analytical laboratory to strengthen the analytical facilities for pesticide quality, pesticide residues and contaminants of bio-pesticides and to use the facility as a National Training Centre in the subject. The new PFRAC building was inaugurated by Hon'ble Union Minister of Agriculture and Farmers Welfare in presence of Ministers of State for Agriculture and other dignitaries on 29th Dec 2020. The building will be functional in a month's time after shifting of all equipment.

IYPH-2020: Webinar series: As 2020 was the International year of Plant Health Management as declared by the United Nations, NIPHM planned and organized/online webinars to create awareness on plant health management for students/staff/field staff. On the eve of the International Year of Plant Health (IYPH), NIPHM organized 13 webinars under various plant health management issues. Participants to the tune of 2728

attended and took advantage of various lectures delivered by experts from national and international institutes.

Bio-input production and distribution: During this COVID pandemic situation, the production and distribution of bio-inputs slowed down. Mother cultures of bio-fertilizers and bio-pesticides were revived after lockdown and procured insect mother cultures from preservation centers. As a farmer friendly institution, it produced bio-fertilizers (150 liters of different bio-fertilizers & 25 kg of VAM bio-fertilizers) & bio-pesticides (Trichoderma (50 liters) & Pseudomonas) (25 liters), SINPV (150 ml) & Entomopathogenic Nematodes mother cultures for the farmers. Based on the request of the Tobacco Board and Andhra Pradesh NIPHM supplied biopesticides (Trichoderma & Pseudomonas) (2550L + 2550L) during June 2020.

Quality control of Bio-pesticides: In this laboratory, the quality analysis of different types of biopesticides samples is carried out (The Gazette of India 12th March 2013). The samples are received through Insecticide Inspectors as part of the department scheme on quality control. All analytical procedures are carried out as per the BIS specifications and technical guidelines issued by the Central Insecticide Laboratory. The standard operating procedures are periodically updated as per the BIS norms. On an average 5- 10 samples are received for analysis per month. During this period a total 48 biopesticides samples are received from different states of India and 31 samples were analysed for quality parameters.

Plant Health Clinic: Established a Plant Health Clinic in NIPHM, Hyderabad to

enable farmers with timely advice to manage all types of plant health related problems (insects, diseases, mites, nematodes etc.) for sustainable and profitable agriculture. Established Plant Health Clinics in four districts of Telangana state (Warangal Urban, Warangal Rural, Suryapet and Rangareddy) with funding support from the National Horticulture Mission under MIDH, Telangana to extend the services to farmers. As a part of Plant Health Clinic Activities, NIPHM officials conducted off-campus training programs to create awareness in their daily farm activities. Demonstration was carried out and kit was distributed to the farmers of different villages through plant health clinics (fruitfly lures for fruit crops, vegetable crops and bio-fertilizers viz., Trichoderma and Pseudomonas). Fourteen training programs were organized in Rangareddy Dt, Telangana and trained 280 farmers. Nine training programmes were organized in Warangal Dt, Telangana and trained 150 farmers

during the Covid 19 pandemic. More than 1480 pest advisories were given to farmers.

Online Course On Plant Biosecurity (MOOCs): NIPHM launched its first online course on Plant Biosecurity of 3 months' duration. The main objective of the course is to create awareness about plant biosecurity, plant quarantine system, to combat invasive plant pest threats, to enhance technical capabilities and human capacity building to meet such threats and to enhance Sanitary and Phytosanitary compliance. The 3rd batch of MOOCs was completed by 52 candidates in the month of August and the 4th batch completed with registration of 55 candidates.

Massive Open Online Course (MOOCs) In Rodent and Household Pest Management: The 1st batch was completed by 44 individuals and in the 2nd batch, 74 candidates have completed the course.



Chapter 24

Initiatives during Covid-19 Pandemic

24.1 Introduction

Department of Agriculture, Cooperation & Farmers Welfare, Ministry of Agriculture & Farmers Welfare has taken several measures to facilitate farmers and farming activities at field level and to provide timely benefits to farmers and all stakeholders across the country during the pandemic. The Ministry held several meetings with the states during the COVID-19 pandemic to maintain continuity in the supply chain in coordination with the states /UTs , especially in view of the harvesting and sowing season.

For the benefit of farmers, the Ministry made a large number of extraordinary exemptions. For example , arrangements were made to dispatch seeds to villages across the country through courier during the sowing season , when markets were closed due to lockdown .To relieve the farmers of financial burden, subsidies were expedited and loan repayment and interest was deferred. Further, immediate fund transfers were made directly to the accounts of small farmers. Seeds, fertilizer and pesticide shops were allowed to open. Intra and inter-state movement of harvesting and sowing related machines, like combined harvesters and other agriculture /horticulture implements were exempted .

Several exemptions were made for the smooth running of the food supply chain operation, from farm to fork, so that the country did not face any shortage or crises on the food front and farmers faced no difficulty in selling their produce. Some of these exemptions were : Manufacturing and supply Cold storage and warehousing services, Manufacturing

units of packaging material for food items, Transportation for essential goods , Tea industry including plantation with maximum of 50% workers, Veterinary hospitals and Mandis operated by the APMC, Intra and Inter State movement of planting material/ Honey Bee Colonies , Honey and beehive products. Further, to keep foreign trade activity unhindered , Export and import pack houses, inspection and treatment facilities for seeds and horticultural produce were also given exemption. Some of the salient measures taken by Divisions are as follows:

1. Farmers Welfare

- a. Under the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Scheme during the period of COVID-19 pandemic, about 9.36 crore farmer families have been benefitted and an amount of Rs. 40,466 crore was released.
- b. In view of the COVID-19 pandemic, special thrust was given in respect of release of financial benefit to the PM-KISAN beneficiary farmers.
- c. As part of the special financial package announced by the Hon'ble Finance Minister contained an item relating to PM-KISAN, about early release of the financial benefit under the scheme pertaining to the period April-August,2020 to about 9.24 crore beneficiary farmers in the beginning of April,2020 itself.
- d. Regarding database of Aadhar seeding in Assam, Meghalaya, J&K & Ladakh relaxation was extended further till 31.03.2021, so that the benefit of the

special financial package announced by the Hon'ble Finance Minister could be made available to the beneficiary farmers of these states/UTs as well.

2. Agricultural Marketing

- a. Due to complete lockdown, all the wholesale mandis were closed on 25.03.2020. There are 2,587 principal/main agricultural markets available in India, out of which 1,091 markets were functional on 26.03.2020. The Department rigorously pursued the matter with the states and more than 2,067 markets were made functional to facilitate the farmers.
- b. Advisory was issued by the Ministry to all state governments to facilitate Direct Marketing from the farmers/FPOs / Cooperatives etc. by limiting regulations under State APMC Act.
- c. MOA&FW launched "KISAN RATH", a farmer friendly mobile application in April, 2020 to facilitate farmers and traders in searching for transport vehicles for primary and secondary transportation for movement of agriculture and horticulture produce.
- d. The Ministry coordinated with Maharashtra Mandi Board for supply of onion from the production areas of Maharashtra to other states.
- e. The Ministry advised field officers of the Directorate of Marketing & Inspection (DMI) , an attached office under the Department of Agriculture Cooperation and Farmers Welfare in coordination with Mandi Boards of states, to spread awareness about sanitization,importance of social distancing and various safety measures to contain the spread of COVID-19 in APMCs.

3. Agricultural Credit

- a. Under PMFBY, total claims of Rs. 5,326.7 crores were paid during the lockdown period -PMFBY was made more efficient and farmer friendly and made voluntary for all farmers.
- b. Claims amounting to Rs. 8,741.3 crore were settled during the lockdown period from 24th March ,2020 to 7th June, 2020 benefitting 69.70 lakh farmers.
- c. Bid evaluation and pricing support was provided by the Central Government to the States of Haryana, Uttar Pradesh, Maharashtra, Rajasthan, Chhattisgarh, Karnataka and Dadra & Nagar Haveli during the lockdown period.

4. CROPS AND OILSEEDS

- a. Amidst the uncertainty which prevailed during the lockdown period some silent efforts coupled with timely intervention by the Central and State governments ensured that there was minimal or no disruption to harvesting of Rabi Crops and sowing of summer crops.
- b. While the Ministry of Home Affairs issued the guidelines on measures to be taken for containment of COVID-19, it also ensured smooth functioning of agricultural operations. Timely interventions and exemptions resulted in good results. Standard Operating Procedures (SOPs) were communicated to farmers for their safety and maintaining social distancing while undertaking farm related activities. As a result of the proactive steps taken, both harvesting activities of the Rabi Crop and sowing activities of summer crops were undertaken in a systematic manner.
- c. The National Conference on Agriculture for Kharif Campaign -2020 was

organized through Video Conference on 16th April, 2020 to discuss with the states on challenges and strategies for crop management during Kharif cultivation. The conference was inaugurated by Sh. Narendra Singh Tomar, Hon'ble Union Minister of Agriculture and Farmers Welfare in the presence of Shri. Parshottam Rupala and Shri Kailash Choudhary, Hon'ble Ministers of State (Agriculture).

5. Horticulture

During the lockdown due to COVID-19, following need based activities were taken up by the Ministry in a time bound manner:

- a. The Horticulture Division of DAC&FW actively coordinated with all the State Mission Directors for effective implementation of Relaxation Orders of GoI and facilitated the farmers and traders as and when information was received from various parts of the country.
- b. For providing support to horticulture crops, round the clock coordination was done with growers, aggregators, wholesalers, mandi associations and State Horticulture Missions for smooth transport of commodities.
- c. MOA&FW actively coordinated with the Ministry of Railways to run time tabled special parcel trains on selected routes to ensure uninterrupted supply of essential commodities and smooth transportation of perishable agriculture produce including fruits, vegetable, milk and agriculture inputs across the country during the lockdown period. Regular meetings were held with senior officers of the State, Horticulture Mission Directors, State Agriculture Marketing Boards and leading FPOs with a request

to mobilize all possible sources to make best utilization of these special parcel trains to their full capacity.

- d. The Indian Railways started running of Special Parcel Trains since 31.03.2020. Till 31st July 2020, 4,609 trips of time tabled Special Parcel Trains have been operated by the Indian Railways. These trains have been carrying all categories of consignments including perishable products and agro-products.
- e. Innovative methods of marketing of perishables (fruits and vegetables) such as Direct Marketing by farmers/FPOs and supply of combo pack of fruits and vegetables had been adopted by some states.
- f. Coordination was established with the States to promote Direct Marketing and facilitate farmers in selling the perishable produce outside APMC markets.

6. Integrated Nutrient Management

Soil health has been intact despite the Covid effect. The following steps were taken:

- a. Fertilisers:
 - . To facilitate availability of fertilizers, authorization to wholesalers and retailers was extended by 3 months (whose validity was expiring during the Covid time).
 - . The Ministry associated with Department of Fertilizers in regular monitoring of fertilizer movement to states from ports and production units to ensure smooth supply of fertilizers through involvement in whatsapp groups and VC.
- b. Organic Farming:

Relaxation was provided under PKVY to procure health gear to farmers

involved in harvesting operations.

✓ **Use of Parcel Train facility**

- Transported 17 tons of organic mangoes from Andhra to Delhi and Siliguri by SIMFED.
- Transported 4 tons of vegetables from Palanpur, Gujarat to NCR by SIMFED.

✓ **Direct Sale of Organic Produce**

- Involvement of FPOs was created under Mission Organic Value Chain Development in Manipur and Nagaland in direct marketing of vegetables and fruits in the North East Region.
- Direct Sale / doorstep delivery of vegetables, fruits by organic clusters /farmers under the Paramparagat Krishi Vikas Yojana in Punjab, Maharashtra and Tamil Nadu through mobile vans and online apps.
- Coordinated with officials of Uttar Pradesh and Haryana in facilitating the transport / direct supply of organic vegetables, fruits to colonies in NCR.

c. **Use of IT Platform/ App**

- ✓ Encouraged use of jaivikkheti.in app by farmers for ensuring sale of organic products from farmers to consumers online.
- ✓ Upgraded the JaivikKheti portal to accommodate Aggregators and non-scheme third party certification buyers and sellers with verification provision and to make it multilingual.
- ✓ To ensure direct supply to consumers and to discuss Annual Action Plans Conducted 12 VCs through video app of NIC with states /Regional Councils

/service providers/institutions of organic farming to address technical , marketing issues.

7. Seeds

Major work done by Seed Division during the lockdown period:

- i. The lockdown imposed on 23rd of March, 2020, however with efforts of the Seed Division, DAC&FW shops of seed and other outlets opened since 25th March to ensure the availability of seed to farmers. Inter and intra state movement of seed was allowed.
- ii. Seed Division has ensured availability of 153 lakh quintals seed among farmers against the requirement of 150 lakh quintals for Kharif 2020.
- iii. The Breeder Seed Allocation of Kharif-2020 and Breeder Seed Indent of Kharif -2021 was finalized during this period to ensure smooth seed production operations in future also.
- iv. Facilitated the movement of more than 1 crore packets of cotton seed in different parts of India and more than 20,000 quintals of seed moved from Hyderabad to the Northern and Eastern regions of India.
- v. The validity of Seed Dealers license expiring during the lockdown period was automatically extended till September,2020.
- vi. Import permission granted for 6 months by EXIM committee was extended till September 2020.
- vii. Permission granted to allow seed certification and processing activities during lockdown to ensure availability of quality seed.

8. Agricultural Mechanization And Machinery

- a. Keeping in view the scarcity of labour, the government encouraged farmers to adopt mechanical options for farm operations. The government had given exemptions for operationizing Custom Hiring Centres(CHCs)related to farm machinery and also provided farmers access to shops of agriculture machinery , its spare parts and repairs. Intra and inter state movement of harvesting and sowing related machines like combined harvester and other agriculture/ horticulture implements facilitated the farming community during this critical situation .
- b. Module of uberisation of logistics aggregators was launched by the Department on the e-NAM platform and it helped traders to find transporters available in their vicinity for faster movement of farm produce from mandi to other locations.More than 11.37 lakh trucks and 2.3 lakh transporters were linked to this module.
- c. In compliance with the orders of the Ministry of Home Affairs, the following exemptions were given :
 - Farming operations by farmers and farm workers in the field.
 - Providing services of CHC related to farm machinery.
 - Shops of agriculture machinery, its spare parts and repairs to remain open.
 - Intra and inter-state movement of harvesting and sowing related machines like combined harvester

and other agricultural/horticulture implements.

9. Plant Protection

- a. During the lockdown period efforts were made to use CROP software of Sectt. of Central Insecticide Board & Registration Committee (CIB&RC) through Virtual Private Network (VPN) to facilitate issuance of Certificate of Registration related to indigenous manufacturing and import of chemicals /intermediates / raw materials etc. required for smooth functioning of industrial units / plants etc. involved in the production of crop protection chemicals thereby ensuring the timely availability of pesticides and crop protection chemicals to the farmers.
- b. During the period, till 31st August, 2020, the CIB&RC had issued 66 Nos. of import permits for import of more than 87,636 metric tons of various chemicals.582 certificates for exports had also been issued to facilitate export of pesticides. 5,106 certificates of registration had been issued in various categories to facilitate indigenous manufacturing of pesticides.
- c. Issues of exporters related to availability and movement of labour, bottlenecks in inter-state transport, shortage of raw materials, phyto -sanitary certification, closure of courier services, availability of freight services, access to ports / yards and clearance of goods for imports / exports were discussed and it was decided to resolve these issues appropriately to facilitate smooth import and export of agriculture and allied commodities.
- d. Under the Plant Quarantine system, it

was decided to extend the validity of all pack -houses, processing units and treatment facilities for a period of one year without physical inspection of such facilities through a simplified procedure to facilitate export of agriculture products.

- e. A Standard Operating Procedure (SOP) for phytosanitary inspection and certification activities in wake of COVID-19 situation was prepared and circulated to facilitate the export and import of agricultural commodities.

10. Natural Resource Management

The following activities were undertaken during Covid-19:

a. National Bamboo Mission

- . The Government of India has consented for relaxation of various activities related to bamboo such as harvesting, processing, sale and marketing, making it exempted from the lockdown with effect from April,2020.
- . The North Eastern States particularly, Assam were urged to complete the plantation activity of select species during the ensuing monsoon season so that adequate quantity of raw material for manufacturing units is available in the next 3-4 years.

b. Sub-Mission On Agroforestry(SMAF)

- . The following Standard Operating Procedures (SOP) for lockdown period onwards was prepared for implementation of SMAF:
- States were suggested to ensure availability of quality planting material from the established Government as well as private nurseries for farmers. Shops providing planting material for

growing seedlings may be kept open keeping in view the lockdown and should be included in the exempted categories. Individual farmers may be allowed to visit these nursery outlets to get planting material to be planted in their individual farms. A Webinar was conducted on 13th June, 2020 on Linking Agroforestry farmers with industry under the chairmanship of Sh. Sanjay Aggarwal, Secretary(AC&FW), Ministry of Agriculture and Farmers Welfare. It was an effort towards achieving some of the mentioned goals under Sub Mission on Agro- forestry being implemented by the Ministry of Agriculture and Farmers Welfare.

11. Rainfed Farming System

Following measures were undertaken during the Lockdown period:-

- a. To review the progress of the implementation of the Per Drop More Crop component of PMKSY, video conferences with program implementing states were conducted during COVID-19 and it was advised to:
 - . Identify/start on line registrations of farmers well in advance for installation of Micro irrigation systems to cover various horticulture and agriculture crops.
 - . All efforts made to effectively utilize the unspent amount for undertaking approved activities.
 - . Ensured timely availability of funds to implementing agencies well in advance of the Kharif season.
 - . To propagate awareness among farmers to adopt online application /processing for micro-irrigation to reduce human to human contacts.

- b. The 5 states of the Namami Gange programme, Uttar Pradesh, Bihar, Jharkhand, Uttarakhand and West Bengal were advised to prepare a proposal on coverage of micro-irrigation under the Namami Gange programme and integrate it with the Annual Action Plan of the state.
- c. Rainfed Area Development(RAD) component of National Mission For Sustainable Agriculture (NMSA):
 - To review the progress of the implementation of RAD, video conferences with programme implementing states were conducted during COVID -19.

12. Drought Management

Ministry of Agriculture and Farmers Welfare undertook several initiatives for Drought management during lockdown due to COVID-19:

- a. Draft National Agriculture Management Plan(NADMP) prepared by the National Institute of Disaster Management (NIDM) on behalf of the Agriculture Ministry was sent to the National Disaster Management Authority(NDMA) for approval, under section 37(1) (c) of the Disaster Management Act,2005. NDMA has approved the NADMP.
- b. On the recommendation of DAC&FW,MHA included hiring of vehicles ,tractors with spray equipments for spraying of plant protection chemicals for pest control, hiring of water tankers and purchase of plant protection chemicals for locust control in the list of items and norms of assistance under SDRF/NDRF.

13. Extension

- a. The Department circulated the SOP related to crop harvesting & threshing

during Kharif 2020 to the States to protect the health of farmers and farm workers & to contain the spread of the Corona virus. Strict adherence to the norms of hygiene and social distancing were followed in letter and spirit during agricultural operations in the States.

- b. A short video film on Social Distancing during agricultural activities was developed and shared with Doordarshan, DD-Kisan and the social media platform of the Department for wide publicity among farmers and all stakeholders across the country.
- c. Guidelines indicating exemptions for continuity in supply chain of essential items related to farming operations and advisories issued by ICAR for farmers in view of lockdown were sent to the State Nodal Officers of Extension Reforms (ATMA) scheme for its wide dissemination among the farmers.
- d. All India Agri Transport Call Centre was launched in April, 2020. This Call Centre was set up for coordination between States for inter-state movement of perishables like vegetables & fruits and agriculture inputs.

14. Digital Agriculture

- a. With a view to encourage the use of modern technologies in Agriculture, the Guidelines of the National e-Governance Plan in Agriculture were revised in June, 2020 by including GoI's support for projects involving use of modern Information Technologies such as Artificial Intelligence & Machine Learning, Block Chain Technology, Internet of Things, Robotics etc.
- b. In the Covid-19 period, maximum meetings were held through the virtual medium. The Digital Agriculture Division is facilitating virtual meetings through

- MobileVidyo and Webex. Around 300 meetings in a month through VCs are being facilitating by the IT Team of the Division. Several webinars were conducted during this period, explaining the salient features of ordinances on Trade, Contract Farming, Agri Infrastructure Fund etc., Farmer Producer Organizations, Exporters, AgriStartUps etc.
- c. IT Team of the Division has developed a portal for the Agriculture Infrastructure Fund Scheme in house.
 - d. Preliminary work pertaining to setting up of an India Digital Eco system for Agriculture (IDEA) has been undertaken during this period.

15. Rashtriya Krishi Vikas Yojana

Following measures were taken by the Division in the wake of the Covid-19 outbreak:-

- a. Revision in operational guidelines of RKVY-RAFTAAR
 - Certain relaxations were made in programme components of the Operational Guideline of RKVY-RAFTAAR for utilization of RKVY funds during 2020-21 by State Govts to minimize the impact of COVID-19 outbreak on the agriculture and allied sector.
- b. The Ministry made relaxation in operational guidelines allowing States /UTs to take formal approval of the concerned Chief Secretary without holding mandatory State Level Sanctioning Committee (SLSC) meeting in respect of the projects to be implemented during the current FY 2020-21, after receipt of approval of DAC&FW for these projects .Post facto approval of SLSC can be taken at a later date. The provision will be a one time exception for the year 2020-21.

- c. Video Conferencing with States /UTs
 - The Ministry held a V.C. on 29.04.2020 with States /UTs to ascertain the status on submission of projects to be implemented under RKVY-RAFTAAR during 2020-21 and special projects proposed to mitigate the impact of COVID-19 outbreak on agriculture and allied sectors, for funding by DAC&FW.
- d. Many States took up projects to mitigate the effects of COVID-19 under the scheme.

16. International Cooperation

- a. Video Conference meeting of G20 Extraordinary Agriculture Ministers Meeting was held by the Saudi Secretariat on 21st April,2020. The agenda for the meeting was to have a dialogue between G-20 countries on coordinated responses to COVID-19 impacts on food security and nutrition.
- b. Secretary (Agriculture) attended a virtual meeting on 23rd April,2020 of the Regional Action Group for South Asia of the World Economic Forum(WEF). The purpose of the Regional Action Group is to interact regularly in order to support an adequate public private response to the COVID-19 pandemic and jointly chart rebuilding and recovery efforts.

17. Agriculture Trade Policy,Promotion and Logistics Development

- a. DAC&FW interacted with exporters and VC meetings were also held in early in April under the Chairmanship of Secretary, DAC&FW to extend support confidence to exporters across the entire agri sector and understand their problems.
- b. Several common and sector specific issues were raised by the exporters relating to availability and movement of

- labour, inter-state transport bottlenecks, shortage of raw materials due to closure of Mandis, phyto-sanitary certification, closure of courier services thereby hampering movement of shipping documents, availability of freight services, access to ports /yards and clearance of goods for imports/exports. The representatives of industries requested for permission to open/operate at least on 25-30% strength by putting in place proper health advisory in their functioning.
- c. The issue of internal transport was addressed by MHA and necessary directives were issued. Instructions were also issued for continuous/regular issuance of phyto-sanitary certificates and acceptance of online certificates.
 - d. As a result of these measures / initiatives , despite disruptions in global trade since December,2019 due to COVID-19 , the exports of essential agri commodities during April-March,2020 were Rs.85,767.03 crore as compared to Rs. 95,878.07 crore in the same period last year matching about 90% export performance of last year.
- 18. Cooperation**
- a. The Govt. of India made concerted efforts to provide a robust infrastructure in rural areas to help farmers/farmer organizations to make best use of retail chains for marketing of fruits and vegetables and small volume farm commodities. The financial facility of one lakh crore announced by the Government as part of the Aatma Nirbhar Bharat Abhiyan package for developing farm-gate level infrastructure is expected to help farmers to a great extent.
 - b. Allocating Rs.20 lakh crore package for AatmaNirbhar Bharat Abhiyan, under which Rs. 1 lakh crore financing facility has been allocated for establishment of Agriculture Infrastructure Projects at farm-gate & aggregation points. This fund will be utilized for creating post harvest infrastructure to avoid wastage of crop produce, which is about 15-20% of total yield at present.
- 19. Economics and Statistics**
- Agricultural sector continued to be a silver lining in a pandemic affected economy:
- a. Amongst all sectors, agriculture is the only sector, which reported positive growth during the pandemic situation. The agriculture sector is expected to continue to be a silver lining during the critical situation due to COVID-19, especially in a pandemic affected economy. With the efforts of the Govt., sowing in the Kharif cropping season has touched an all time high level of 109.5 million hectares as almost all crops, including paddy, coarse cereals, pulses, oilseeds, cotton and sugarcane have recorded tangible gains in area coverage.
 - b. On 1st June ,2020 , the Govt. has announced an increase in Minimum Support Prices(MSP) for Kharif Crops for marketing season 2020-21 .The increase in MSP for Kharif Crops was in line with the Union Budget 2018-19 announcement of fixing the MSPs at a level of at least 1.5 times of the All India weighted average Cost of Production(CoP) , aiming at reasonable renumeration for farmers.
 - c. On 21st September, 2020, the Government had announced the MSPs for all mandated Rabi crops for the marketing season 2021-22.

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Chapter 25

Gender Perspective in Agriculture- 2020-21

25.1 Overview

Women farmers play an important role in the agriculture sector and development of the rural economy. Agriculture, the single largest production endeavour in India and contributing substantially to the GDP, is increasingly becoming a female activity. The agriculture sector employs 80% of all economically active women; they comprise 33% of the agricultural labour force and 48% of self-employed farmers. Women play a significant and crucial role in agricultural development including, main crop production, livestock production, horticulture, post-harvest operations, agro/social forestry, fishing etc. Increasing percentage of female operational holders during different Agriculture Censuses indicates participation of more and more women in operation and management of agricultural holdings in the country.

National Policy on Farmers, 2007 has included **mainstreaming the human and gender dimensions in all farm policies and programmes** as one of the major policy goals. Accordingly, Gender Mainstreaming initiatives are being promoted in the Department of Agriculture, Cooperation & Farmers Welfare (DAC&FW), Ministry of Agriculture & Farmers Welfare, by way of building their capacities and improving their access to inputs, technologies and other farming resources. Mainstreaming of gender concerns is being addressed by (i) earmarking 30% of funds for women under various major schemes/programmes and development interventions; (ii) taking pro-women

initiatives to help women derive the benefits of beneficiary-oriented components of various programmes/ schemes and missions. Focus is also being given on formation of women Self Help Groups (SHGs), capacity building interventions, linking them to micro credit, enhancing their access to information and ensuring their representation in decision making bodies at various levels.

To fulfill the mission of gender mainstreaming in agriculture & allied sectors, the National Gender Resource Centre in Agriculture (NGRCA) in Extension Division is working as a focal point for convergence of all gender related activities and issues within and outside DAC&FW; addressing gender dimension to agriculture policies and programmes; rendering advocacy/ advisory services to the States/UTs to internalize gender specific interventions. NGRCA aims at forging effective functional linkages with other related departments, agencies and institutions for women empowerment.

25.2 Current Initiatives of NGRCA

Being a Nodal Centre for women in agriculture in DAC&FW, the centre is actively involved in the following activities:

- Macro/Micro level and Action Research Studies initiated by the Centre include a study on Gender Based Impact Analysis of the ATMA Programme.
- An e-book on the Inspiring Stories of Progressive Women Farmers was prepared by NGRCA collating best practices and success stories of 51 women farmers and agripreneurs. This

book will help the extension functionaries and officials at State, District and Block Level in making women farmers aware of interventions and best practices facilitating them to derive benefits of the tailor made provisions of various Schemes/Programmes.

- Mahila Kisan Diwas, 2020- The Centre organized an event on the occasion of Mahila Kisan Diwas, on October 15, 2020 through Video Conferencing under the guidance of the Hon'ble Minister for Agriculture & Farmers Welfare and was graced by the Hon'ble Minister of State for Agriculture & Farmers Welfare and Secretary (DAC&FW) in the presence of other senior officials of the Department. Interaction between Hon'ble MoS (PR), progressive women farmers and agripreneurs from different States was held during the event. The e-Book on 51 success stories of women farmers and agripreneurs titled Inspiring Stories of Progressive Women Farmers was released and two short films titled 'प्रगतिशील कृषक महिलाओं की कहानियाँ' and "वैश्विक स्तर पर महिला किसानों की सफलता की कहानी" highlighting **the role of women in agriculture were launched on the occasion by the Hon'ble Minister of State for Agriculture.**

25.3 MAINSTREAMING EFFORTS OF VARIOUS DIVISIONS OF DAC&FW

The important mainstreaming and gender budgeting efforts within the various Subject Matter Divisions of DAC&FW are given as under:

A. HORTICULTURE

Mission for Integrated Development of Horticulture (MIDH) is an umbrella scheme on horticulture subsuming the ongoing schemes i.e. National Horticulture Mission

(NHM), Horticulture Mission for North East & Himalayan States (HMNEH), Central Sector Schemes of National Horticulture Board, Coconut Development Board (CDB) and Central Institute for Horticulture, Nagaland which is area/project based and are targeted to benefit farmers specifically small and marginal farmers.

The MIDH aims at promoting holistic growth of the horticulture sector through area based regionally differentiated strategies. Keeping in view the overall social objectives and as per directives, all the implementing agencies i.e. State Horticulture Missions and National Level Agencies have been directed to ensure that at least 30% of the budget allocation is earmarked for women beneficiaries while giving subsidies as well as for imparting training for skills development to women farmers for growing horticulture crops and post harvest management.

The Horticulture Division is making efforts to stipulate in each and every administrative approval to provide for a pro-women allocation of at least 30% and the implementing agencies have been asked to ensure that the said funds are given to women beneficiaries such as women farmers, women Self Help Groups, women entrepreneurs etc, to encourage and to obtain the benefits of schemes under the Mission as far as possible. Further, Operational Guidelines of MIDH also provide more subsidy/assistance to women farmers, beneficiaries as compared to general category farmers.

B. AGRICULTURE EXTENSION

The Centrally Sponsored Scheme **Support to State Extension Programmes for Extension Reforms (ATMA)** implemented since 2005 is now under implementation in 691 districts of 28 States and 5 UTs of the country. The scheme promotes a decentralized farmer-

driven and farmer-accountable extension system through an institutional arrangement for technology dissemination in the form of an Agricultural Technology Management Agency (ATMA) at district level. Under the scheme, grants-in-aid are released to State Governments with an objective to support their efforts of revitalization of the extension system and making available the latest agricultural technologies in different thematic areas to increase agricultural production through extension activities viz. Farmers Training, Demonstrations, Exposure Visits, Kisan Mela, Mobilization of Farmers Groups and Setting up of Farm Schools. Through these activities, the latest agriculture technologies are disseminated to farmers of the country. The funds under the scheme are being released to the States on the basis of approved State Extension Work Plan (SEWP) by the State Level Sanctioning Committee (SLSC). As per provision of the Revised Operational Guidelines of ATMA Scheme, 2018:-

- Minimum 30% of resources meant for programmes and activities are required to be allocated to women farmers and women extension functionaries with specific documentation of expenditure and performance for women being maintained;
- Women farmers are to be involved in different decision making bodies at district and block level such as (ATMA) Governing Board and ATMA Management Committee at district level;
- Women are represented in Farmers Advisory Committees (FACs) set up at block/ district and state level;
- More women are involved as 'Farmer Friends' under the newly introduced mechanism for extension delivery below

the block level through a 'Farmer Friend' ;

- Farm Women's Food Security Groups (FSGs) @ at least 2 per block to be formed annually for ensuring household food and nutritional security providing assistance of Rs. 10,000/ per group;
- Inclusion of one 'Gender Coordinator' in every State in the team of committed extension personnel being supported under the Scheme. The role of Gender Coordinator is to ensure flow of support viz. training/ capacity building and extension support as per the specific requirements of women farmers. Since inception of the Scheme in 2005-06, a total of **1,36,97,311 Farm Women (24.56% of the total benefited farmers)** have participated in farmer oriented activities like Exposure Visits, Training, Demonstrations & Kisan Melas including 323893 women farmers benefited during 2020-21 (up to December, 2020). During FY 2020-21, Rs. 43678.48/- lakhs has been released, out of which **Rs.13103.54 lakhs has been released under the scheme** for women beneficiaries (as on 31.12.2020).

The Central Sector Scheme **Mass Media Support to Agriculture Extension Scheme** is being implemented through Doordarshan, DD Kisan and All India Radio(AIR) to telecast & broadcast sponsored programme on agriculture and allied sector for the farming community including Women Farmers/ Farm Women. Under the scheme, a 30 minute programme, *Krishi Darshan* (5 days a week) is telecast/broadcast through 18 Regional Kendras of Doordarshan. 96 Rural FM Radio Stations of AIR are being utilized to broadcast 30 minutes of programme namely, *Kisan Vani* (6 days a week) and 03 programmes- *Krishi Darshan*, *Hello Kisan* and

Choupal Charcha (5 days a week) are telecast on DD Kisan. Since September 2018, a new agriculture programme 'Kisan Ki Baat', on the lines of Kisan Vani is being broadcast from FM Gold channel of AIR, Delhi, which is now rechristened as News on AIR. Further awareness is also created through print advertisements in leading newspapers across the country and through Social media platforms viz. Facebook (www.facebook.com/AgriGol), twitter (www.twitter.com/AgriGol) and youtube (mantralyakrishi@gmail.com) of the Department.

Directions have been issued to DD/AIR to produce and telecast/broadcast women specific programmes for their benefit/ awareness on pro-women provisions available in the various schemes of DAC&FW besides publicity on gender interventions through electronic and social media.

DD Kisan and AIR telecasted /broadcasted programmes on the theme "**Women in Agriculture**" during the week 12.10.2020 to 16.10.2020 on the occasion of Mahila Kisan Diwas-2020.

The Central Sector component, "**Establishment of Agri-Clinics and Agri-Business Centres (AC&ABC)**" is being implemented since April, 2002 to supplement the efforts of public extension, support agricultural development and create gainful self-employment opportunities for unemployed youth with qualification in agriculture and allied sectors.

The scheme promotes involvement of agripreneurs (including women) trained under the AC&ABC scheme in providing advisory and extension services to the farmers in agriculture and allied areas through agri-ventures established with financial support. These agripreneurs are actively involved in providing advisory and extension services to the farmers on various technologies

including soil health, cropping practices, plant protection, post harvest technology etc.

The National Institute of Agricultural Extension Management (MANAGE), Hyderabad is the implementing agency for the training component and the National Bank for Agriculture and Rural Development (NABARD) is the implementing agency for the subsidy component of the AC&ABC scheme.

Under the scheme, residential training of 45 days duration is imparted to unemployed candidates who possess degree/ diploma in agriculture and allied subjects, intermediate in agriculture, science graduates with PG in agri related courses and graduates in life sciences and environmental sciences through selected Nodal Training Institutes (NTIs) in various parts of the country. The NTIs also provide hand-holding to trained candidates for establishment of agri-ventures in agriculture and allied areas and facilitates in providing loan assistance from banks and subsidy support through NABARD.

There is a provision of credit linked back-ended upfront composite subsidy on the bank loan availed by trained candidates under the Scheme. **The subsidy is 44% in respect of women, SC/ST and all categories of candidates from North-Eastern and Hill States and 36% in respect of other categories.** The subsidy is admissible for loans up to Rs.20 lakhs in case of an individual and Rs.100 lakhs in case of Group Projects (for ventures set up by a group of 5 trained candidates). Also, specific provisions for awarding best women agripreneurs and co-obligating parents or husband for availing bank credit are made available under the programme.

Since inception of the scheme in 2002, **5929**

women agri-preneurs have been trained of which **1804** have established agri-ventures and of these **139** received subsidy benefit as on 30.11.2020. During the current year, no women candidates have been trained, but **49** women agri-preneurs trained during previous years have established their ventures and 10 ventures established by women got subsidized.

Recently, benefits of the MUDRA loan scheme have been inducted under AC&ABC scheme. Also, the scheme has been on-boarded with the DBT Bharat Mission for implementation of Direct Benefit Transfer (DBT) and Aadhaar particulars have been made mandatory for getting benefits under the scheme. Online process has been rolled out on 01.01.2018 through <https://acabcmis.gov.in> for training programmes under the scheme. Action is underway for making subsidy distribution also online. Details of the scheme may be seen at the website www.agricclinics.net

Extension Education Institutes (EEIs): To provide training and HRD support to extension functionaries across the country, the MoA&FW had established four regional EEIs in the country namely EEI, Nilokheri (Haryana); EEI, Hyderabad (Telangana); EEI, Anand (Gujarat); and EEI, Jorhat (Assam) to cater to the training needs of middle level field functionaries working in the agriculture & allied department of States/UTs. The programmatic activities of EEIs include organization of on-campus/off-campus training, workshops, conferences etc. in the areas of extension methodology, training management, Agriculture Knowledge Information System (AKIS) and Information, Communication & Technology (ICT). During 2020-21 (upto December,2020), the Extension Education Institutes (EEIs) conducted 106 training courses with 4105

field extension functionaries including **1446** women extension functionaries.

Diploma in Agricultural Extension Services for Input Dealers (DAESI): DAESI is of one year (spread in 48 weeks; 1 day per week) diploma programme for agri-input dealers launched in October 2015. The National Institute of Agricultural Extension Management (MANAGE) is implementing the DAESI Programme in all States through State Agricultural Management & Extension Training Institutes (SAMETIs), Krishi Vigyan Kendras & State Agricultural Universities. There is a course fee is Rs.20,000/- per candidate, out of which Rs.10,000/- is borne by DAC&FW and Rs.10,000/- is to be contributed by the input dealer. The GOI provides Rs.4.00 lakh for one batch of DAESI Programme @ Rs. 10,000/- per candidate for a batch of 40 input dealers. During 2020-21, under the DAESI programme; training was provided to 120 input dealers including **4** women candidates.

C. Crops

The **National Food Security Mission (NFSM)** was launched in 2007-08 to increase the production of rice, wheat and pulses by 10, 8 and 2 million tonnes, respectively by the end of the 11th Plan through area expansion and productivity enhancement; restoring soil fertility and productivity; creating employment opportunities and enhancing the farm level economy. The basic strategy of the Mission is to promote and extend improved technologies of package of practices of crops through various types of demonstrations (FLDs/Cluster FLDs), distribution of HYVs/ Hybridseeds, production of seeds, distribution of micro-nutrients/ soil ameliorants/bio-fertilizers, plant protection chemicals/bio-pesticides, improved resource management tools/ machineries /implements, efficient

water application devices, capacity building of farmers and local initiatives; award for best performing States etc. From the year 2020-21, primary processing units/small storage bins/flexibility interventions have been added as per local requirement.

Currently, NFSM is being implemented in identified districts of 28 States & 2 Union Territories (UTs) viz. Jammu & Kashmir(J&K) and Ladakh in the country. **NFSM-Rice** in 193 districts of 24 States & UT of J&K, **NFSM-Wheat** in 124 districts of 10 states & 2 UTs viz. J&K and Ladakh, **NFSM-Pulses** in 644 districts of 28 states & 2 UTs viz. Jammu & Kashmir and Ladakh and **NFSM-Coarse Cereals** in 269 districts of 26 States & 2 UTs viz. J&K and Ladakh. **From the year 2018-19, NFSM-Nutri-Cereals** is being implemented in 208 districts of 14 states (Jowar in 96 districts of 10 States, Bajra in 89 districts of 9 States, Ragi in 43 districts of 8 states and other millets in 43 districts of 7 states). Under **NFSM-Coarse Cereals**, **Maize** is being implemented in 237 districts of 26 States & 2 UTs viz. J&K and Ladakh and **Barley** in 39 districts of 4 States of the country. The North Eastern States, Himachal Pradesh, & 2 UTs viz. J&K and Ladakh have been given flexibility to implement programme on nutri-cereals.

The programme is being implemented on 60:40 sharing basis between GOI and State Government in general states and 90:10 sharing basis for North Eastern States and 3 Himalayan States from 2015-16. As per the operational guidelines of NFSM, **at least 30% of funds is to be used for women farmers**, 33% allocation of the fund is to be made for small and marginal farmers.

New initiatives taken for increasing production and productivity of Pulses from 2016-17 and Nutri-Cereals from 2018-19

onwards. FAO considered the proposal of DAC&FW to celebrate 2023 as “**International Year of Millets**”.

Besides, **Bringing Green Revolution to Eastern India (BGREI)**, a sub scheme of Rashtriya Krishi Vikas Yojana was initiated in 2010-11 to address the constraints limiting the productivity of “Rice Based Cropping Systems” in Eastern India comprising seven (7) States namely; Assam, Bihar, Chhattisgarh, Jharkhand, Odisha, Eastern Uttar Pradesh and West Bengal. The programme is being implemented on 60:40 sharing basis between GOI and States for general states and 90:10 sharing basis in NE State (Assam). An amount of Rs. 327.00 crore as central share has been earmarked for implementation of the programme during 2020-21.

D. Agricultural Marketing

In order to provide a single window approach, a user and investment friendly atmosphere, all the ongoing six Plan Schemes implemented during the XI Plan period have been put under one umbrella “**Integrated Scheme for Agricultural Marketing (ISAM)**”. It aims to (i) promote agri-marketing through creation of marketing and agribusiness infrastructure including storage, (ii) incentivize agri-market reforms, (iii) provide market linkages to farmers, (iv) provide access to agri-market information and (v) support quality certification of agriculture commodities. ISAM scheme is having five components, namely: (i) Agricultural Marketing Infrastructure (AMI), the objective of this component is to create market infrastructure including Storage Infrastructure and Integrated Value Chain Projects (IVC) [the schemes of Grameen Bhandaran Yojana (GBY) and Development/ Strengthening of Agricultural Marketing Infrastructure, Grading and Standardization (AMIGS) have been merged as AMI].

Under the Agricultural Marketing Infrastructure (**AMI**) component, women are eligible for subsidy @ 33.33% as against 25% for others.

E. Mechanization and Technology

For recognizing the need to mechanize marginal and small farmers, and for inclusive growth of the farm mechanization sector in the country, a **Sub Mission on Agricultural Mechanization (SMAM)** was launched in the year 2014-15 with the following objectives:

- Increasing the reach of farm mechanization to small and marginal farmers and to the regions where availability of farm power is low;
- Promoting Custom Hiring Centres to offset the adverse economies of scale arising due to small land holdings and high cost of individual ownership;
- Creating hubs for hi-tech & high value farm equipments;
- Creating awareness among stakeholders through demonstration and capacity building activities;
- Ensuring performance testing and certification at designated testing centres located all over the country.

The SMAM provides a suitable platform for converging all activities for inclusive growth of agricultural mechanization by providing a 'single window' approach for implementation with a special focus on women farmers with the following provisions:

- State Governments have been directed to **earmark 30 per cent of total funds allocated under SMAM for women beneficiaries.**
- 10% more assistance for women beneficiaries to procure Agricultural machinery, implements and equipment including PHT under component 2 and 3.

- In order to reduce drudgery and increasing efficiency in farm operations, a number of agricultural implements and hand tools suitable for farm women have been developed by the Research & Development organizations under ICAR. The list of gender friendly equipment has been sent to all States/UTs for popularizing them through various schemes of the Government.

Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total **3648 women** were trained during the Financial Year 2019-20. During 2020-21 (up to November 2020), **3986 women trainees** were trained. A list of about 30 identified gender-friendly tools and equipment developed by the Research and Development Organizations of ICAR for use in different farm operations has already been sent to all states and UTs for popularizing them. State governments have been directed to earmark 30 per cent of total funds allocated under SMAM for women beneficiaries.

F. Seeds

Under the Sub-Mission on Seeds and Planting Material (SMSM), the Seed Division is implementing the **Seed Village Programme** to upgrade the quality of farmer's saved seeds. Under this programme, financial assistance for distribution of foundation/certified seeds at 50% cost of the seeds for cereal crops and 60% for pulses, oilseeds, fodder and green manure crops for production of quality seeds is available/ provided for farmers including **women farmers**. The scheme is demand driven and implemented by the concerned State for welfare of all farmers **including that of women farmers**.

There is no separate budget allocated/ earmarked and released exclusively for woman farmers. However, implementing States/ agencies are requested to cover

adequate participation of women farmers' in the scheme. During 2018-2020, 10.935 lakh and during 2020-21 (as on December, 2020), 0.84 lakh women farmers were benefitted under the Seed Village Programme and certified seed production through the SVP.

G. Cooperation

National Cooperative Development Corporation (NCDC)

NCDC encourages women cooperatives to avail assistance under its various schemes. A large number of women members are engaged and involved in cooperative dealing with activities related to food grain processing, plantation crops, oilseeds processing, fisheries, dairy & livestock, spinning mills, handloom and power loom weaving, Integrated Cooperative Development Projects etc. Women Cooperatives are covered under the Weaker Section programme for the purpose of availing subsidy and concessional funding under the Central Sector Integrated Scheme on Agricultural Cooperation. NCDC has launched a unique Scheme called the "Yuva Sahakar" in 2019-20. It aims at encouraging newly formed cooperative societies with new and/or innovative ideas.

Under the scheme, NCDC provides 2% less than its applicable rate of interest on term loan for project activities in case of timely repayments. It is more liberal to cooperatives with 100% women members, amongst others. The project cost is capped at Rs. 3.00 crore in case of a cooperative society which is in operation for one year or more and Rs.1.00 crore in case of a cooperative society which is in operation for more than 03 months but less than one year.

During the FY 2020-21 (as on 31.12.2020), NCDC has sanctioned Rs.632.14 crore to 06 units of women cooperatives to

Service Cooperative Andhra Pradesh and Maharashtra and disbursed Rs.590.86 crore. NCDC assistance has been provided in the form of term loan and working capital loan to meet their fund requirement towards expansion of their businesses.

In the 06 projects sanctioned exclusively for women cooperatives in FY 2020-21, more than 90.26 lakh women members of the societies have benefitted. NCDC has been playing a significant role over the years to uplift women cooperatives towards empowerment of women across the country. Further, out of the 235 projects/units sanctioned in FY 2020-21 (as on 31.12.2020), under all programmes including assistance to the 06 women cooperatives, it is estimated that 100.51 lakh women are enrolled as members, out of which 170 women members are on the Board of Directors. To promote women participants and empower them to lead and govern cooperatives, NCDC's dedicated Academy, the Laxmanrao Inamdar National Academy for Cooperative Research and Development (LINAC) at Gurugram organises training programmes for women Directors/Cooperators. Eight (08) training programmes organized at LINAC, Gurugram and attended by 520 participants were conducted in FY 2020-21 exclusively for women cooperators. In addition, 5 training programmes were organized at LINAC, Regional Training Centres at Gandhinagar, Kolkata, Hyderabad, Pune and Chennai and attended by 388 women cooperators. Cumulatively, as on 31.12.2020, LINAC has organised 13 training programmes exclusively for women cooperators in FY 2020-21 and attended by 908 women cooperators.

National Cooperative Union of India (NCUI)

NCUI implements Cooperative Education

and Development Programmes through its 43 Cooperative Education Field Projects of which 04 are exclusive women projects located at Shimoga (Karnataka), Aska Behrampur (Odisha), East Imphal (Manipur) and Bhopal (Madhya Pradesh).

During 2019-20, 323 Self-Help groups having membership of 4187 women were formed by lady mobilisers of the cooperative education field projects. A total of 4097 SHGs with 45051 members have been formed since inception till date. Through various income generating activities, 14759 women were benefitted under this programme. On an average, each woman beneficiary was able to earn about Rs.5000/- per month.

During the year, a total of 68711 women were imparted education under various educational activities. During 2019-20, SHGs mobilized Rs.2,12,62,714/- from their own savings, and Rs.80,76,19,719/- was disbursed as loan to members of SHGs for taking up income generating activities. 70 Cooperative societies have been registered under various State Cooperative Societies Acts of the members of SHGs organized by NCUI cooperative education field projects.

Cooperative Education Programmes for women are being implemented through the State Cooperative Unions in the States of Arunachal Pradesh, Assam, Bihar, Delhi, Gujarat, Himachal Pradesh, Kerala, Karnataka, Madhya Pradesh, Manipur, Mizoram, Odisha, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. Cooperative education programmes/classes are being conducted by lady cooperative education instructors in rural as well as in urban areas. The duration of these programmes varies from 1 to 7 days, which covers classes/meetings for ordinary and potential women members of cooperative societies, managing committee members, office bearers and employees of women cooperative etc. During the year,

April 2019 to March 2020, 1175 events were organized and as many as 46931 women were imparted knowledge in different areas.

Cooperative Training Programs are being conducted by the National Council for Cooperative Training (NCCT) for personnel working in the cooperative sector in the country as well as other stakeholders of the cooperative sector through 20 Institutes at national, regional and State level all over the country.

National Council for Cooperative Training (NCCT) is a society registered under the Societies Registration Act, 1860 promoted by the Department. NCCT is responsible for organizing, directing, monitoring and evaluating the arrangements for cooperative training for personnel working in the cooperative sector in the country as well as other stakeholders of the cooperative Sector. The main objective of the Council is to organize need based training programmes and facilitate the process of human resource development for cooperatives in the country. It also envisages conducting research in critical areas of the cooperative movement. These activities of NCCT are conducted through 20 institutes at national, state and regional level all over the country.

During the year 2020-21, the units of NCCT conducted 258 online training programmes and trained 2100 women participants (upto September, 2020) .

H. Policy

The **National Policy for Farmers, 2007 (NPF)** announced by the Government envisages the following measures aimed at women's empowerment:

- Asset reforms under land, water and livestock for an equitable share to women farmers.

- Better access to inputs and services, science and technology, implements, credit and support services like crèches, child care centres, nutrition, health and training.
- Encouragement to women for participating in group activities aimed at achieving economies of scale through farming groups.
- Involvement of women in conservation and development of bio-resources.

The Policy provisions, *inter alia*, include asset reforms in respect of land, water, livestock, fisheries, and bio-resources; support services and inputs like application of frontier technologies; agricultural bio-security systems; supply of good quality seeds and disease-free planting material, improving soil fertility and health and integrated pest management systems; support services for women like crèches, child care centers, nutrition, health and training; timely, adequate, and easy reach of institutional credit at reasonable interest rates, and farmer-friendly insurance instruments; use of Information and Communication Technology (ICT) and setting up of farmers' schools to revitalize agricultural extension; effective implementation of MSP across the country, development of agricultural market infrastructure and rural non-farm employment initiatives for farm households; integrated approach for rural energy, etc.

Many of the provisions of the NPF are being operationalised through various schemes and programmes which are being implemented by different Central Government Departments and Ministries. For the operationalisation of the remaining provisions of the Policy, an Action Plan has been finalized and circulated to the Ministries and Department concerned, as well as to all States and UTs for necessary follow up action. An Inter-Ministerial Committee constituted for the purpose also

monitors the progress of the Plan of Action for the operationalisation of the NPF.

I. Agriculture Census

Since 1995-96, following the recommendations of the Central Statistics Office, Ministry of Statistics and Programme Implementation, gender based data in Agriculture Census is being collected. The scope of collection of gender based data has been restricted to the number of operational holdings, corresponding operated area by different size classes of holdings, social group (SC, ST and others) and types of holdings (individual, joint and institutional).

Percentage of female operational holdings as per results of the latest Agriculture Census 2015-16 and Agriculture Census 2010-11 is given in the following table-

Sr. No.	Size Group	2010-11	2015-16
1	Marginal (Below 1.00 ha.)	13.63	14.68
2	Small (1.00-2.00 ha.)	12.15	13.44
3	Semi-Medium (2.00-4.00 ha.)	10.45	11.76
4	Medium (4.00-10.00 ha.)	8.49	9.76
5	Large (Above 10.00 ha.)	6.78	7.83
All Size Groups		12.78	13.96

Increase in percentage of female operational holders during the different Agriculture Censuses indicates participation of more and more women in operation and management of agricultural holdings in the country.

J. Farmer Welfare

Pradhan Mantri Kisan Samman Nidhi (PM-KISAN):

With a view to augment the income of farmers by providing income support to all landholding

farmers' families across the country, to enable them to take care of expenses related to agriculture and allied activities as well as domestic needs, the Central Government has launched a new Central Sector Scheme, namely, the **Pradhan Mantri Kisan Samman Nidhi (PM-KISAN)** on 24.02.2019. Under the Scheme an amount of Rs.6000/- per year is transferred in three 4-monthly installments of Rs.2000/- directly into the bank accounts of farmers, subject to certain exclusion criteria. The entire responsibility of identification of beneficiaries rests with the State / UT Governments. An exclusive web-portal www.pmkisan.gov.in has been launched for the Scheme. Financial benefits are released to the beneficiaries on the basis of the data of farmers prepared and uploaded by them on the PM-Kisan web-portal. For enrollment, the farmer is required to approach the local patwari / revenue officer / Nodal Officer (PM-Kisan) nominated by the State Government. They can self-register also through the portal. As on December, 2020, the number of female farmers registered under PM-KISAN since inception is 2,88,24,467.

Pradhan Mantri Kisan Maan-Dhan Yojana (PM-KMY):

With a view to provide social security to small and marginal Farmers in their old age when they would have no means of livelihood and minimal or no savings to take care of their expenses, the Government has started the **Pradhan Mantri Kisan Maan Dhan Yojana (PM-KMY)**. Under this scheme, a minimum fixed pension of Rs.3,000/- will be provided to small and marginal farmers, subject to certain exclusion criteria, on attaining the age of 60 years. It is a voluntary and contributory pension scheme, with entry age of 18 to 40

years. The farmer is required to contribute to a Pension Fund between Rs.55 to Rs.200 per month depending on the entry age. The Central Government shall also contribute an equal amount to the Pension Fund. The Pension Fund will be managed by the Life Insurance Corporation of India (LIC). In case of death of the farmer before reaching 60 years of age, the spouse shall have the option of continuing the scheme by payment of remaining contributions under the scheme. If the spouse does not wish to continue or there is no spouse, the subscribers' contributions along with fund interest earned or Savings Bank Interest whichever is higher would be payable to the spouse or the nominee. On the death of the pensioner, the spouse shall receive 50% of the assured pension as family pension. For enrollment, the farmer is required to approach the nearest Common Service Center (CSC) or the Nodal Officer (PM-Kisan) nominated by the State / UT Governments. An exclusive web-portal www.pmkmy.gov.in has been launched for the Scheme. Since inception till December, 2020, 662207 female farmers have been registered under PM-KMY.

K. Rainfed Farming Systems (RFS)

Under the **National Mission for Sustainable Agriculture (NMSA)**, atleast 30% of the budget allocation is earmarked for women beneficiaries/farmers.

L. Natural Resource Management

Sub-Mission on Agro Forestry (SMAF) under National Mission for Sustainable Agriculture (NMSA) is under implementation since 2016-17 to promote plantation on farmlands. Women farmers are associated at every level of SMAF activities and as per SMAF Operational Guidelines, at least 50% of the

allocation is to be utilized for small, marginal farmers of which at least 30% should be women beneficiaries/farmers associated with the scheme.

M. Rashtriya Krishi Vikas Yojana (RKVY)

RKVY is a Centrally Sponsored Scheme (State Plan) which provides flexibility and autonomy to States in the process of selection, planning, approval and execution projects in agriculture and allied sectors as per their priorities under this scheme. Hence, RKVY scheme does not set any specific target for women beneficiaries under the scheme at the central level. There is no provision for earmarking funds/allocation exclusively for women farmers/ gender budgeting under the scheme.

Under the Innovation and Agri-entrepreneurship programme being implemented under RKVY-RAFTAAR, a total of 346 start-ups have been selected in various areas of agriculture and allied sectors for providing financial support through Knowledge Partners and Agri Business Incubators selected by DAC&FW for implementation of this programme. Out of these selected start-ups, more than 80 start-ups are led by women entrepreneurs.

N. Integrated Nutrient Management

Organic Farming is being promoted under the Schemes **Paramparagat Krishi Vikas Yojana (PKVY)** and **Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)** with a provision of atleast 30% of the budget allocation for women beneficiaries/farmers.

Under the **Soil Health Card/Soil Health Management Schemes**, there is no separate budget provision for women specific

programmes. The State Governments are however advised to utilize 30% of funds released under the Scheme for women farmers.

O. Plant Protection

Sub-Mission on Plant Protection and Plant Quarantine is under implementation through which regulatory, monitoring, surveillance and capacity building functions are undertaken with regard to Plant Protection and Plant Quarantine. Under this mission, Integrated Pest Management (IPM) with a mandate to popularize adoption of IPM through training and demonstration in crops, inter-alia promotion of biological control approaches in crop protection technology is promoted. Under this scheme, farmers are being made aware about the judicious use of chemical pesticides and use as per the prescriptions given in the label and leaflets. It encompasses pest control techniques such as cultural, mechanical and biological with minimum dependence on chemical pesticides. The Government has established 35 Central Integrated Pest Management Centres in 28 States and two Union Territories in the country. These Centers impart field oriented training to extension functionaries and farmers through Farmers' Field Schools, 2 days & 5 days Human Resource Development programmes to promote IPM.

Major emphasis is given on judicious use of chemical pesticides, safety in use of pesticides, alternate tools for pest management viz; cultural, physical, mechanical methods of pest control as well as use of bio-pesticides and bio-control agents, effects of pesticides on natural enemies of pests, do's and don'ts of pesticide including proper application equipment and technique.

Keeping into consideration changes in various parameters like pests, disease,

registration of new pesticides, Agro Eco-System Analysis (AES) based technology for pest management and regional variations, IPM packages have been developed. During the last 6 years (2014-15 to 2019-20), **17724 women farmers have been trained on the latest IPM technology in various crops. During 2020-21 (upto Kharif season), 586 women farmers participated in 102 Integrated Pest Management Farmers Field Schools.**

National Institute of Plant Health Management (NIPHM), Hyderabad is regularly conducting training programmes for Agricultural Officers, Extension officers, Faculty members from various Universities and colleges across India for capacity building in plant health management. During 2019-20, NIPHM has imparted training to 2560 officials including **629 women participants. During 2020-21 (upto December, 2020), 2500 officials including 651 women participants (officers trainees of different Institutes/States) and 310 female farmers out of 1050 farmers were trained at NIPHM.**

P. Credit

Pradhan Mantri Fasal Bima Yojana (PMFBY) aims to ensure that crop insurance is accessible to all farmers including women cultivators and farmers of India. However, there are numerous socio-economic constraints that limit the coverage of women farmers in the Scheme. They are likely to bear the disproportionate burden of crop loss/damage because of their lack of access to land assets and resources, mobility financing and such other socio-economic constraints as compared to male farmers. In view of this, special efforts have been undertaken by this Department to empower women farmers' to effectively overcome these challenges and equally access the benefits

of the Scheme. Provisions have been made in the Operational Guidelines of the scheme which recommends that all stakeholders shall make special efforts to maximize coverage of women farmers within the Scheme. Recently, the guidelines were revamped to ensure that women farmers are involved as members of the State Level Coordination Committee on Crop Insurance, a key decision-making body constituted by the State Governments to aid the implementation of PMFBY. To effectively respond to the needs of women farmers, the Department has successfully executed the first phase of the qualitative study to understand the barriers impacting women farmers' access to PMFBY. The Department is currently in the process of preparing a gender inclusion strategy under the Scheme.

Under the Interest Subvention Scheme, (ISS), all the farmers including women who take short term crop loans up to Rs. 3 lakhs are eligible to avail interest subsidy of 2% through banks and 3% prompt repayment incentive (PRI) on timely repayment of the loan. The ISS has greatly facilitated availability of concessional institutional credit particularly short term agri loan at ground level. Since, the launch of the scheme in 2006-07, the GLC has increased from Rs.2,29,400 crores in 2006-07 to Rs.13,92,469 crores in 2019-20.

The Way Forward:

National Sample Survey (NSS) data shows, that there has been a steady decline of men in agriculture over the last three decades. This trend can be conveniently termed as Feminization of Indian Agriculture. As more and more men have moved to non-farm work in the industrial and service sectors, women have remained in agriculture in a substantive manner. Keeping in view women's contribution in farming; the need of the hour is greater inclusion of women farmers

in planning of schemes & programmes and also in developing strategies to successfully implement them.

Realizing the present feminized agriculture scenario, women farmers contribution in agriculture and understanding that it is gender that differentiates the roles, responsibilities, resources, constraints and opportunities of women and men in agriculture, precise gender information is the need of the hour. Incorporating gender into agricultural development is required for articulating gender perspectives in development activities.

In line with the National Agricultural Policy-2000, provisions under the National Policy for Farmers-2007 and recommendations of the Report on Doubling

of Farmers Income, the strategy of the Government is to focus on women farmers' empowerment and welfare by making farming viable both for men and women. This may improve farm women's access to productive resources including agricultural extension services thereby bringing overall improvement in the lives of rural women. This may not only enhance the production and productivity of the agricultural sector and improve overall national food security but would also smoothen the transition of women from being beneficiaries of programmes & schemes to their active participation in shaping the agenda. A brief summary of flow of benefits to women under various schemes/programmes of the DAC & FW is given in **Annexure 25.1**.



Chapter 26

Summary of Audit Paras/Observations

Rashtriya Krishi Vikas Yojana (RKVY)

No audit para pertaining to RKVY Division is pending. However, Performance Audit of Rashtriya Krishi Vikas Yojana (RKVY) has been made for the period 2007-08 to 2012-13 (ending March 2013) by C&AG and

submitted the report in both the Houses of Parliament on 5th May 2015. Final comments of DAC&FW on the vetting comments of C&AG have been submitted to PAC on 10.10.2019. The details in this regard are given below.

Sl. No	Year	No. of ATNs sent but returned with observations and Audit is awaiting their resubmission	Details of Paras /PA reports on which ATNs are pending		
			No. of ATNs not sent by the Ministry even for the first time.	No. of ATNs sent but returned with observations and Audit is awaiting their resubmission	No. of ATNs which have been finally vetted by Audit but have not been submitted by the Ministry to PAC.
1	2015	Performance Audit of RKVY has been done by C&AG for the period 2007-08 to 2012-13 (ending March 2013) and the report was submitted in both the Houses of Parliament on 5 th May 2015. The Draft ATN on the observations made in the report were furnished to Audit on 27.06.2016 and the revised ATN were furnished on 22.05.2018 on the basis of vetting remarks offered by C & AG on the first ATN. The vetting remarks of C & AG on the revised ATN have been received on 2.10.2018 and the same have been circulated to all the concerned States. Final comments of DAC&FW on the vetting comments of C&AG have been submitted to PAC on 10.10.2019.	-		



Annexure - 2.1**CHAPTER - 2****FUNCTIONS AND ORGANIZATIONAL STRUCTURE****LIST OF FUNCTIONAL DIVISIONS IN THE DEPARTMENT OF AGRICULTURE,
COOPERATION AND FARMERS' WELFARE****DIVISIONS:**

- | | |
|---|---|
| 1. Administration | 15. Digital Agriculture |
| 2. Agricultural Census | 16. Integrated Nutrients Management |
| 3. Agricultural Marketing | 17. International Cooperation |
| 4. Budget, Finance and Accounts | 18. Mechanization and Technology |
| 5. Credit | 19. Natural Resource Management |
| 6. Cooperation | 20. Plant Protection |
| 7. Crops & Post Harvest Management of Foodgrain | 21. Policy |
| 8. Drought Management | 22. Plan Coordination |
| 9. Economic Administration | 23. RKVY |
| 10. Extension | 24. Rainfed Farming System |
| 11. Farmers Welfare | 25. Seeds |
| 12. General Coordination | 26. Oil Seeds |
| 13. Hindi | 27. Agriculture Trade Policy, Promotion & Logistics Development |
| 14. Horticulture | 28. Vigilance |

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CHAPTER - 2

FUNCTIONS AND ORGANIZATIONAL STRUCTURE
INVENTORY OF FIELD FORMATIONS

I. ATTACHED OFFICES

1. Directorate of Economics & Statistics, Shastri Bhavan, 'B' Wing, New Delhi.
2. Commission for Agricultural Costs and Prices, Shastri Bhavan, 'F' Wing, Second Floor, New Delhi.
3. Directorate of Plant Protection, Quarantine and Storage, N.H.IV, Faridabad (Haryana).
4. Directorate of Marketing & Inspection, N.H.IV, Faridabad (Haryana).
5. Mahalanobis National Crop Forecast Centre, New Delhi.
6. Directorate of Jute Development, 234/4, Acharya Jagdish Bose Road, Nizam Palace Campus, Kolkata-700020 (West Bengal).
7. Directorate of Millets Development, Mini Secretariat Building, Room No. 710, 6th Floor, Bani Park, Jaipur (Rajasthan).
8. Directorate of Sugarcane Development, 8th Floor, Hall No.3, Kendriya Bhavan, Aliganj, Lucknow - 226024 (U.P.).
9. Directorate of Rice Development, 191, 5th Floor, 'G' Wing, Karpuri Thakur Station, Kendriya Karamchari Parisar (GPOA), Ashiana- Digha Road, Patna-800013 (Bihar).
10. Directorate of Wheat Development, CGO Building, Hapur Road Chauraha, Kamla Nehru Nagar, Ghaziabad (U.P.).
11. Directorate of Extension, Krishi Vistar Bhavan, Dr. K.S. Krishna Marg, IARI Campus, Pusa, New Delhi-110 012.
12. Directorate of Oilseeds Development, Telhan Bhavan, Himayat Nagar, Hyderabad (A.P.).
13. Directorate of Pulses Development, Seminary Hills, Katol Road, Nagpur, Maharashtra-440013.

II. SUB-ORDINATE OFFICES

1. Central Farm Machinery Training & Testing Institute, Budni (Madhya Pradesh).
2. Northern Region Farm Machinery Training & Testing Institute, Hissar (Haryana).
3. Southern Region Farm Machinery Training & Testing Institute, Garladinne, Distt. Anantapur (A.P.).
4. North Eastern Region Farm Machinery Training & Testing Institute, Biswnath Chariali, Distt. Sonitpur (Assam).
5. Directorate of Cotton Development, Bhoomi Sarvekshan Bhawan, Near Centre Point School,

- 8th Floor, VindhyaChal Bhavan,
Bhopal- 462004 (M.P).
14. Central Fertiliser Quality Control
& Training Institute, N.H.IV,
Faridabad (Haryana).
15. National Centre of Organic
Farming, C.G.O. Complex, Kamla
Nehru Nagar, Hapur Road Chungi,
Ghaziabad (U.P.).
16. Directorate of Cashewnut and
Cocoa Development, M.G. Road,
Kochi-682011 (Kerala).
17. Directorate of ArecaNut and Spices
- Development, Cannanore Road,
Kozhikode-673005 (Kerala).
18. Office of the Minister (Agriculture),
Embassy of India, ROME (ITALY).
19. All India Soil and Land Use Survey,
IARI Campus, Pusa, New Delhi-110
012.
20. National Seed Research & Training
Centre (NSRTC) VARANASI (U.P.).
21. Central Institute of Horticulture,
Medziphema, Nagaland.

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1. PUBLIC SECTOR UNDERTAKINGS

1. National Seeds Corporation, New Delhi.

2. AUTONOMOUS BODIES

1. Coconut Development Board, Kochi (Kerala).
2. National Horticulture Board, Gurgaon (Haryana).
3. National Cooperative Development Corporation, New Delhi.
4. Small Farmers' Agri Business Consortium, New Delhi.
5. National Institute for Agricultural Extension Management, Hyderabad (A.P.).
6. National Institute of Agricultural Marketing, Jaipur (Rajasthan).
7. National Institute of Plant Health Management, Hyderabad (A.P.)
8. National Centre for Cold Chain Development, 2nd Floor, B-Wing, Janpath Bhawan, New Delhi.

3. NATIONAL LEVEL COOPERATIVE ORGANISATIONS

1. National Cooperative Union of India, New Delhi.
2. National Agricultural Cooperative Marketing Federation of India Limited, New Delhi.

3. National Federation of Cooperative Sugar Factories Ltd., New Delhi.

4. National Heavy Engineering Cooperative Ltd., Pune (Maharashtra).

5. National Federation of Urban Cooperative Banks and Credit Societies Ltd., New Delhi.

6. The All India Federation of Cooperative Spinning Mills Ltd., Mumbai (Maharashtra).

7. National Cooperative Agriculture and Rural Development Banks Federation Ltd., Mumbai (Maharashtra).

8. National Federation of State Cooperative Banks Ltd., Navi Mumbai (Maharashtra).

9. National Federation of Labour Cooperatives Ltd., New Delhi.

10. National Cooperative Tobacco Growers' Federation Ltd., Anand (Gujarat).

4. AUTHORITIES

1. Protection of Plant Varieties and Farmers' Rights Authority, NASC Complex, DPS Marg Opp. Todapur, Delhi-110012.

2. National Rainfed Area Authority, NASC Complex, Dev Prakash Shastri Marg, Pusa, New Delhi- 110012.

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Annexure-3.1

**PROGRAMMES OF NORTH-EASTERN STATES IN RESPECT OF
AGRO-ECONOMIC RESEARCH CENTRE – JORHAT**

Name of Division: Agro-Economic Research Division			(Rs. In lakhs)		
Schemes/ Program Activities Approved	Details of Schemes/ Programs/ Activities taken up	Targets	Achievements	Funds Released	Funds Utilized
1	2	3	4	5	6

"Agro-Economic Research (AER) Scheme" an independent component of "Integrated Scheme on Agriculture Census, Economics and Statistics" of Central Sector Plan Scheme	AER Centre, Jorhat undertakes research studies on Agro-Economic Problems of North Eastern States	There is no fixed target.	Study completed by AER Centre, Jorhat during the Financial Year 2015-16, 2016-17, 2017-18, 2018-19, 2019-20 and 2020-2021 are given below:	2015-16 = 104.00 2016-17 = 122.61 2017-18 = 90.00 2018-19 = 138.00 2019-20 = 275.00 2020-21= 120.00*	117.52 118.10 119.66 142.88 214.28 98.81*
			YearStudies Completed	2015-16 = 2 2016-17 = 0 2017-18 = 3 2018-19 = 0 2019-20 = 2 2020-21* = 1	

Note: (*) Fund released, expenditure and studies completed till 31st Dec. 2020.



Statewise Allocation and Release of funds under Normal RKVY and Sub-schemes for 2019-20 as on 31.12.2020 (Release as on 31.03.2020)

(Rs. in crore)

Annexure-16.1 (b)

**Statewise Allocation and Release of funds under Normal RKVY
and Sub-schemes for 2020-21 as on 31.12.2020**

Sl. No.	Name of the States	Normal RKVY		BGREI		Paddy Divrs. Prog.		RPS		Cashew		ANMHLT		Swatch Bharat		NRAA		Total Sub-Scheme		Grand Total		Utilization				
		Allocation Normal RKVY	1 st installment	2 nd installment	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Total % of Release	UC Rcvd	UC Pending	% of Utilization		
1	Andhra Pradesh	178.81	52.28	0.00	52.28	3.19	1.21	1.01	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	29.19%	50.00	4.00	92.60%	
2	Bihar	132.00	0.00	0.00	45.39	0.00	0.27	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
3	Chhattisgarh	72.45	36.24	0.00	36.24	51.63	2.532	2.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	49.05%	62.06	0.00%	
4	Goa	17.87	8.94	0.00	8.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	8.94	0.00%	
5	Gujarat	131.15	65.58	0.00	65.58	3.02	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	67.08	0.00%	
6	Haryana	62.01	15.50	0.00	15.50	23.10	5.75	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	21.25	0.00%	
7	Himachal Pradesh	27.02	5.00	0.00	5.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.00	0.00%	
8	J&K	8.20	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
9	Jharkhand	64.05	0.00	0.00	0.00	29.53	0.00	2.40	0.00	6.00	3.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
10	Karnataka	238.60	119.30	0.00	119.30	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	122.30	0.00%	
11	Kerala	61.26	30.63	0.00	30.63	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	30.63	0.00%	
12	Madhya Pradesh	170.76	43.00	0.00	43.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	43.00	0.00%	
13	Maharashtra	286.86	100.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	100.00	0.00%	
14	Orissa	129.73	0.00	0.00	0.00	53.30	9.38	0.04	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.58	0.00%	
15	Punjab	84.36	0.00	0.00	0.00	61.60	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
16	Rajasthan	158.41	76.84	81.57	158.41	0.08	0.08	6.50	3.25	6.12	6.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	99.56%	37.31	121.82
17	Tamil Nadu	164.13	82.05	40.00	122.05	0.08	0.08	6.50	3.25	6.12	6.12	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	74.37%	57.33	43.60%
18	Telangana	176.88	0.00	0.00	0.00	0.16	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
19	Uttarakhand	46.64	23.32	0.00	23.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	14.40	47.88	23.12%
20	Uttar Pradesh	333.89	83.48	0.00	83.48	42.38	4.55	25.87	12.94	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	13.69	87.28	13.56%	
21	West Bengal	154.59	38.94	0.00	38.94	49.28	39.71	0.28	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	38.53%	39.49	39.16	
	Total "MH - 3601"	2699.87	781.10	121.57	902.67	271.51	79.66	120.00	21.48	20.00	6.25	18.92	6.62	0.00	0.00	38.96	5.43	43.86	152.98	3195.73	1055.65	33.67%	212.22	843.43	20.10%	
1	Arunachal Pradesh	24.96	10.30	0.00	10.30	1.50	0.75	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.50	0.75	26.46	11.05	41.76	9.76	88.33%	
2	Assam	133.00	66.50	0.00	66.50	55.49	22.54	1.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	22.54	18.49	89.04	47.24	82.06	6.98	92.16%	
3	Manipur	18.23	9.00	0.00	9.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	9.00	0.00%	
4	Meghalaya	20.23	5.92	0.00	5.92	0.50	0.25	0.54	0.27	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.04	0.52	21.27	6.44	30.28%	6.44		
5	Mizoram	12.28	6.14	0.00	6.14	1.00	0.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.00	0.50	13.28	6.64	50.00%	6.64	0.00%		
6	Nagaland	32.34	16.17	0.00	16.17	1.00	0.19	0.54	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.54	0.19	33.88	16.36	48.29%	16.17	0.19		
7	Sikkim	9.48	4.74	0.00	4.74	0.7	0.44	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.74	0.00%	
8	Tripura	44.21	11.05	0.00	11.05	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	11.05		
	Total "MH - 2532"	294.73	129.82	0.00	129.82	55.49	22.54	0.00	5.00	1.69	1.08	0.27	0.00	0.00	0.00	0.00	0.00	0.00	61.57	24.50	356.30	154.32	43.31%	107.99	46.33	69.98%
1	Delhi	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	
2	Puducherry	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	
1	Total "MH - 3602"	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	
2	Chandigarh	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	#DIV/0!	0.00	
3	D & N Haveli	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
4	Daman & Diu	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
5	Lakshadweep	0.10	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
	Total Uts	2.90	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00%	
	MH - 240 / (Admin/ National)	140.00	37.00	32.37	102.20																					

Sector wise Approved Projects Cost (completed and ongoing) under RKVY 2020-21 (as on 31.12.2020)

Annexure-16.2 (a)

(Rs. in crore)

Sl. No.	States	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	TEC	AGRE	NRM	IRRI	ORFM	DDEV	Total
1	CHATTISGARH	115.26	0.00	0.00	0.00	0.00	0.00	4.08	8.73	0.00	0.00	1.80	0.00	0.00	0.00	0.00	0.00	3.06	8.75	0.00	141.68	
2	GUJARAT	69.01	0.00	0.00	0.00	0.00	0.00	1.80	81.48	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	152.30	
3	KARNATAKA	5.99	70.47	21.07	10.00	1.25	17.00	3.82	0.00	15.84	2.00	2.50	26.11	0.88	0.00	0.00	2.56	65.00	0.00	0.00	0.00	244.50
4	KERALA	51.00	19.39	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.00	0.00	0.00	0.08	0.00	0.00	70.82
5	MANIPUR	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	5.75
6	MEGHALAYA	0.00	0.73	0.00	1.17	0.00	0.50	0.20	0.00	0.00	0.21	0.00	0.00	2.66	0.00	0.00	0.00	2.20	0.00	0.00	0.00	7.67
7	NAGALAND	0.00	0.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.49
8	RAJASTHAN	0.00	323.29	0.00	0.00	2.34	20.00	6.91	1.00	0.00	0.00	1.00	0.00	0.00	0.00	0.00	0.00	2.25	32.10	0.00	0.00	388.88
9	TAMILNADU	100.89	45.40	0.00	16.90	0.00	8.53	5.50	20.00	2.96	8.05	10.50	0.00	52.50	0.00	0.00	0.00	4.45	0.00	12.80	10.36	298.84
10	UTTAR PRADESH	154.07	0.00	1.00	0.00	0.00	0.00	0.00	7.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	162.57	
11	UTTARAKHAND	0.00	0.00	0.00	1.49	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	33.86	0.00	35.35
12	WEST BENGAL	120.36	11.33	0.00	0.00	0.00	0.00	3.00	23.77	0.00	28.56	14.67	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	201.69
	Total	616.59	471.10	21.07	30.56	1.25	28.38	29.52	35.79	141.28	10.05	42.13	43.58	59.13	2.66	0.00	4.81	103.75	3.14	55.41	10.36	1710.54

Total Cost : Rs. 1710.54

CROP - CROP DEVELOPMENT; HORT - HORTICULTURE; SERI - SERICULTURE; ANHB - ANIMAL HUSBANDRY; OTHR - INNOVATIVE PROGRAMMES / OTHERS; FISH - FISHERIES;
 COOP - COOPERATIVES COOPERATION; IPMT - INTEGRATED PEST MANAGEMENT; SEED - SEED; FINM - FERTILISERS AND INM; ANM - AGRICULTURE MECHANISATION;
 EXTN - EXTENSION; MRKT - MARKETING AND POST HARVEST MANAGEMENT; NONF - NON FARM ACTIVITIES; ITEC - INFORMATION TECHNOLOGY; AGRE - RESEARCH (AGRI/HORT/ANIMAL HUSBANDRY etc);
 NRM - NATURAL RESOURCE MANAGEMENT; IRRI - MICRO/MINOR IRRIGATION; ORFM - ORGANIC FARMING / BIO FERTILISER; DDEV - DAIRY DEVELOPMENT

Sector wise Approved Projects Cost (completed and ongoing) under RKVV for 2019-20 (as on 31.12.2020)
(Rs. in crore)

Sl. No.	States	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORFM	DDEV	Total
1	ANDHRA PRADESH	0.00	43.14	9.72	50.00	6.37	20.37	0.00	2.50	32.36	5.22	26.54	1.76	0.00	0.00	37.63	0.00	0.00	75.00	19.61	330.21	
2	ARUNACHAL PRADESH	0.00	0.00	0.00	0.00	6.60	0.00	0.00	0.00	0.00	3.75	43.98	1.50	0.00	0.00	3.50	0.00	7.63	0.00	70.30		
3	BIHAR	80.90	0.00	0.00	0.43	0.00	0.00	14.68	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	96.01	
4	CHATTISGARH	2.80	30.33	0.00	0.26	12.52	0.00	11.62	11.00	0.00	0.00	3.29	0.00	0.00	0.00	0.00	0.00	11.00	0.00	0.00	0.00	82.82
5	GOA	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.50	0.00	0.00	0.00	0.00	0.00	0.00	0.12	0.00	0.00	5.42	
6	GUJARAT	12.40	16.34	0.00	26.76	44.51	5.00	0.00	10.00	114.60	0.90	4.65	1.38	2.00	0.00	50.98	0.75	0.00	1.00	5.20	296.47	
7	HARYANA	67.82	15.93	0.00	61.23	1.51	8.00	0.00	5.04	30.56	2.78	0.00	30.60	0.00	0.52	1.29	36.67	31.07	31.25	4.25	6.32	334.83
8	HIMACHAL PRADESH	3.50	2.77	0.00	6.92	4.32	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.47	3.96	0.00	0.00	0.00	22.94
9	KARNATAKA	35.08	33.87	12.22	31.78	35.05	23.73	5.16	11.31	23.97	0.00	35.00	14.59	0.00	0.00	30.10	42.50	0.00	21.00	0.00	355.37	
10	KERALA	54.97	6.10	0.00	13.94	18.99	8.37	0.00	0.00	0.00	5.00	0.43	0.35	0.00	0.00	5.51	16.00	5.59	3.50	0.00	138.75	
11	MADHYA PRADESH	0.00	8.45	0.00	35.60	0.00	9.79	0.00	0.00	71.17	0.00	53.12	2.85	0.00	0.00	0.00	0.00	0.00	0.00	1.30	182.28	
12	MAHARASHTRA	3.60	141.58	0.00	1.63	0.00	0.00	0.20	0.00	62.96	0.00	13.99	7.49	0.00	0.00	45.00	0.00	0.00	1.98	0.00	278.43	
13	MANIPUR	0.00	1.52	0.00	2.63	1.03	1.80	1.14	0.00	2.10	0.00	0.00	0.00	0.00	2.43	1.60	0.00	0.69	0.00	0.00	14.95	
14	MEGHALAYA	0.00	1.79	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	1.79	
15	MIZORAM	0.00	0.00	0.00	0.09	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.09	
16	NAGALAND	6.45	2.53	1.43	4.14	3.82	3.00	0.39	0.75	3.00	0.00	6.10	1.62	4.40	0.69	0.40	1.85	4.85	0.98	2.55	0.00	48.95
17	ORISSA	108.94	51.83	0.00	17.40	9.80	19.91	0.00	6.19	0.00	1.30	128.32	0.00	0.00	0.00	29.70	0.00	0.00	0.00	0.00	373.39	
18	RAJASTHAN	0.00	0.00	0.00	3.20	2.58	0.00	0.00	2.00	0.00	0.00	0.00	0.00	0.00	0.00	10.00	8.14	9.09	0.00	0.00	35.01	
19	TAMIL NADU	139.04	22.10	0.00	36.27	0.00	17.66	15.23	22.52	0.38	6.45	29.68	168.00	23.14	0.00	3.56	3.00	0.00	0.00	15.20	502.43	
20	TELANGANA	8.56	26.14	11.45	98.32	0.00	2.00	12.60	24.73	36.84	1.02	120.00	0.00	0.00	0.00	37.79	0.00	0.00	0.00	0.00	379.48	
21	TRIPURA	41.32	1.43	0.00	9.11	0.00	4.69	0.00	0.00	0.00	0.00	33.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	89.56	
22	UTTAR PRADESH	166.15	42.89	4.42	46.10	10.95	0.97	32.00	0.00	9.42	3.30	0.00	59.06	0.00	0.00	42.56	0.00	2.00	39.59	14.68	474.09	
23	WEST BENGAL	94.83	8.46	2.06	0.00	23.86	33.46	2.50	17.82	0.00	40.40	7.61	0.00	0.00	0.22	0.00	6.55	0.00	0.00	0.00	237.76	
	Total	826.37	457.21	41.3	445.12	146.2	161.9	99.98	99.36	367.9	20.97	515.51	332.061	87.86	12.625	13.29	287	160.4	57.49	15.6	62.31	4351

Total Cost : Rs. 4351.31

CROP - CROP DEVELOPMENT; HORT - HORTICULTURE; SERI - SERICULTURE; ANHB - ANIMAL HUSBANDRY; OTHR - INNOVATIVE PROGRAMMES / OTHERS; FISH - FISHERIES; COOP - COOPERATIVES/COOPERATION; IPMT - INTEGRATED PEST MANAGEMENT; SEED - SEED; FINM - FERTILISERS AND INM; AMEC - AGRICULTURE MECHANISATION; EXTN - EXTENSION; MRKT - MARKETING AND POST HARVEST MANAGEMENT; NONF - NON FARM ACTIVITIES; ITCC - INFORMATION TECHNOLOGY; AGRE - RESEARCH (AGRI/HORT/ANIMAL HUSBANDRY etc); NRM - NATURAL RESOURCE MANAGEMENT; IRRI - NATURAL RESOURCE MANAGEMENT; ORFM - ORGANIC FARMING / BIO FERTILISER; DDEV - DAIRY DEVELOPMENT

Annexure-21.1**Seeds Programmes in North-Eastern States**

S. No	Schemes/ Programmes Approved	Details of Schemes/ Programmes/ Activities taken	Target for 2018-19	Achievement 2018-19	Target for 2019-20	Achievement 2019-20	Target for 2020-21	Achievement 2020-21
1.	National Seed Reserve (NSR)	The basic objective of this component is to keep seed available for meeting requirement during natural calamities.	65600 Quintals	59525 Quintals	68380 Quintals	60465 Quintals	68380	68380 (expected)
2.	Transport Subsidy on movement of Seeds to North-Eastern States including Sikkim, Himachal Pradesh, J&K, Uttarakhand and Hill areas of West Bengal.	<p>The topographical situation and climatic condition being not conducive for the production of seeds in the North-Eastern States.</p> <p>(a) Reimbursement of 100% difference between road and rail transportation cost to implementing States/agency for movement of seeds produced outside the state and movement to identified state capital/district headquarter.</p> <p>(b) The actual cost, restricted to maximum limit of Rs. 60/- per quintal for the movement of seed within the State from State Capital/ district headquarters to sale outlets/sale counters is being reimbursed to implementing State/agency.</p>	<p>It is a reimbursement programme. Therefore, targets cannot be pre-fixed as transportation of seeds depends on demand which varies from year to year.</p>	<p>For NE States As mentioned in Col.4</p> <p>a quantity of 18226.83 qtls transported exclusively to NE States.</p> <p>An amount of Rs. 102.23 lakh has been reimbursed.</p> <p>The total quantity of seeds transported including NE States is 1,55,149.06 Quintal (upto 31.03.2017</p>	<p>For a quantity of 12753.43 quintals transported exclusively to NE States, an amount of Rs. 40.205 lakh has been reimbursed.</p> <p>The total quantity of seeds transported including NE States is 300270.64 quintals (upto 29.11.2019). An amount of Rs. 383.40 lakh has been reimbursed upto 23.11.2020)</p>	<p>For a quantity of 13674.84 quintals transported exclusively to NE States, an amount of Rs. 49.21716 lakh has been reimbursed.</p> <p>The total quantity of seeds transported including NE States is 102373.78 quintals An amount of Rs. 99,24605 lakh has been reimbursed upto 23.11.2020)</p>		



Annexure-25.1

WOMEN IN AGRICULTURE AT A GLANCE

S.NO	DIVISIONS/ S U B J E C T MATTER AREA	S C H E M E / COMPONENT	FLOW OF BENEFIT TO WOMEN IN SCHEMES/PROGRAMMES
1.	Horticulture	National Horticulture Mission(NHM), Horticulture Mission for North East & Himalayan States (HM-NEH), Central Sector Schemes of National Horticulture Board, Coconut Development Board (CDB) and Central Institute for Horticulture, Nagaland	Horticulture Division is making efforts to stipulate in each and every administrative approval to provide for a pro-women allocation of at least 30% and the implementing agencies have been asked to ensure that the said funds are given to women beneficiaries such as women farmers, women Self Help Groups, women entrepreneurs etc, to encourage and to obtain the benefits of schemes under the Mission as far as possible. Further, Operational Guidelines of MIDH also provides more subsidy/assistance to women farmers, beneficiaries as compared to general category farmers.
2.	Agriculture Extension	National Gender Resource Centre in Agriculture	<ul style="list-style-type: none"> • Macro/Micro level and Action Research Studies initiated by the Centre include a study on 'Gender Based Impact Analysis of ATMA Programme'. • An e-book on the 'Inspiring Stories of Progressive Women Farmers' was prepared by NGRCA collating best practices and success stories of women farmers and agripreneurs. <p>Mahila Kisan Diwas, 2020- The Centre organized an event on the occasion of Mahila Kisan Diwas, on October 15, 2020 through Video Conferencing under the guidance of Hon'ble Minister for Agriculture & Farmers Welfare and was graced by Hon'ble Minister of State for</p>

			Agriculture & Farmers Welfare and Secretary (AC&FW) in the presence of other Senior Officials of the Department. Interaction between Hon'ble MoS (PR), progressive women farmers and agripreneurs from different States was held during the event. The e-Book on 51 success stories of women farmers and agripreneurs titled 'Inspiring Stories of Progressive Women Farmers' was released and two short films titled 'प्रगतिशील कृषक महिलाओं की कहानियाँ' and 'वैष्णविक स्तर पर महिला किसानों की सफलता की कहानी' highlighting the role of women in agriculture were launched on the occasion by the Hon'ble Minister of State for Agriculture.
3.		Support to States for Extension Reforms	<ul style="list-style-type: none"> • Minimum 30% of resources meant for programmes and activities are required to be allocated to women farmers and women extension functionaries with specific documentation of expenditure and performance for women being maintained; • Women farmers are to be involved in different decision making bodies at district and block level such as (ATMA) Governing Board and ATMA Management Committee at district level; • Women are represented in Farmers Advisory Committees (FACs) set up at block/ district and state level; • More women are involved as 'Farmer Friends' under the newly introduced mechanism for extension delivery below the block level through a 'Farmer Friend' ;

- Farm Women's Food Security Groups (FSGs) @ at least 2 per block to be formed annually for ensuring household food and nutritional security providing assistance of Rs. 10,000/ per group;
- Inclusion of one 'Gender Coordinator' in every State in the team of committed extension personnel being supported under the Scheme. The role of Gender Coordinator is to ensure flow of support viz. training/ capacity building and extension support as per the specific requirements of women farmers.
- Since inception of the Scheme in 2005-06, total **1,36,97,311 Farm Women (24.56% of the total benefited farmers)** have participated in farmer oriented activities like Exposure Visits, Training, Demonstrations & Kisan Melas including 323893 women farmers benefited during 2020-21 (up to December, 2020). During FY 2020-21, Rs. 436.78/- lakhs has been **released, out of which Rs.13103.54 lakhs has been released** under the scheme for women beneficiaries (as on 31.12.2020).

4.		Establishment of Agri-Clinics & Agri-Business Centres (AC&ABC)	<p>Under AC&ABC, the subsidy is 44% in respect of women, SC/ST & all categories of the candidates from North-Eastern and Hill States and 36% in respect of other categories.</p> <p>Since inception of the scheme in 2002, 5929 women agri-preneurs have been trained of which 1804 have established agri-ventures and of these 129 got subsidy benefit as on 30.11.2020. During the current year, no women candidates have been trained, but 49 women agri-preneurs trained during previous years have established their ventures.</p>
5.		Extension Education Institutes	During 2020-21 (upto December, 2020), the Extension Education Institutes (EEIs) conducted 106 training courses with 4105 field extension functionaries including 1446 women extension functionaries.
6.		Diploma in Agricultural Extension Services for Input Dealers (DAESI)	During 2020-21, under DAESI programme; training was provided to 120 input dealers including 4 women candidates.
7.	Crops	National Food Security Mission (NFSM) & Bringing Green Revolution to Eastern India (BGREI)	As per the operational guidelines of NFSM, at least 30% of funds is to be made for women farmers, 33% allocation of the fund is to be made for small and marginal farmers.
8.	Agricultural Marketing	Integrated Scheme for Agricultural Marketing (ISAM)	Women under AMI are eligible for subsidy @ 33.33% as against 25% for others.

9.	Mechanization and Technology	Sub Mission on Agricultural Mechanization (SMAM)	<ul style="list-style-type: none"> • State Governments have been directed to earmark 30% of total funds allocated under SMAM for women beneficiaries. • 10% more assistance for women beneficiary to procure Agricultural Machinery, implements and equipments including PHT under component 2 and 3. • In order to reduce the drudgery and increasing efficiency in farm operations, a number of agricultural implements and hand tools suitable for farm women have been developed by Research & Development organizations under ICAR. The list of gender friendly equipments has been sent to all States/UTs for popularizing them through various schemes of Government. <p>Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total 3648 women were trained during the Financial Year 2019-20. During 2020-21 up to November 2020, 3986 women trainees trained.</p>
10.	Seeds	Sub-Mission for Seed and Planting Material (SMSM)	<p>There is no separate budget allocated/ earmarked and released exclusively for woman farmers. However, implementing States/ agencies are requested to cover adequate participation of women farmers' in the scheme.</p> <p>During last three years (till December, 2020), 11.755 lakh women farmers were benefitted under Seeds Village Programme.</p>

11.	Cooperation National Cooperative Development Corporation (NCDC) National Cooperative Union of India (NCUI)	<p>NCDC has launched a unique Scheme called the “Yuva Sahakar” in 2019-20. It aims at encouraging newly formed cooperative societies with new and/or innovative ideas.</p> <p>Under the scheme, NCDC provides 2% less than its applicable rate of interest on term loan for project activities in cases of timely repayments. It is more liberal to cooperative with 100% women members, amongst others. Project cost is capped at Rs. 3.00 crore in case of a cooperative society which is in operation for one year or more and Rs.1.00 crore in case of a cooperative society which is in operation for more than 03 months but less than one year.</p> <p>In addition, during the FY 2020-21 (as on 31.12.2020), NCDC has sanctioned Rs.632.14 crore to 03 units of women cooperatives to Service Cooperative Andhra Pradesh and Maharashtra and disbursed Rs.590.86 crore. NCDC assistance has been provided in the form of term loan and working capital loan to meet their fund requirement towards expansion of their businesses.</p> <p>NCUI implements Cooperative Education and Development Programmes through its 43 Cooperative Education Field Projects of which 04 are exclusive women projects located at Shimoga (Karnataka), Aska Behrampur (Odisha), East Imphal (Manipur) and Bhopal (Madhya Pradesh).</p>
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12.	Policy	<p>The National Policy for Farmers, 2007 announced by the Government envisages the following measures aimed at women's empowerment:</p> <ul style="list-style-type: none"> • Asset reforms under land, water and livestock for an equitable share to women farmers. • Better access to inputs and services, science and technology, implements, credit and support services like creches, child care centres, nutrition, health and training.

			<ul style="list-style-type: none"> • Encouragement to women for participating in group activities aimed at achieving economies of scale through farming groups. • Involvement of women in conservation and development of bio-resources.
13.	Rainfed Farming Systems (RFS)	National Mission for Sustainable Agriculture (NMSA)	Under the National Mission for Sustainable Agriculture (NMSA), atleast 30% of the budget allocation is earmarked for women beneficiaries/farmers.
14.	Integrated Nutrient Management		Under the National Mission for Sustainable Agriculture, INM Divisions are implementing Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development for North Eastern Region (MOVCDNER), Soil Health Card & Soil Health Management scheme; States have been requested to earmark atleast 30% of budget allocations for women beneficiaries/farmers.
15.	Farmer Welfare	Pradhan Mantri Kisan Samman Nidhi (PM-KISAN) Pradhan Mantri Kisan Maan-Dhan Yojana(PM-KMY)	<p>As on December, 2020, the number of Female Farmers Registered under PM-KISAN since inception is 2,88,24,467.</p> <p>As on December, 2020, the number of Female Farmers Registered under PM-KMY since inception is 6,62,207.</p>
16	NRM	Sub-Mission on Agro forestry (SMAF)	Sub-Mission on Agro forestry (SMAF) under National Mission for Sustainable Agriculture (NMSA) is under implementation since 2016-17 to promote plantation on farmlands. Women farmers are associated at every level of SMAF activities and as per SMAF Operational Guidelines, at least 50% of the allocation is to be utilized for small, marginal farmers of which at least 30% should be women beneficiaries/farmers associated with the scheme.

17.	RKVY		<p>RKVY is a Centrally Sponsored Scheme (State Plan) which provides flexibility and autonomy to States in the process of selection, planning, approval and execution projects in agriculture and allied sectors as per their priorities under this scheme.</p> <p>Under the Innovation and Agri-entrepreneurship programme being implemented under RKVY-RAFTAAR, a total of 346 start-ups have been selected in various areas of agriculture and allied sectors, out of these selected start-ups, more than 80 start-ups are led by women entrepreneurs.</p>
18.	INM	Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)	<p>Organic Farming is being promoted under the Schemes Paramparagat Krishi Vikas Yojana (PKVY) and Mission Organic Value Chain Development for North Eastern Region (MOVCDNER) with a provision atleast 30% of the budget allocation for women beneficiaries/farmers.</p> <p>Under Soil Health Card/Soil Health Management Schemes, there is no separate budget provision for women specific programmes. The State Governments are however advised to utilize 30% of funds released under the Scheme for women farmers.</p>
19.	Plant Protection	Sub-Mission on Plant Protection and Plant Quarantine'	<p>'Sub-Mission on Plant Protection and Plant Quarantine' is under implementation through which regulatory, monitoring, surveillance and capacity building functions are undertaken with regard to Plant Protection and Plant Quarantine.</p>

			<p>During the last 6 years (2014-15 to 2019-20), 17724 women farmers have been trained on latest IPM technology in various crops. During 2020-21 (upto Kharif Season), 586 women farmers participated in 102 Integrated Pest Management Farmers Field Schools.</p> <p>National Institute of Plant Health Management (NIPHM), Hyderabad is regularly conducting training programmes for Agricultural Officers, Extension officers, Faculty members from various Universities and colleges across India for then capacity building in plant health management. During 2019-20, NIPHM has imparted training to 2560 officials including 629 women participants. During 2020-21 (upto December, 2020), 2500 officials including 651 women participated and 310 female farmers out of 1050 farmers were trained at NIPHM.</p>
20	Credit	Pradhan Mantri Fasal Bima Yojana (PMFBY)	All farmers whether sharecroppers, tenant farmers including women farmers growing crops in the areas notified by the concerned State/UT Government are eligible for coverage under the scheme and can insure themselves as per provisions of the scheme.

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DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS' WELFARE

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