



सत्यमेव जयते



ANNUAL REPORT 2019-20

DEPARTMENT OF AGRICULTURE, COOPERATION & FARMERS' WELFARE

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

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Chapter 1

Overview

1.1 Agriculture plays a vital role in India's economy. 54.6% of the total workforce in the country is engaged in agricultural and allied sector activities (Census 2011) and accounts for 16.5% of the country's Gross Value Added (GVA) for the year 2019-20 (at current prices). Given the importance of the agriculture sector, the Government of India has taken several steps for its development in a sustainable manner. Steps have been taken to improve soil fertility through the Soil Health Card Scheme; to provide improved access to irrigation and enhanced water efficiency through the Pradhan Mantri Krishi Sinchai Yojana (PMKSY); to support organic farming through Paramparagat Krishi Vikas Yojana (PKVY); and to support the creation of a unified national agriculture market to boost 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.

1.2 As per the Land Use Statistics 2014-15, the total geographical area of the country is 328.7 million hectares, of which 140.1 million hectares is the reported net sown area and 198.4 million hectares is the gross cropped area with a cropping intensity of 142%. The net area sown works out to 43% of the total geographical area. The net irrigated area is 68.4 million hectares.

Agriculture Gross Value Added (GVA)

1.3 As per the estimates of National Income released by the Central Statistics Office (CSO), Ministry of Statistics & Programme Implementation, the agriculture and allied sectors contributed approximately 16.1% to India's GVA at current prices during 2018-19. GVA in agriculture and allied sectors and its share in total GVA of the country at current prices during the last 5 years is as follows:

Table 1: GVA of Agriculture and Allied Sectors & its percentage share

Items	Years					
	2014-15	2015-16	2016-17	2017-18@	2018-19**	2019-20***
GVA in Agriculture and Allied Sectors	20,93,612	22,27,533	24,96,358	26,70,147	27,75,852	30,47,187
Per cent to total GVA	18.2%	17.7%	17.9%	17.2%	16.1%	16.5%

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

NOTE:

** : As per the press note on Provisional Estimates of Annual National Income 2018-19 and Quarterly Estimates of Gross Domestic Product for the Fourth Quarter (Q4) of 2018-19 released by CSO on 31st May 2019.

@ : As per the First Revised Estimates of National Income, Consumption Expenditure, Saving and capital Formation for 2017-18 released on 31st January, 2019

***As per the First Advance Estimates of National Income 2019-20 released by CSO on 7th January, 2020

1.4 There has been a continuous decline in the share of agriculture and allied sectors in the total GVA of the country from 18.2 percent in 2014-15 to 16.5 percent in 2019-20. A decline in share of agriculture and allied sectors in GVA is an expected outcome in a fast growing and structurally changing economy.

1.5 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 basic prices is given below (in percentage terms):

Table 2: Growth in the total GVA of Agriculture and Allied sectors

(in percent)

Year	Total Economy	Agriculture & Allied Sector	Crops	Livestock	Forestry & Logging	Fishing
2014-15	7.2	-0.2	-3.7	7.4	1.9	7.5
2015-16	8.0	0.6	-2.9	7.5	1.7	9.7
2016-17	7.9	6.3	5.0	9.9	1.4	10.0
2017-18@	6.9	5.0	3.8	7.0	2.1	11.9
2018-19**	6.6	2.9	Will be released in January, 2020.			
2019-20***	4.9	2.8				

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

Note:

** : As per the press note on Provisional Estimates of Annual National Income 2018-19 and Quarterly Estimates of Gross Domestic Product for the Fourth Quarter (Q4) of 2018-19 released by CSO on 31st May 2019.

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*** As per the First Advance Estimates of National Income 2019-20 released by CSO on 7th January, 2020.

1.6 The agriculture and allied sector witnessed a growth of -0.2 per cent in 2014-15, 0.6 per cent in 2015-16, 6.3 in 2016-17, 5.0 per cent in 2017-18 and 2.9 per cent in 2018-19 at 2011-12 basic prices.

Capital Formation in Agriculture and Allied Sectors:

1.7 Gross Capital Formation (GCF) in agriculture and allied sectors relative to GVA in this sector has been showing a fluctuating trend from 17.7 per cent in 2013-14 to 15.2 per cent in 2017-18.

Table 3: Gross Capital Formation (GCF) in Agriculture and Allied Sectors relative to GVA at 2011-12 basic prices

Year	GCF of Agriculture & Allied Sector (Rs. Crore)	GVA of Agriculture & Allied Sector (Rs. Crore)	GCF of Agriculture & Allied Sector as percentage of GVA
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	2,67,836	17,17,467	15.6%
2017-18	2,73,755	18,03,039	15.2%

Source: Central Statistics Office, Ministry of Statistics and Programme Implementation, Govt. of India, as per the First Revised Estimates of National Income, Consumption Expenditure, Saving and Capital Formation for 2017-18 released on 31st January, 2019

Rainfall 2019-20

Monsoon Rainfall (June – September)

1.8 The cumulative rainfall in the country during the monsoon season i.e. 01st June to 30th September, 2019 has been higher by 10% than the Long Period Average (LPA). Rainfall in the four broad geographical divisions of the country during the above period as compared to LPA were as follows: higher than LPA by 29% in Central India & 16% in the South Peninsula but lower than LPA by 12% in East & North East India and by 2% in North-West India.

1.9 Out of the 36 meteorological subdivisions, 12 met subdivisions in the country had received large excess/excess rainfall, 19 met subdivisions received normal rainfall and 5 met subdivisions received deficient rainfall.

1.10 Out of 678 districts for which rainfall data is available, 64(9%) districts received large excess rainfall, 135(20%) districts received excess rainfall, 323(48%) districts received normal rainfall, 143(21%) districts received deficient rainfall and 13(2%) districts received large deficient rainfall.

Post-Monsoon (October - December)

1.11 During the post-monsoon season (1st October to 31st December, 2019), the country received rainfall which was 29%

higher than the LPA. Out of 36 meteorological subdivisions, 24 subdivisions received large excess/excess rainfall, 8 received normal rainfall and 4 received deficient rainfall.

Production Scenario 2018-19

1.12 As per Fourth Advance Estimates for 2018-19, total foodgrain production in the country is estimated at 284.95 million tonnes which is higher by 19.20 million tonnes than the previous five years' (2013-14 to 2017-18) average production of foodgrain.

1.13 Total production of rice during 2018-19 is estimated at a record 116.42 million tonnes. Production of rice has increased by 3.66 million tonnes as compared to the production of 112.76 million tonnes during 2017-18. It is also higher by 8.62 million tonnes than the previous five years' average production of 107.80 million tonnes. Production of wheat, estimated at a record 102.19 million tonnes, is higher by 2.32 million tonnes as compared to wheat production of 99.87 million tonnes achieved during 2017-18. Moreover, the production of wheat during 2018-19 is also higher by 7.58 million tonnes than the previous five years' average wheat production of 94.61 million tonnes. Total pulses production during 2018-19 is estimated at 23.40 million tonnes

which is higher by 3.14 million tonnes than the last five years' average production of 20.26 million tonnes.

1.14 Total oilseeds production in the country during 2018-19 is estimated at 32.26 million tonnes which is higher than the production

of 31.46 million tonnes during 2017-18. Moreover, the production of oilseeds during 2018-19 is also higher by 2.61 million tonnes than the average oilseeds production of the previous five years'. With an increase by 20.25 million tonnes over 2017-18, total production of sugarcane in the country during 2018-19 is estimated at 400.16 million tonnes. Moreover, the production of sugarcane during 2018-19 is also higher by 50.38 million tonnes than the previous five years' average sugarcane production of 349.78 million tonnes. Production of cotton is estimated at 28.71 million bales (of 170 kg each) and production of jute & mesta is estimated at 9.77 million bales (of 180 kg each).

Table 4: Area, production and yield of major crops

Crops	Area (Lakh hectare)			Production (Million Tonnes)			Yield (kg/hectare)		
	2016-17	2017-18	2018-19*	2016-17	2017-18*	2018-19*	2016-17	2017-18	2018-19*
Rice	439.9	437.7	437.9	109.7	112.8	116.4	2494	2576	2659
Wheat	307.9	296.5	291.4	98.5	99.9	102.2	3200	3368	3507
Nutri/ Coarse cereals	250.1	242.9	219.8	43.8	47.0	42.9	1750	1934	1954
Pulses	294.5	298.1	290.3	23.1	25.4	23.4	786	853	806
Foodgrains	1292.3	1275.2	1239.4	275.1	285.0	284.9	2129	2235	2299
Oilseeds	261.8	245.1	255.0	31.3	31.5	32.3	1195	1284	1265
Sugarcane	44.4	47.4	51.1	306.1	379.9	400.2	69001	80198	78248
Cotton@	108.3	125.9	126.6	32.6	32.8	28.7	512	443	386
Jute & Mesta#	7.6	7.4	7.3	10.9	10.0	9.8	2585	2435	2403

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare.

NOTE:

*:4th advance estimates @ Production in million bales of 170 kg each

#: Production in million bales 180 Kg. each.

Production Scenario during Kharif 2019-20 (as per First Advance Estimates)

1.15 The cumulative rainfall during this year's southwest monsoon season has been 10% higher than Long Period Average (LPA). The production of most of the crops for the agricultural year 2019-20 has been estimated higher than their normal production.

1.16 The total area coverage under kharif foodgrains during 2019-20 is estimated at 694.35 lakh hectares (as per 1st Advance Estimates). The area coverage under

kharif nutri / coarse cereals is estimated at 175.33 lakh hectares and under pulses it is estimated at 125.77 lakh hectares. The area under kharif oilseeds during 2019-20 (as per 1st Advance Estimates) is estimated at 178.36 lakh hectares. A comparative position of production of food grains, oilseeds, sugarcane and cotton during 2019-20 vis-à-vis Normal Average (2013-14 to 2017-18) is given below:

Table 5: Production in Kharif 2019-20 and 2018-19**(Million Tonnes)**

Crop	2019-20 (1st Advance Estimates)	Average (2013- 14 to 2017-18)	Absolute Difference (2019-20 over average)	Percentage Increase/ decrease (+)/ (-) in 2019-20 over average
Foodgrains	140.57	132.13	8.44	6.39
Oilseeds	22.39	20.22	2.17	10.76
Sugarcane	377.77	349.78	27.99	8.00
Cotton@	32.27	33.22	-0.95	-2.87
Jute & Mesta*	9.96	10.87	-0.91	-8.38

Source: Directorate of Economics & Statistics, Department of Agriculture, Cooperation & Farmers Welfare

NOTE:

@: Production in million bales of 170 kg each.

*: Production in million bales of 180 kg each

1.17 As per the First Advance Estimates for 2019-20 (kharif only), total foodgrain production in the country is estimated at 140.57 million tonnes. The production during 2019-20 is higher by 8.44 million tonnes than the average foodgrain production of previous five years' (2013-14 to 2017-18).

1.18 Total production of kharif rice during 2019-20 is estimated at 100.35 million tonnes. It is higher by 6.80 million tonnes than the previous five years' average production of 93.55 million tonnes. Production of kharif nutri / coarse cereals is estimated at 32.00 million tonnes which is higher by 1.01 million tonnes than the production of 30.99 million tonnes achieved during 2018-19. Total kharif pulses production during 2019-20 is estimated at 8.23 million tonnes. It is higher by 1.00 million tonnes than the previous five years' average production of 7.23 million tonnes.

1.19 Total kharif oilseeds production in the country during 2019-20 is estimated at 22.39 million tonnes which is higher by 1.11 million tonnes than the production of 21.28 million tonnes during 2018-19. The production of oilseeds during 2019-20 is also higher by 2.17 million tonnes than the average oilseeds production of the previous five years'.

1.20 Total production of sugarcane in the country during 2019-20 is estimated at 377.77 million tonnes. The production of sugarcane during 2019-20 is higher by 27.99 million tonnes than the average sugarcane production of 349.78 million tonnes of previous five years'. Production of cotton is estimated at 32.27 million bales (of 170 kg each) which is higher by 3.56 million bales than the production of 28.71 million bales during 2018-19. Production of jute & mesta is estimated at 9.96 million bales (of 180 kg each) which is higher than the production during 2018-19.

National Policy for Farmers (NPF), 2007:

1.21 Government of India approved the National Policy for Farmers (NPF) in 2007. 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 Departments 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.

Doubling of Farmers' Income

1.22 The Government has set a target of doubling of farmers' income by the year 2022. The Government had constituted an Inter-Ministerial Committee to examine issues related to this target and recommend a strategy to achieve doubling of farmers' income in real terms by the year 2022.

1.23 The committee identified seven sources of income growth viz, improvement in crop and 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.

1.24 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 progress against the recommendations. Due to the efforts made as part of schemes/ programmes of the Department of Agriculture, Cooperation and Farmers' Welfare which also aligns with the strategy of doubling farmers' income, there has been an appreciable improvement in efficiency bringing about a positive impact in the agriculture sector.

Pradhan Mantri Krishi Sinchayee Yojana (PMKSY):

1.25 Department of Agriculture, Cooperation & Farmers' Welfare is implementing this scheme since 2015-16 with the major objectives of achieving convergence of investments in irrigation at the field level, expand cultivable area under assured irrigation, improve on-farm water use efficiency to reduce wastage of water,

enhance the adoption of precision irrigation and other water saving technologies (Per Drop More Crop), promote sustainable water conservation practices etc. Besides, during July, 2016 the cabinet has approved for mission mode implementation of PMKSY. The PMKSY mission is administered by the Ministry of Jal Shakti with the Per Drop More Crop component, being administered by the Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW).

During 2019-20, an amount of Rs.1426.28 crore has been released as on 06.12.2019 to States under PMKSY-Per Drop More Crop component. During 2019-20, an area of about 5.60 lakh ha has been covered under Micro Irrigation so far. During the year 2018-19, an area of 11.58 lakh ha was brought under Micro Irrigation (MI), which is the highest ever coverage in a calendar year so far. Besides, a dedicated Micro Irrigation Fund (MIF) has been instituted with NABARD with an initial corpus of Rs. 5000 crore for expanding coverage of Micro Irrigation.

1.26 Agriculture Credit

Government announces annual target for agriculture credit in the budget every year. Agricultural credit flow has shown consistent progress every year. The agriculture credit flow target for the year 2018-19 was fixed at Rs.11,00,000 crore and against this target the achievement was Rs.12,56,830 crore. The agriculture credit flow target for 2019-20 has been fixed at Rs.13,50,000 crore and till 30th November, 2019 against this target a sum of Rs.9,07,843.37 crore has been disbursed.

1.27 Interest Subvention Scheme (ISS)

The Department implements the Interest Subvention Scheme under which interest subvention is provided on short-term crop loans upto Rs.3 lakh for a period of one year which is made available to farmers at a

subvented interest rate of 7% per annum and in case of timely repayment, the same gets reduced to 4% per annum.

1.28 Kisan Credit Card (KCC)

The Kisan Credit Card (KCC) Scheme was introduced for issue of Kisan Credit Cards to farmers on the basis of their holdings for uniform adoption by the banks so that farmers may use them to readily purchase agriculture inputs such as seeds, fertilizers, pesticides etc. and draw cash for their production needs.

1.29 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 and is mandated to advice on the price policy (MSPs/FRP) 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' Associations, Research Institutes and other stakeholders.

1.30 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 MSP and reasonable margin over cost of production in case of FRP.

Status of ATNs is as under:

Sl.No	Year	No. of Paras/PA reports on which ATNs have been submitted to PAC after vetting by Audit	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 by the Ministry	No. of ATNs which have been finally vetted by Audit but have not been submitted by the Ministry to PAC.
1	2019-20	NIL	NIL	NIL	NIL

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, the other being the Department of Agricultural Research and Education (DARE). This Department is headed by Minister of Agriculture & Farmers' Welfare and is assisted by two Ministers of State. The Secretary (DAC&FW) is the administrative head of the Department. The Secretary is assisted by 3 Special Secretaries (including one Financial Adviser), 3 Additional Secretaries, Agriculture Commissioner, 13 Joint Secretaries including Mission Director-Mission on Integrated Development of Horticulture & Mission Director- National Mission on Sustainable Agriculture, Horticulture Commissioner, Trade Advisor, Horticulture Statistics Advisor, Addl. Deputy Director General (Agriculture 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 5 attached offices and 21 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 Improvements: 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. The complaints/allegations received in the Unit are authenticated as per the direction/guidelines of CVC. After authentication, the complaints/allegations are finalized on receipt of factual reports from the concerned division. Complaint cases and Departmental proceedings are monitored through meetings, reminders, reports/returns etc. Further, identification of sensitive posts in the DAC&FW is also undertaken as per the guidelines of CVC to enable periodical rotation of staff in these posts by competent authority. AVU prepares a list of Officers of Doubtful Integrity and also an Agreed List in consultation with CBI. Vigilance Awareness week was observed from 28th October to 2nd November, 2019.

2.4 A Public Grievance Cell has been set up and is fully functional in the Department of Agriculture, Cooperation & Farmers' Welfare under the Joint Secretary (Eco. Administration/ O&M/PG) who not only acts as a Grievance Officer of the Department but also has been nominated as the nodal officer for monitoring redressal of public grievances received in the Department at Headquarters. One Deputy Secretary has been nominated as Staff Grievance Officer to deal with grievances of 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 2019-20 (from 01.04.2019 to 26.11.2019) 10284 public grievance petitions/suggestions have been received through CPGRAMS portal and 1151 cases were carried forward from the previous year. Out of 11435 total cases, 10337 cases have been disposed of and 1098 cases were pending in this Department at the end of November, 2019.

2.5 Citizens'/Clients' Charter of this Department has been prepared as per the instructions/guidelines of the 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).

2.6 Implementation of the Right to Information Act, 2005: During year 2019-20 (as on 26.11.2019), 5725 physical & online RTI applications and 267 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.

2.7 Information and Facilitation Counter: This counter provides information in respect of the Department of Agriculture, Cooperation & Farmers' Welfare. During the year 2019-20, various visitors from NGOs as well as general public visited the counter to obtain information. Numerous telephonic calls were also received in the RTI Cell from the general public to obtain information pertaining to DAC&FW, Ministry of Agriculture and Farmers Welfare.

2.8 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 review, quarterly meetings of the Official Language Implementation Committee were held.

2.9 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, 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.

2.10 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. Eight employees have been given cash awards for doing original noting and drafting in Hindi under the incentive scheme for promoting use of Hindi in the official work of the Department. A seat to seat workshop on Hindi phonetics and a workshop on the constitutional position of the official language was organized by the Division wherein officers/officials of various divisions of DAC&FW were trained.

2.11 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 2nd-16th September, 2019. On this occasion, the Hon'ble Minister for Agriculture and Farmers' Welfare 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 a large number of officers and employees participated in these competitions. Cash awards and certificates of appreciation were given to the 30 winners of these competitions.

2.12 The Second Sub-Committee of the Committee of Parliament on Official Language conducted an inspection of various offices 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 at these inspection meetings. In addition to this, 42 subordinate/attached offices have been inspected by the officers of the Hindi Division of the Department of Agriculture, Cooperation and Farmers' Welfare.

2.13 Reservation for Scheduled Castes/

No. of complaints received during 2019-20	No. of complaints disposed of during 2019-20	No. of cases pending for more than 90 days	No. of workshops/ programmes carried out during 2019-20	Nature of action taken by the employer
07	08*	Nil	01	Nil

*One complaint received in 2018 was disposed in 2019.



Scheduled Tribes /Other Backward Castes: Department of Agriculture, Cooperation and 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.

2.14 Prevention of Harassment of Women Employees: An Internal Complaints Committee on prevention of sexual harassment of women at their work place has been reconstituted in the Department. This committee is chaired by a senior lady officer of the Department. The committee comprises of 6 members including a Chairman and 5 women members (2 of these belong to 2 NGOs) and 1 male member of the Department.

2.15 The Internal Complaints Committee (ICC) of the Department has provided its Report according to section 21 of The Sexual Harassment of Women at Workplace (Prevention, Prohibition and Redressal) Act, 2013, as follows:

Chapter 3

Directorate of Economics & Statistics

Overview

3.1 Directorate of Economics & Statistics, an attached office of DAC&FW, is guided by the vision of enriching economic, statistical data and analytical inputs required by the Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW) for formulation of better agricultural economic development policy. Its mission is to provide important statistics on area, production, cost and yield of principal crops, data to determine minimum support prices, to implement schemes related to improvement of agricultural statistics and carrying out agro-economic research. The main objectives of the Directorate are generation and dissemination of agricultural statistics, research and analysis. The Directorate provides inputs to DAC&FW, Commission for Agricultural Costs and Prices (CACPC) and also places a large volume of data and information in the public domain for use of all researchers and stakeholders. In addition, the Directorate coordinates with international bodies such as the Food and Agriculture Organisation (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 obligations related to standards of data dissemination.

Major Programmes/Activities

Agricultural Statistics Division

3.2 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 and fibres. The First Advance Estimates 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 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 modelling based crop forecast provided by the Institute of Economic Growth (IEG), New

Delhi, 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.

3.3 The Fourth Advance Estimates of Major Agricultural and Commercial Crops for the agricultural year 2018-19 were released on 19th August, 2019 and the First Advance Estimates (kharif only) have been released on 23rd September, 2019. The Time Series data of Production of Major Agricultural and Commercial Crops for the agricultural year 2018-19 as per Fourth Advance Estimates 2018-19 and for the year 2019-20 as per the 1st Advance Estimates 2019-20 is enclosed at **Annexure-3.1** and **Annexure-3.2**, respectively.

3.4 The Agricultural Statistics Division organizes a National Workshop on Improvement of Agricultural Statistics every two years. Officers from the State Departments of Agriculture, Revenue, Economics and Statistics, Horticulture, Agricultural Marketing and Central Ministries/Organisation participate in the Workshop. The Workshop deliberates on ways and means to improve the collection, compilation, dissemination and use of agricultural statistics and alterations required in the light of changing characteristics of agriculture with a focus on improving quality, timeliness and reliability of data.

Cost Study (CS) Division

3.5 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 data to the CACP for

determination of the Minimum Support Prices (MSP) etc. Cost of cultivation surveys are an important data source for decision making on sectors of national importance. These are very intensive surveys wherein data are collected on various inputs which are used for the cultivation of crops.

Food Economics Division

3.6 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. The price policy also seeks to evolve a balanced and integrated price structure in the perspective of the overall needs of the economy. Towards this end, the Government announces Minimum Support Prices (MSPs) for twenty two (22) mandated crops and Fair and Remunerative Price (FRP) for Sugarcane based on the recommendations of the CACP after considering the views of concerned State Governments and Central Ministries/Departments.

3.7 The 22 mandated crops include 14 Kharif crops viz. paddy, jowar, bajra, maize, ragi, arhar, moong, urad, groundnut, soybean (yellow), sunflower seed, sesamum, nigerseed, cotton and 6 rabi crops viz. wheat, barley, gram, masur (lentil), rapeseed and 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.

3.8 These MSP crops account for 99 percent (does not include horticulture) of agricultural production in the country. While recommending MSPs, CACP considers

important factors like cost of production, overall demand-supply conditions, domestic and international prices, inter-crop price parity, terms of trade between agricultural and non-agricultural sector, the likely effect on rest of the economy besides ensuring rational utilization of land, water and other production resources and a minimum of 50 percent as the margin over cost of production in case of MSPs and reasonable margins over Cost of Production on case of FRP.

3.9 The Government also offers to procure crops through designated nodal agencies when prices fall below MSP. However, farmers are free to sell their produce to the Government procurement agencies at MSP or in the open market whichever is advantageous to them.

3.10 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 1.5 times over all India weighted average cost of production for the 2018-19 season. The Government has recently increased the MSPs for all mandated kharif and rabi crops for 2019-20 season in line with the principle of providing 1.5 times return over all India weighted

average cost of production. A statement showing cost, MSP and percentage return over cost for the year 2018-19 and 2019-20 is enclosed at **Annexure-3.3**. This MSP policy whereby the farmers are assured of a minimum of 50 percent as margin of profit is one of the important and progressive steps towards doubling farmers' income by 2022 and improving their welfare substantively.

Commercial Crops Division

3.11 Commercial Crops Division examines the price policy for raw jute and copra. The Commercial Crops Division is responsible for the fixation of Minimum Support Price (MSP) of raw jute and copra based on the recommendation of CACP. The division also fixes the MSP of toria by taking the average of price differentials between rapeseed/ mustard and toria /lahi black.

3.12 For 2019 season the MSP has been fixed at Rs. 9521/-per quintal of milling copra and Rs. 9920/- per quintal for ball copra marking an increase of 26.76 percent over last year's MSP for milling copra and an increase of 28 percent over the last year's MSP for ball copra. The MSP would yield returns of 50 percent for milling copra and 56.29% for ball copra over the all India weighted average cost of production of Rs 6347/- for the 2019 season.

Table 6: MSP announced by the Government and Relative Returns for Milling Copra

Year	MSP Announced by the	Increase over the previous year		A2+ FL	MSP margins over A2+FL Cost %
		Absolute	%age		
2015	5550	300	5.7	4138	34.12
2016	5950	400	7.2	4676	27.24
2017	6500	550	9.2	4758	36.61
2018	7511	1011	15.50	5007	50.00
2019	9521	2010	26.76	6347	50.00

Table 7: MSP announced by the Government and Relative Returns for Ball Copra

Year	MSP Announced by the Government	Increase over the previous year		A2+ FL	MSP margins over A2+FL Cost %
		Absolute	%age		
2015	5830	330	6.0	4138	40.89
2016	6240	410	7.0	4676	33.44
2017	6785	545	8.7	4758	42.60
2018	7750	965	14.2	5007	54.78
2019	9920	2170	28.0	6347	56.29

3.13 For 2019-20 seasons, the MSP for raw jute has been fixed at Rs. 3950/- per quintal for FAQ variety marking an increase of 6.75 percent over the last year's MSP. The MSP would yield returns of 55.7 percent over the weighted average A2+FL cost of production which is estimated at Rs. 2535 per quintal.

Table 8: MSP announced by the Government and Relative Returns for Jute

Year	MSP Announced by the	Increase over the previous year		A2+ FL	MSP margins over A2+FL
		Absolute	%age		
2014-15	2400	100	4.34	1702	41.03
2015-16	2700	300	12.5	2042	32.22
2016-17	3200	500	18.51	2125	50.59
2017-18	3500	300	9.37	2160	62.03
2018-19	3700	200	5.71	2267	63.21
2019-20	3950	250	6.75	2535	55.7

3.14 The MSP of toria of Fair Average Quality (FAQ) for 2018-19 season to be marketed in 2019-20 season has been fixed at Rs 4190/-per quintal marking an increase of 7.43 percent over the last year's MSP.

Special Data Dissemination Standards (SDDS) Division

3.15 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 publications '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 are 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 are 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.

Prices and Market Division

3.16 Prices & Market Division provides necessary 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. Thirteen (13) field level Market Intelligence Units (MIUs) reporting to this division play a major role in data collection.

3.17 Weekly wholesale prices (905 quotations) of 109 agricultural commodities from 237 market centres spread across the country are provided to the Department for the Promotion of Industry and Internal Trade (DPIIT), Ministry of Commerce & Industry for preparation of monthly Wholesale Prices Index (WPI). Currently, the division is involved in the revision of base year of the Wholesale Price Index (WPI) series undertaken by the DPIIT. In this regard, a sub-group has been formed under the chairmanship of Principal Adviser, DAC&FW for Agricultural Commodities. This sub-group is one of the five subgroups constituted under the Working Group formed for Revision of Base Year of Current Series of Wholesale Price Index Numbers (base 2011-12). This Division also maintains data on international prices of 35 agricultural commodities across the world. The Division 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 every year.

3.18 The Agricultural Market Information System (AMIS), hosted by the 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 Food Balance Sheet, where data on inputs of production, food, feed & seed use, trade as well as wastage of 4 agricultural commodities, i.e. wheat, rice, maize and soyabean are maintained globally. As per government directive, Prices & Market Division provides required data to AMIS-FAO at regular intervals.

Agricultural Wages

3.19 Statistics relating to daily wages paid to different categories of agricultural and skilled rural labour at selected centres are collected and compiled by Directorate of Economics & Statistics. These are published in "Agricultural Wages in India", an annual publication and also in the monthly journal, viz. Agricultural Situation in India.

International Agriculture & Compilation Division

3.20 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 carries out the compilation and manuscript preparation works related to the flagship publications of the Department, namely Agricultural Statistics at a Glance, Pocket Book of Agricultural Statistics and State of Indian Agriculture.

3.21 During 2019-20, IAC Division provided inputs and comments on international issues relating to food security & nutrition, Sustainable Development Goals (SDGs) related to the agricultural sector, bilateral and multilateral cooperation for improvement in agricultural statistics, etc. In addition, the Division published the latest issues of the Agricultural Statistics at a Glance, Pocket Book of Agricultural Statistics and State of Indian Agriculture. These publications are also made available on the website of the department www.agricoop.nic.in & <http://eands.dacnet.nic.in>

3.22 IAC Division organized the 3rd 'India Agricultural Outlook Forum 2019' during 26-27 September, 2019 at NASC Complex, Pusa, New Delhi. This year the Forum deliberated on Universal Basic Income for farmers and other key challenges and opportunities before the agricultural sector; including ways to manage excess production, price forecasting, artificial intelligence, water management, input markets, insurance, etc. The event was attended by delegates from the USDA, representatives from embassies, senior officials from Ministries/Departments of the Government of India and State Governments, experts from national and international agriculture research Institutes and Universities, experts from chambers of commerce, industry and farmers associations. This multi-stakeholder consultative process of sharing of experiences and best practices in agriculture is envisaged to play an important role in making effective and informed policy decisions.

Coordination Division

3.23 The Coordination Division's main work is to coordinate work between the Department of Agriculture, Cooperation & Farmers' Welfare and the Divisions of DES on all subject matters. Its main activities include preparing chapter on Economic Survey on

Agriculture & Food Management and for routine matters wherein several Divisions of DES and those of DAC&FW are involved, preparation of material for the Annual Report, providing information on release and utilization of funds under plan schemes, parliament questions, update e-Samiksha points and upload public grievance replies on CPGRAM portal, etc.

Schemes implemented by the DES

3.24 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 the 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. The Scheme is implemented through 16 Agricultural/Central Universities/Colleges and cost of cultivation/production estimates in respect of principal crops are worked out and are transmitted to the CACP so as to enable them to recommend the MSP to the Government of India.

The cost estimates generated under the Schemes 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. are also using the data for research purposes subject to permission of the DES, Department of Agriculture, Cooperation and Farmers' Welfare.

The Scheme is implemented in 20 States namely Andhra Pradesh, Telangana, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Orissa, Punjab, Rajasthan, Tamil Nadu, Uttar Pradesh, Uttarakhand and West Bengal. Studies in the States except the newly created States of Chhatisgarh, Jharkhand, Uttarakhand and Telangana are undertaken by the parent State Agriculture universities/colleges located in the respective States. As far as the four newly created States are concerned, presently their parent institutions undertake these studies.

(ii) Agro-Economic Research Scheme

The Agro-Economic Research (AER) Scheme was initiated in 1954-55 through a network of 15 AER Centres/Units which conduct research and evaluation studies on a yearly basis as per the need of the Government of India on agricultural economy and rural development as per the requirement of the Department of Agriculture, Cooperation & Farmers' Welfare and other Ministries/Departments which have a bearing on the performance of the Agriculture Sector for policy formulation and provide a feed back for implementation of various schemes. The Centres also cater to studies and economic analysis needed 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 the Government of India, Ministry of Agriculture & Farmers' Welfare. Currently, the Agro-Economic Research (AER) Scheme is being funded as an independent component of the Integrated Scheme on Agriculture Census, Economics and Statistics of the Central Sector Plan Scheme. The CCEA on 02-05-2018 has approved the continuation of grants-in-aid to AER Centres/Units as a component of Integrated Scheme on Agriculture Census, Economics and Statistics under the Umbrella Scheme on Green Revolution- Krishnonnati Yojana in the Agriculture Sector, till 2019-20.

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. In the current year 2019-20 till November 2019, 05 studies have been carried out by AER Centres/Units on important issues such as Soil Health Card, Kisan Call Centre, Pradhan Mantri Fasal Bima Yojana (PMFBY), e-NAM, Price Support in Pulses and Oilseeds etc.

For the current financial year 2019-20, an amount of Rs 2280.00 lakhs is allocated as Budget Estimate (BE) (including Rs.160.00 lakhs for North East regions); out of which

Rs.1317.40 lakhs has been released (including Rs.71.92 lakhs for North East regions) till date.

(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, dairy, 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 2019-20, the Budget Estimate under the scheme is Rs 72.00 lakh and Rs.5.00 lakh has been released upto 30th December, 2019.

(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. For the financial year 2019-20 under Improvement of Agricultural Statistics Scheme against a total allocation of Rs. 96.22 crores (BE),

Rs. 56.01 crore has been released till 30th November, 2019.

The component-wise details of the scheme are as under:

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 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 17 land record States and Union Territories of Delhi and Puducherry.

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 the 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 Puducherry. The performance of the implementation of this component is also being closely monitored through quarterly and seasonal progress reports.

Establishment of an Agency for Reporting of Agricultural Statistics (EARAS)

This component is being implemented in the permanently settled States of Kerala, Orissa 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.

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 the North Eastern States (NES), the scheme is in operation in Arunachal Pradesh, Assam, Nagaland, Sikkim & Tripura. For the financial year 2019-20, Rs. 2.13 Crore have been released to NES under the Scheme as on 30th November, 2019.

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

Department of Agriculture, Cooperation and Farmers' Welfare (DAC&FW) has been implementing a Central Sector Plan Scheme namely Forecasting Agricultural Output using Space, Agro-Meteorology and Land Based Observations (FASAL) since Aug., 2006 with partner organizations, India Meteorological Department (IMD), New Delhi, Institute of Economic Growth (IEG), New Delhi and Space Application Centre (SAC), Ahmedabad to provide multiple-in-season forecasts based on agromet, econometric and remote sensing based methodology. Multiple forecast of 11 major crops namely rice (kharif & rabi), jowar (kharif & rabi), maize, bajra, jute, ragi, cotton, sugarcane, groundnut (kharif & rabi), rapeseed & mustard and wheat were envisaged at National/State/District level depending on the status of technology available. However, based on technology feasibility and requirement, 11 crops are changed to rice (kharif & rabi), jowar(rabi), maize (rabi), soybean, jute, pulses (rabi), cotton, sugarcane and groundnut (rabi), rapeseed & mustard and wheat.



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 a better manner 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 be benefited quickly. To empower different sections of rural society, ICT strategies have been devised.

4.2 National e-Governance Plan – Agriculture:

Ministry of Agriculture & Farmers' Welfare is implementing a 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 right 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 alternate 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), where around **5.1376 crore** farmers are registered and experts/scientists of different departments like IMD, 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 decide on timing of sowing and harvesting. With market information, farmers are better informed to sell 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.

mKisan won Platinum Icon in Web Ratna Awards for innovative use of Technology. Union IT Minister conferred the honour.

mKisan received Award of Appreciation in CSI-NHILENT e-Governance Awards 2013-2014.

mKisan bagged SKOCH Gold award and Order of Merit 2014.

Search: Google Custom Search

Since 25th May 2013 To See this site in languages other than English & Hindi, Use this [Select Language](#)

No. of SMSs: 24,62,37,10,138
No. of Farmers: 5,13,74,004
Advisory Count: 4,34,886

Unleashing the power of mobile in the hands of farmers to get information/advisories as per his or her preferences in the form of text/voice messages and getting access to numerous databases even without internet!

LIVE MESSAGES

SMS for 37214 farmers
अरहर में इस्ली का प्रकोप कम करने के लिए कस्तुरीएंटानिलीप्रोल ६+ मिलीलीटर/एकड़ की दर से छिड़काव करें कृषि विज्ञान केंद्र, कवर्धा 1800 180 1551

- Dr. KAPUR SINGH Programme Coordinator(General) Krishi Vigyan Kendra, Rampura,REWARI,HARYANA SMS for 19019 farmers
यांत्रिक खरपतवार नियंत्रण करने से फसलों उत्पादन में वृद्धि होती है की कसोला या वहील हंड होए से खरपतवार निकासो!
- Dr. KAPUR SINGH Programme Coordinator(General) Krishi Vigyan Kendra, Rampura,REWARI,HARYANA SMS for 1 farmers
यांत्रिक खरपतवार नियंत्रण करने से फसलों उत्पादन में वृद्धि होती है की कसोला या वहील हंड होए से खरपतवार निकासो!

Log in Interface

USER NAME
Email or Mobile

PASSWORD

5+1 =

Evaluate the result of mathematical expression shown in the image.

SUBMIT

Forgot Password

User Manual
New User? [Click here to Sign Up](#)

RSS
Twitter

Digital India Power To Empower
National Voters' Services Portal

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

Farmers' Portal is a one stop shop 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 the 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.

FARMERS' PORTAL
"ONE STOP SHOP FOR FARMERS"

Beta Version only in English and Hindi as of now. Full version in different languages under development.

Home About Us Programmes & Schemes Major Crops Login

Click on the State and Navigate to your Block and Crop

RELATED LINKS

- Mobile Apps
- a-bulletin of DAC SPW for July-Sep 2018
- Agricrop
- Crop Insurance
- Data Entry Progress
- Extension Reforms
- KIMS
- Media gallery
- mKisan
- RIIV Projects
- State Agriculture Departments

VISITORS COUNT: 1120892

W5C KMS W5C

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:

KisanSuvidha: 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. 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: **1122398 (31st December, 2019)**



4.6 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

DBT On boarded Schemes

1	Agri Clinics and Agri Business Centres (ACABC) Scheme
2	Sub Mission on the Agriculture Mechanization (Two component – 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 the other for functionaries)

6	Sub-Mission on Seeds and Planting Material
7	Pradhan Mantri Fasal Bima Yojana (PMFBY)
8	National Mission on Oilseeds & Oil Palm
9	Integrated Scheme on Agriculture Cooperation
10	National Food Security Mission (NFSM)
11	Krishi Unnati Yojana-MOVCDNER
12	NMSA-Rainfed Area Development
13	Interest Subsidy for Short term Credit to farmers
14	PM-KISAN

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 under MIDH 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) and (v) Central Institute of Horticulture (CIH), Nagaland.

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

A budget allocation of Rs. 2209.57 crore has been earmarked for MIDH during 2019-20. As on 31st December, 2019, funds to the tune of Rs. 1037.30 crores have been released for implementation of activities of MIDH i.e. Rs. 757.47 crore under NHM & the Himalayan States, Rs. 158.55 crore to NE States,

Rs. 106.00 crore under CDB and Rs.4.08 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 19 States and 4 Union Territories are 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)

The Department is implementing a Centrally Sponsored Scheme - Horticulture Mission for the 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 the 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, the HMNEH scheme has been subsumed under MIDH.

5.3.3 National Horticulture Board

The National Horticulture Board (NHB) was set up by the Government in 1984 as an Autonomous Society under Registration Act, 1860, thereafter, THE HARYANA REGISTRATION AND REGULATION OF SOCIETIES ACT, 2012. The NHB headquarter presently in Gurugram and 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:

- (i) Development of commercial horticulture through production and post harvest management
- (ii) Capital investment subsidy scheme for construction/ expansion/modernization

- of cold storages for horticulture produce
- (iii) Technology development and transfer for promotion of horticulture.
- (iv) Market information service for horticulture crops
- (v) Horticulture promotion services/ expert services and strengthening the capability of NHB.

5.3.4 Coconut Development Board

The Coconut Development Board Kochi, (CDB) is a statutory body established by the Govt. of India through an Act of Parliament (Coconut Development Board Act 1979) and came in to existence in January 1981. The thrust areas of 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 Gardens

(d) Establishment of Small Coconut Nurseries

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

5.3.5 Central Institute of Horticulture, Medziphema, Nagaland

Recognizing the huge potential for development in the North-Eastern region and to provide institutional support to tap this potential, the Government of India has set up the Central Institute of Horticulture, Nagaland in the year 2005-06 as a Central Sector Scheme. The Institute has been set up for holistic development of horticulture in the NE region of India at Medziphema in an area of 43.5 Ha, 45 kms from Kohima city.

The Institute conducts a number of programmes for the benefit of the farming community in NE states. The Institute regularly conducts training & skill development

courses, technology demonstrations, quality planting material production, nursery accreditation, protected cultivation, post harvest management and marketing for the welfare and betterment of the farming community

Vision: To emerge as the pioneering, innovative, farmer focused and self supporting Horticultural Institute in the North Eastern Region in the country.

Mission: To provide excellent, innovative and relevant training to all the stakeholders so as to empower individuals and enable the horticulture industry to bring about socio-economic development and sustainability in the North East Region.

Objectives & Programmes of the Institute

- ❖ Capacity building by training of trainers and farmers/beneficiaries.
- ❖ Demonstration of improved production technologies.
- ❖ Certificate courses in horticulture.
- ❖ Accreditation and certification of nurseries in the NE region.
- ❖ Follow-on extension support in the field of horticulture.
- ❖ Promotion of organic cultivation of horticulture crops.
- ❖ Establishing convergence and synergy among programmes in the field of horticulture.
- ❖ Monitoring of Centrally Sponsored Programmes in the area of horticulture.

Focus Areas

- ❖ Training of state government officials and farmers/beneficiaries of the North Eastern Region.

- ❖ Production and supply of quality planting material.
- ❖ Accreditation and certification of horticulture nurseries in the NER.
- ❖ Certificate courses in horticulture.
- ❖ Skill development courses in horticulture.
- ❖ Transfer of technology through method & result demonstration.
- ❖ Promotion of Organic Farming.
- ❖ Marketing and agri-business promotion through exhibitions, seminars, workshops, exposure trips, buyers & sellers meet.
- ❖ Coordination with state horticulture departments of NER and other national organizations, NGOs, farmers' group and self help groups.
- ❖ Demonstration of improved technologies.

5.4 Physical and Financial Progress

5.4.1 National Horticulture Mission (NHM):

A. Physical progress: The summary details of progress achieved so far during 2019-20 are given in **Table 1** below:

Table 1: Progress under NHM

S. No.	Components	Unit	Progress during 2019-20 (As on 31st December, 2019)
1	Area Expansion	Ha.	55097
2	Rejuvenation	Ha.	5520
3	Protected Cultivation	Ha.	8557
4	Integrated Pest/ Nutrient Management	Ha.	18726
5	Nurseries	No.	10
6	Water Resources	No.	1184
7	Beekeeping	No.	6641
8	Horticulture Mechanization	No.	2999
9	Post Harvest Management	No.	
	(i) Pack House		877
	(ii) Cold Storage		36
	(iii) Primary/mobile processing units		76
10	Rural Market	No.	0

B. Financial progress: During 2018-19, as on 31st March, 2019, funds to the tune of Rs. 1091.20 crore have been released to States/UTs/NLAs for implementing NHM scheme against BE of Rs.1209.00 crore and RE of Rs 1139.00 crore. During

2019-20, an amount of Rs. 1352.00 crore has been allocated for NHM and Himalayan States, against of which an amount of Rs. 757.47 crore has been released as on 31st December, 2019.



Skill development course on gardeners



Mango Block at CIH, Nagaland
(Var. Langra, Amrapali, Mallika, Dusheri)



Strawberry cultivation at CIH, Nagaland
(Var.CK-9)



8 days model training course on Protocol development and value addition of horticultural crops held at CIH, Nagaland



5.4.2 Area, Production & Productivity of Horticulture Crops

The comparative details of area, production and productivity of various horticulture crops

during 2018-19 (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	2017-18	2018-19*	2004-05	2017-18	2018-19*	2004-05	2017-18	2018-19*
Fruits	5049	6506	6648	50867	97358	98579	10.07	14.96	14.83
Vegetables	6744	10259	10100	101246	184394	185883	15.01	17.97	18.40
Flowers	118	324	313	659	2785	2865	5.58	8.60	9.15
Aromatic & Medicinal crops	131	720	656	159	866	819	1.21	1.20	1.25
Plantation crops	3147	3744	3880	9835	18082	16368	3.13	4.83	4.22
Spices	3150	3878	3895	4001	8124	9216	1.27	2.09	2.37
Others	106			172	105	120			
Total	18445	25431	25492	166939	311714	313851	9.05	12.26	12.31

*3rd Advance Estimates of Horticulture Crops 2018-19-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 25.49 Million Hectare at present. It has registered an increase of 26.2%, as compared to 20.20 Million Hectare in 2007-08. However with a production of about 313.85 Million Tonnes, Horticulture production has witnessed an increase of about 48.58%

during the period 2007-08 to 2018-19 (3rd Advance Estimates). The significant feature is that there has been an improvement of productivity of horticulture crops, which increased by about 17.82% during this period.

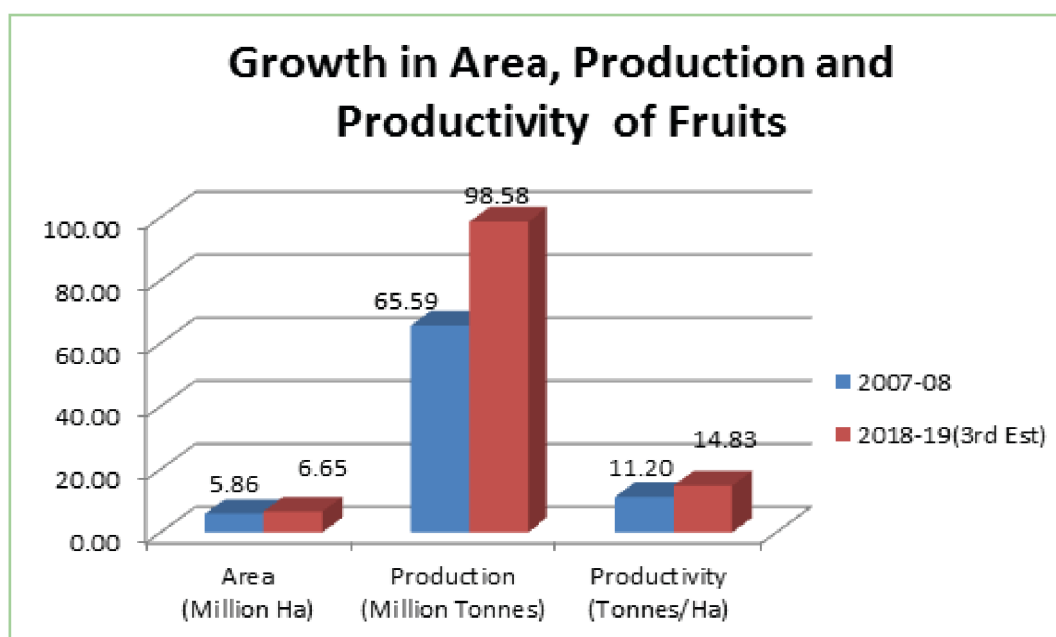
Area, production and productivity of horticulture crops during the past 12 years is given in **Table 4**.

Table 4:-Area, Production and Productivity of Horticulture Crops
(Area : m.Ha, Prod.: m.MT, Pdvty. Tonne/ha)

Year	Area	Production	Productivity
2007-08	20.20	211.23	10.45
2008-09	20.66	214.72	10.39
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	25.43	311.71	12.26
2018-19(3rd Adv. Est)	25.49	313.85	12.31

The area under fruit crops during 2018-19 (3rd Advance Estimate) is 6.65 Million Hectare, with a total production of 98.58 Million Tonnes. During the Period 2007-08 to 2018-19(3rd Adv. Est.), production of fruits increased by about 50%, while the area increased by about 14% [(2007-08 to 2018-19(3rd Adv. Est.)]. Comparative details of area, production and productivity of fruit crops are given in **Figure 1**.

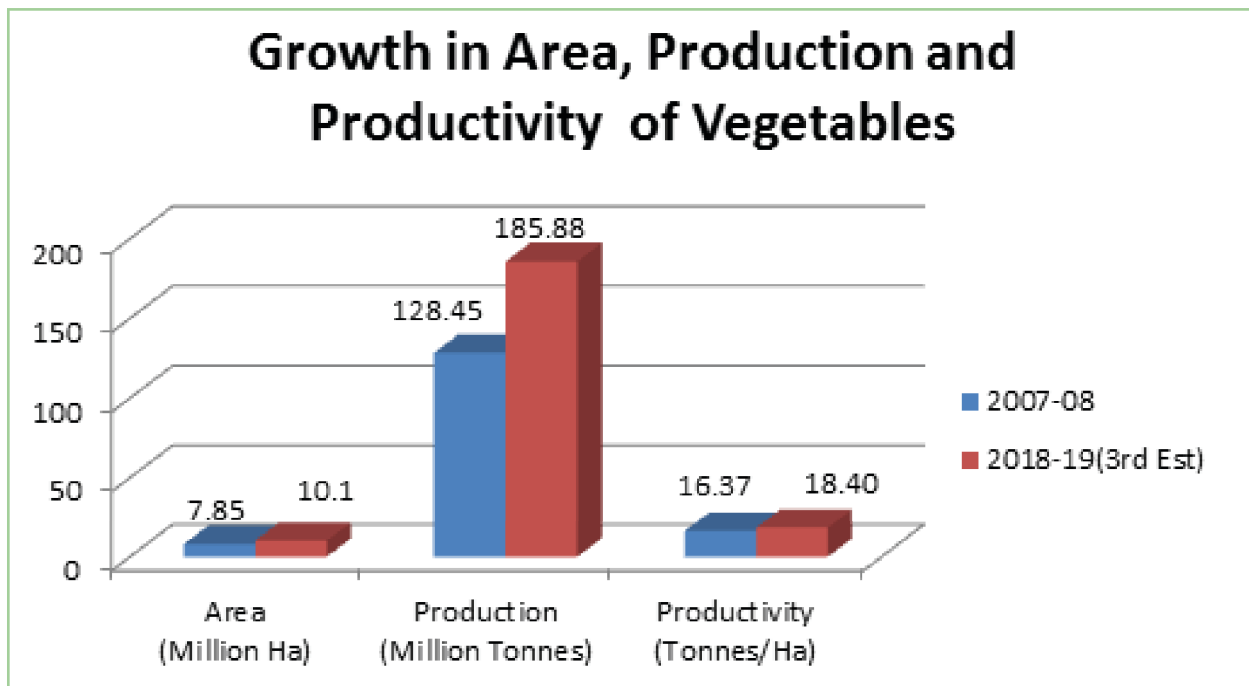
Figure 1: Area, Production & Productivity of Fruits



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, guava, papaya, lemon & lime.

Vegetables are an important crop in the Horticulture sector, occupying an area of 10.1 Million Hectare as on 2018-19 (3rd Advance Estimates) with a total production of 185.88

Million Tonnes with average productivity of 18.4 Tonnes/Hectare. In fact vegetables constitute about 59.2% of Horticulture production. During the period 2007-08 to 2018-19(3rd Advance Estimates), area and production of vegetables increased by 28.7% and 44.7% respectively. The comparative details are depicted in **Figure 2**.



India continued to be the 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 per capita availability of fruits from 158 gm/person/day in 2007-08 to 208 gms/person/day in 2018-19(3rd Advance Estimates). Similarly, per capita availability of vegetables has increased from 309 gm/person/day in 2007-08 to 392

gm/person/day in 2018-19(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 2018-19(3rd Advance Estimates) covered an area of 0.31 Million Hectare with a production of 2.86 Million Tonnes of flowers.

India is the largest producer, consumer and exporter of spices and spice products, the total production of spices during 2018-19(3rd Advance Estimates) was 9.22 Tonnes from an area of 3.89 Million Hectare.

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

A. Physical progress

The summary details of progress achieved so far under HMNEH during 2019-20 are given in **Table 2** below:

Table 2: Progress under HMNEH

S. No.	Components	Unit	Progress during 2019-20 (As on 31st December, 2019)
1	Area Expansion	Ha.	6819
2	Rejuvenation	Ha.	75
3	Protected Cultivation	Ha.	15.30
4	Integrated Pest/Nutrient Management	Ha.	5955
5	Nurseries	No.	2
6	Water Resources	No.	33
7	Beekeeping	No.	2000
8	Horticulture Mechanization	No.	1818
9	Post Harvest Management	No.	
	(i) Pack House		128
	(ii) Cold Storage		0
	(iii) Primary/mobile processing units		0
10	Rural Market	No.	6

B. Financial Progress

During 2018-19, as on 31st March, 2019, funds to the tune of Rs. 382.25 crore have been released to States implementing HMNEH scheme against BE of Rs.530.00 crore (including Rs. 150.00 crores for Prime Minister Development Package-2015 for J&K State). During 2019-20, an amount of Rs. 250.00 crore has been allocated for North Eastern States, against which an amount of Rs. 158.55 crore has been released as on 31st December, 2019.

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 131 projects during the current financial year (as on 31.12.2019) under report involving subsidy of Rs. 2809.48 lakh. The projects include fruit orchards, Hi-Tech horticultural crops of vegetables & flowers in protected cultivation, tissue culture units, mushroom cultivation,

establishment of pack house and grading centres, ripening chamber, reefer 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 21 projects of cold storages/CA storages under report involving subsidy of Rs. 3980.85 lakh for creation of capacity of 181159 MT during the current financial year (as on 31.12.2019).

3) Technology Development and Transfer for Promotion of Horticulture

Under this scheme, NHB has assisted 16 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. 226.28 lakh during the current financial year (as on 31.12.2019).

B. Financial Progress

No fund (as on 31.12.2019) has been released to NHB against BE of Rs 352.00 crores. The expenditure till date of Rs 87.11 cores has been met out from the unspent funds available with NHB.

C. Special Projects:

1) India Garden, Beijing:

The India Garden set up by the National Horticulture Board has been recognised with the Golden Award in the Outdoor Category, International Horticulture Exhibition, 2019, Beijing, organized by the Government of China under the theme

Live Green, Live Better. The Expo was held in Yanqing District of Beijing from April 29 to October 7, 2019. Beijing Expo 2019 was the highest-level A1 category World Horticultural Exposition. The Expo Park covered a total area of 503 hectares and welcomed the greatest number of participating countries with 110 countries and international organizations taking an active part in the Expo. NHB has requested the International Association of Horticultural Producers (AIPH) for membership on behalf of India.

2) Kashmir Saffron Park, Pampore:

Most of the components of the Saffron Park have been completed by the CPWD and the PMC. NHB has returned the balance amount to the J&K Government. The Chief Secretary Jammu and Kashmir has been informed about developments regarding the project and on the need for expeditious operationalization of the infrastructure for commercial development of saffron, a global brand and for enhanced net incomes to saffron farmer, boosting the economy of the area. The Government of Jammu and Kashmir has constituted a body- International Kashmiri Saffron Trade Centre (IHKSTC), Pampore to operationalize the park.

5.4.5 Coconut Development Board (CDB)

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

The crop contributes around Rs.2,50,000 million to the country's GDP and earns export revenue of around Rs.4773.41 million. As per the All India estimate for the year 2017-18, the area and production of coconut in the country is 2.10 million hectares and 23798.00 million nuts, respectively. The four southern states of Kerala, Tamil Nadu, Karnataka, and Andhra Pradesh account for 89.02 percent of the coconut area and 93.05 percent of the coconut production in the country. The productivity of coconut at the national level for 2017-18 is 11,350 nuts per hectare.

- B. Financial Progress:** During the current financial year, funds to the tune of Rs. 106.00 crore (as on 31.12.2019) has been released to CDB for coconut development in the country against a BE of Rs. 212.00 crore.

5.5 Central Institute of Horticulture (CIH), Nagaland

A. Demonstration Of Production Technologies (On and Off farm)

The various demonstration activities carried out in the Institute during the reported year are establishment of rambutan, loquat and longan block, establishment of pineapple var. Kew, Queen on slope area and intercropping with tree spices, demonstration on improved production technology of yardlong bean, french bean, broccoli, cabbage, chinese cabbage, red cabbage, plantation of tuber crops (cassava, sweet potato), integrated model of drumstick, ginger, turmeric and vegetables, performance of high value vegetables under protected cultivation (tomato & coloured capsicum, cherry tomato, cucumber, musk melon), tree spices plantation of cinnamon (var.

Navasree), curry leaf (var. DWD-1), all spice (var-Japanese all spice), nutmeg (var. Viswashree), bay leaf (Local), construction of vermicompost unit; preparation of organic input production units (compost, bio-enhancer & bio pesticides), Establishment of strawberry block including mulching for varietal evaluation.

The off farm demonstration carried out in the farmers field include plantation of Khasi Mandarin at Longleng District, Nagaland in an area of 0.5 ha and plantation of HDP guava at Meriema village, Kohima district, Nagaland in an area of 0.5 ha.

B. Production Of Quality Planting Material

The numbers of rootstock raised at the Institute during the reported period are citrus var. Rangpur lime (12,600), cashew nut local (15,850), mango local (3500), guava local (6500). The numbers of propagated crops are Guava var. L-49, Allahabad Safeda (6725), citrus var. Khasi mandarin & Acid lime (21770) and cashewnut var. V-4, VRI-3, BBSR-1 (7420) and mango var. Langra, Amrapali (1750).

C. Training & Capacity Building

- The Institute has organized 34 farmers trainings which were attended by 1443 farmers and two capacity building programme undergone by 2 officials on Govt. e-Procurement at Krishi Bhawan, New Delhi and mushroom production training at Solan, H.P. .

D. Skill Development, Model Training Course & Certificate Course

- Organized skill development course on Floriculture (Job Role: Floriculturist-Protected Cultivation) from 18th June

2019 to 15th July 2019 with a total of 18 trainees from Manipur.

2. Organized skill development course on Gardening (Job Role: Gardener) from 20th August 2019 to 3rd October 2019 with a total of 20 trainees from Meghalaya.
3. Organized 8 days model training course on Protocol development and value addition of horticulture crops from 17th – 24th July 2019 at CIH, Nagaland.
4. Organized 3 months certificate course on post harvest management of horticulture crops which commenced from 22nd October 2019 with a total of 20 trainees

E. PHM & Agri-Business Promotion

1. Organized awareness programme on “From Farm to Market” on 17th May 2019 at Tuensang, Nagaland with 68 participants
2. Participated as an Exhibitor in International Agriculture & Horti Expo at Pragati Maidan, New Delhi w.e.f. 01-03 August 2019
3. Organized awareness programme on Marketing and Value Addition of Horticulture Crops at Meghalaya on 30th & 31st August 2019 with 51 participants
4. Organized training on Marketing and Value Chain Development for officers at Assam Lingzey, East Sikkim w.e.f. 26-28 September 2019 with 28 participants
5. Organized Buyers & Sellers Meet cum Exhibition at CIH, Nagaland on 8th Nov 2019 with 250 participants.
6. Protocol development for RTS of pineapple, Kiwi, Orange & Carambola.
7. Product development (Candy, Pickles, Squash, Jam of focus horticultural crops)

F. Nursery Accreditation

Completed assessment of 8 horticultural nurseries in Mizoram (Kolasib, Thingdawl, Scrchhip and Lunglei), Nagaland (Pfutsero, Shokhuvi, Sitovi) and Assam (Khatkhati).

G. Workshops, Seminars

Organized workshop cum awareness programme on Impact of Fusarium TR4 in Banana at Police Complex, Chumukedima, Dimapur, Nagaland on 9th Nov 2019 with 118 participants.

5.6 Directorate of Arecanut and Spices Development, Calicut, Kerala

The Directorate of Arecanut 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 development programmes implemented by the states in spices under MIDH.

5.6.1 The mandate of the Directorate is as follows:

- Assessment of the developmental needs of the crops entrusted to it.
- Formulation of Central Sector / Centrally Sponsored Schemes and implementation of the same either directly or through the State Governments, Agricultural Universities etc.
- Monitoring the implementation of Central Sector / Centrally Sponsored Schemes and coordinating development activities.
- Rendering technical assistance to State Governments and other agencies on commodity development programmes.

- 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.
- Keeping liaison with research institutes and extension agencies and acting as a two-way channel in the transfer of technology.
- Undertaking publicity and propaganda works related to these commodities.
- Assisting the Central and State Governments on all matters relating to the development of these commodities.

5.6.2 Schemes implemented by the Directorate

(i) Planting material production programme:-

The NHM/MIDH programmes on spices is implemented in different States such as area expansion, replanting/rejuvenation etc. and requires a sizeable quantity of quality planting material 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 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 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 material produced is made available for further multiplication and distribution to farmers. Establishment of nursery infrastructure facilities and upgradation of existing facilities are also done under this programme. To regulate the quality of planting material produced in public and private nurseries, the directorate is undertaking nursery accreditation programme.

(ii) 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 percent assistance is provided for promotion of different technologies like organic farming, micro irrigation of spices, varietal demonstrations etc.

(iii) 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 large scale adoption at farmers fields.

(iv) 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. These 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. Skill trainings and evaluation of trainees are done as per the guidelines provided in ASCI National Occupational Standards.

(v) **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 farmers are given required training in employing these technologies. In order to popularize high yielding varieties and scientific technologies available from research institutes among the extension workers of the State Departments and the 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 Rs. /training are implemented by the Directorate as per the cost norms provided in the operational guidelines of the MIDH.

(vi) **Collection and Compilation of data related to mandated 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 has 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.

(vii) **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.

5.6.3 Major Achievements of DASD during 2019-20

During the year 2019-20, the Directorate had an outlay of Rs. 11 crores for development and promotion of spices, arecanut, aromatic crops and betelvine. Following are the major activities of the Directorate in 2019-20:

- **Planting material production Programme;-**

The Directorate is 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. 5.70 crores were implemented during the year. More than 810 tonnes of seeds/ rhizomes and 25 Lakhs of seedlings of various spices were produced and distributed under this programme.

- **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 50 nurseries are recognised under DASD accreditation programme till date.

- **Upgradation of spice nurseries**

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

- **Establishment of nursery infrastructure**

Nursery infrastructure facilities for spices are established at 5 different SAUs under this programme, during 2019-20. Five large cardamom nurseries were also established under state department farms in Sikkim state for ensuring availability of quality disease free planting material to farmers.

- **Skill development trainings**

Skill based certificate trainings on selected agri -based job roles are being provided to unemployed rural youth. About 500 youth were trained and certified under this programme during the last two years (2018-19 & 2019-20)

- **Innovative programmes**

- o 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 the Indian Institute of Spices Research to promote disease free seed material in these crops.
- o Participatory mode rehabilitation

programme for pepper gardens was implemented in Kuttayattur panchayat of Kannur district in Kerala. This programme has resulted in significant increase in productivity and litre weight of pepper in the project area.

- o A project on varietal authenticity and purity identification in black pepper is completed at IISR, Calicut and a foolproof varietal authentication method using morphological, chemical and molecular markers has been developed.

- **Seminar/farmers training programmes**

One national level Seminar, three state level seminars, 12 district level seminars and 110 farmers training programmes were conducted by the Directorate during the year. Around 10,000 farmers were given training on different aspects of cultivation, management, post harvest management and processing of spice crops.

- **Frontline demonstrations**

- o Demonstration on pesticide free cumin production through popularization of Good Agricultural Practices (bio-agents and botanicals for plant health management) has been established in Barmer and Nagaur Districts (25 ha each) of Rajasthan.
- o Demonstration on organic turmeric production and value addition is implemented in Bilaspur district of Chhattisgarh (in 25 ha area) to improve livelihood of tribals in the area.
- o Demonstration of bio intensive management of black pepper adopting organic cultivation practices (in 25 ha area) for creating targeted production hubs is implemented in Wayanad district of Kerala.

- o To popularize Arecanut 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.
- o 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 are also established in different locations through farmer participatory approach
Hi-tech, high density bush pepper (Colubrinum grafted) cultivation for improved productivity and income is demonstrated at five different locations in Goa.
- **Collection and compilation of data related to spices**
 - o Estimates on area and production of various spice crops and arecanut were collected from all the State Depts concerned and compiled to arrive at estimates at the National level. The same has been disseminated to different National/State level agencies engaged in research and planning.
 - o Conducted a quick survey of garlic growing areas of Madhya Pradesh (Dhar and Ujjain Districts) to analyse the discrepancies noticed in reporting area, production and productivity. The information was collected from farmers who attended the focus group discussions (FGD) arranged in these villages, through an interview schedule and the survey findings were submitted to the Ministry of Statistics and Programme Implementation.
 - o Conducted quick surveys in the major pepper growing States like Kerala, Karnataka and Tamil Nadu to find out the likely production of black pepper during the ensuing crop season 2019-20.
- **Publicity activities**
 - o Participated in national/state level exhibitions/programmes in connection with development of spices across the country.
 - o The Directorate published a quarterly journal 'Indian Journal of Arecanut Spices and Medicinal Plants' for dissemination of information on various technologies related to arecanut, spices and medicinal plants.
 - o Publications in English/Hindi and vernacular languages have been released for development of spices.

Photographs on DASD activities 2019-20



Fig 1. Field visit and data collection conducted at Sirsi, Karnataka as a part of pepper survey 2019-20



Fig 2. DASD accreditation team evaluating ZAHRS Mudigere nursery at Karnataka



Fig 3. Accreditation awareness programme conducted at Siddapura, Karnataka

5.7 Directorate of Cashewnut and Cocoa Development, Kochi

The Directorate of Cashewnut and Cocoa Development functioning at Cochin is the 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 will also act as a nodal agency

for accreditation of existing cashew/cocoa nurseries and issue recognition. The formation of this Directorate was a breakthrough in the holistic development of these two versatile horticulture crops.

5.7.1 Brief about the scheme with objectives

- **New plantation development:**

The main objectives of the programme are 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. The 3rd year maintenance of the cashew/cocoa

plantations established during 2017-18 is undertaken during the current financial year.

- **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 subject to survival rate of 75% in the 2nd year and 90% in the 3rd year. The 3rd year maintenance of cashew plantations replanted during 2017-18 is being undertaken during the current financial year.

- **Cashew productivity improvement programme through High Density Planting**

The objective of the programme is to improve the production and productivity of cashew in a unit area by high density planting technique. Financial assistance @ Rs. 40,000 per ha 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. The 3rd year maintenance of cashew high density plantations established during 2017-18 is being 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 issue

certificates of accreditation. This accreditation ensures the quality of planting materials of cashew and cocoa produced by nurseries in the private and public sectors.

- **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 state level seminars, District level seminars, fairs on cashew and cocoa in various states and also national conferences.

- **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 or un-employed women on cashew and cocoa farming and processing by organizing farmers training, exposure visits, cashew apple utilization training and skill development programmes.

5.7.2 The Salient achievements under the scheme during 2019-20 are as follows:

- Plantation maintenance activities in an area of 1425 ha under cashew and 718 ha under cocoa were established during 2017-18 under new plantation programme and is completed in the states of Andhra Pradesh, Karnataka, Kerala and Tamil Nadu.
- Under the replanting programme, maintenance works have been

undertaken in the plantations replanted in the year 2017-18 with high yielding varieties in an area of 985 ha in the states of Odisha, Karnataka and Tamil Nadu.

- The Directorate has established 64 ha of high density cashew plantations with 400 cashew grafts per ha with a spacing of 5 m x 5 m in Gadag district of Karnataka with the guidance of K.H Pattil Krishi Vigyan Kendra, Hulkoti. The 3rd year maintenance works of these plantations has been completed in the current monsoon season.
- 40 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.

- As part of publicity and crop promotion activities, one National level seminar, 5 state level seminars, 20 field days and 30 district level seminars on cashew and cocoa will be organized in various states in association with State Agricultural Universities, KVKs, Corporations and ICAR institutes.
- Under the HRD programme, 3 National level trainings, 20 farmers training, 5 exposure visits and 20 cashew apple utilization trainings will be conducted in association with SAUs and ICAR institutes.
- An exclusive Android application for cashew cultivation has been developed by the Directorate in association with the Directorate of Cashew Research, Puttur. The App will be available in 10 languages and it would be speed up the process of dissemination of information from research institutes to farmers.

Chapter 6

National Food Security Mission (NFSM)

Overview

6.1 The 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 a new objective to enhance post-harvest value addition at farm gate for better price realization to farmers through efficient market linkages.

6.2 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), distribution of HYV seeds, production of seeds, distribution of micro-nutrients/soilameliorants/integrated nutrient management/integrated pest management, improved resource management tools/ machineries /implements, efficient water application devices along with capacity

building of farmers and local initiatives; award for best performing districts etc.

6.3 Beyond the 12th Plan, NFSM is being implemented in identified districts of 29 states of the country. **NFSM-Rice** is implemented in 194 districts of 25 states, **NFSM-Wheat** in 126 districts of 11 states, **NFSM- Pulses** in 638 districts of all 29 States, **NFSM-Coarse Cereals** in 269 districts of 27 states except Goa and Kerala.

From the year 2018-19, **NFSM-Nutri-Cereals** is being implemented in 202 districts of 14 states (jowar in 88 districts of 10 states, bajra in 88 districts of 9 states, ragi in 44 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 27 states and barley in 39 districts of 4 states of the country. The North Eastern States, Himachal Pradesh, UT of Jammu & Kashmir have been given flexibility to implement the programme on nutri-cereals.

6.4 Monitoring & Evaluation at the National level: A three-tier monitoring mechanism was inbuilt in NFSM at the National, State and District levels. At the 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. The National Food Security Mission- Executive Committee (NFSMEC) under the chairmanship of Secretary (AC & FW) periodically reviews the State Action Plans and the progress of the programme

of each state. National Level Monitoring Teams (NLMTs) have been 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 the Ministry of Agriculture and Farmers' Welfare as Coordinator. Altogether, there are eight (8) National Level Monitoring Teams (NLMTs).

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

6.6 The Mid-Term Evaluation and the Impact Evaluation study of NFSM for the 11th Plan and the 12th plan were conducted by independent agencies to assess the impact of the programme in increasing the production and productivity of foodgrain crops. The finding of the impact evaluation for the XII Plan under NFSM is as under;

- The Impact Evaluation Study Team strongly recommended for continuation of NFSM, as it has the potential of achieving the set goals of increased food production and benefitting the farming community with higher yields and income.
- A separate sub-mission for millets may be constituted in view of reduction in area and growing awareness of the nutritional benefit of millets.
- Ensure Project Management Teams (PMTs) are in place for desired results and impacts (Majority NFSM districts have not engaged). It is recommended

that for proper monitoring of the scheme and to enable transfer of technology to farmers, provision of consultants and technical assistants at state and district levels may be provided in PMT. If needed, qualification and experience should also be relaxed as per rules. Also a provision for accountant and computer operator must be provided in PMT in view of implementation of DBT.

- Enhance research support for dove tailing farmer's needs-crop(s)/location specific as also there is need to enhance FLDs funding by at least Rs.1000 per ha.
- Funding for plant protection chemicals, bio-pesticides and weedicides need enhancement upto Rs. 1000 per ha due to increase in prices. This can also be addressed in local initiatives
- Encourage post-harvest, value addition at farm/rural level to reduce post harvest losses and improve rural economy and employment by organizing farmers into FIGs, CIGs, FPOs and Farmer Federations.
- Use of micronutrients and lime should be promoted in accordance with the soil health card being provided to farmers.

6.7 Funding pattern: The programme is being implemented on 60:40 sharing basis between GoI and general states and 90:10 sharing basis for North Eastern States and 3 Himalayan States from 2015-16.

6.8 Interventions achievement during 2018-19: Recommended agronomic practices have been encouraged through various demonstrations of rice, wheat, pulses & nutri-cum-coarse cereals in 16.13 lakh ha area. Nearly, 9.24 lakh quintals of high yielding varieties/hybrids rice, wheat, pulses and nutri-cum-coarse cereals have been distributed. 14.06 lakh ha area has been

treated with soil ameliorants (micronutrients/ gypsum/lime/bio-fertilizers) and 20.57 lakh ha area has been covered under Integrated Pest Management (IPM). Nearly 3.78 lakh improved farm machineries including pumpset & mobile ranguns have been distributed. 0.32 lakh ha area has been covered under sprinkler system, 191.72 lakh metres water carrying pipes have been distributed. About 11436 cropping system based trainings were conducted for capacity building of farmers.

6.9 Special Focus on Pulses:

(a) Special Action Plan for low productivity districts of pulses: From 2019-20, a Special Action Plan for increasing pulses productivity has so far been implemented in 195 low productivity districts in 12 states out of 366 districts of 28 states of the country namely Assam, Bihar, Chhattisgarh, Jharkhand, Karnataka, Meghalaya, Nagaland, Odisha, Rajasthan, Tamil Nadu, Telangana and West Bengal. Targets are allocated as per request of state government for intervention suited to them for increasing pulses productivity in those low productivity districts, an outlay of Rs. 210.47 crore have been allocated for the year 2019-20 for implementation of the special action plan comprising of Rs. 139.88 crore central share and Rs. 7.05 crore as state share.

(b) Intercropping of Pulses with Sugarcane:

From the year 2018-19, a new programme has been initiated under NFSM which is continued during 2019-20 with the objective

of increasing pulses production in the country i.e., National Food Security Mission (NFSM) - Intercropping of Pulses with Sugarcane in 12 States. The total allocation during 2019-20 is Rs. 2.28 crore comprising Rs. 2.28 crore as central share and Rs. 1.49 crore as state share and 2 Central Agencies involved in training namely IISR, Lucknow, and DoSD, Lucknow with the allocation of Rs. 10.00 lakh (100% assistance).

(c) Targeting Rice Fallow Areas (TRFA):

TRFA is a flagship programme which was initiated during 2016-17 in 15 districts of 6 states namely, Assam, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal. During the year 2018-19, the programme was implemented in 50 districts of 5000 villages with a target area of 18.65 lakh ha comprising 14.80 lakh ha under pulses and 3.85 lakh ha under oilseeds. Assistance is being provided for demonstrations, seed distribution, INM & IPM components, farm tools/implements and training to farmers etc. As per the progress received from TRFA implementing states during 2018-19, an additional production of 3.35 lakh tonnes of pulses and 0.99 lakh tonnes of oilseeds has been reported.

In addition to 6 TRFA implementing states in eastern India, from the year 2019-20, the TRFA programme was extended to 5 new states namely Gujarat, Maharashtra, Madhya Pradesh, Karnataka and Tamil Nadu. Under 11 TRFA implementing states an area of 14.84 lakh ha was targeted under pulses. Allocation of TRFA for 2019-20 is Rs. 359.61 crore comprising Rs. 226.41 crore as central share and Rs. 133.19 crore as state share.



6.10 Production of foodgrain:

The production of foodgrain has increased substantially during XI Plan and XII Plan, the production during 2017-18 and 2018-19 is as under;

(Million Tonnes)

Crop	2017-18	2018-19*
Rice	112.76	116.42
Wheat	99.87	102.19
Pulses	25.42	23.40
Nutri-cum- Coarse Cereals	46.97	42.95
Total	285.01	284.95

*4th advance estimates, DES

6.11 New Initiatives for Pulses: Increase in number of districts from 468 of 16 States in the year 2012-13 to 638 districts of 29 states of the country in 2016-17 under the revamped NFSM-Pulses.

- Increase in incentive to Central and State seed producing agencies for certified seed production from Rs. 25/- per kg to Rs. 50/- per kg;
- Increase in assistance for distribution of certified seeds of pulses to the

farmers i.e. from Rs. 25/- per kg. to Rs. 50/- per kg;

- Increase in the cost norms of cluster demonstrations and cropping system based demonstrations from Rs. 7500/- to Rs. 9000/- per ha and from Rs. 12500 to Rs. 15000/- per ha respectively;
- Increase in Minimum Support Price (MSP) of tur (arhar) from Rs. 5675/- per quintal to Rs. 5800/- per quintal, moong from Rs. 6975/- per quintal to Rs. 7050/- per quintal, urad from 5600/- per quintal to Rs. 5700/- per quintal during Kharif 2019-20. Similarly, increase of MSP of gram from Rs. 4620/- per quintal to Rs. 4875/- per quintal, lentil (masur) from Rs. 4475/- per quintal to Rs. 4800/- per quintal for Rabi, 2019-20.
- Organising Frontline Demonstrations at farmers' fields by Indian Council of Agricultural Research (ICAR) Institutes, State Agricultural Universities (SAUs).
- Distribution of seed minikits of pulses free of cost for popularization of newer varieties amongst farmers.

- Creation of 150 seed hubs at ICAR institutes, SAUs and KVKs to ensure availability of seeds of pulses;
- Increase in additional breeder seed production of pulses through twelve centres of ICAR and SAUs;

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

- ✦ Creation of 16 breeder seed production centres of nutri-cereals in SAUs and ICAR.
- ✦ Creation of 25 centres of seed hubs in SAUs/KVKs/ICAR.
- ✦ Incentive for certified seed production of nutri-cereals.
- ✦ Distribution of seed minikits.
- ✦ Strengthening/creation of Centers of Excellence.
- ✦ Publicity of nutri-cereals through electronic, print media and road shows etc.
- ✦ Inclusion of nutri-cereal products in various social sector schemes.
- ✦ 2018 declared as “National Year of Millets” and FAO has considered the proposal for declaring 2023 as the “International Year of Millets”.
- ✦ Organized workshops at National, State and District levels.

6.13 Zaid/ Summer Campaign:

Apart from regular conferences on Kharif and Rabi seasons, for the first time the Government has organized a National

Conference on Agriculture for Zaid/ Summer Campaign-2019 at Pusa New Delhi on 24.01.2019 with the objective to focus on potential crops grown in zaid/summer season across the country and to ensure availability of critical inputs to the farming community during zaid/summer season for increasing foodgrains production and enhancing the farm economy.

6.14 Bringing Green Revolution to Eastern India (BGREI)

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. 375.00 crore as central share has been earmarked for implementation of the programme during 2019-20.

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 2018-19, demonstrations on rice were conducted in 1.69 lakh ha area under

line transplanting, SRI, stress tolerant varieties, hybrid rice and cropping system based demonstrations. Similarly, 0.29 lakh ha area was covered under wheat demonstration. Under asset building component, 2587 bore wells were installed, 88 self propelled paddy transplanters, 8692 pump sets, 3100 conoweeders, 4214 manual sprayers, 263 power knapsack sprayers, 887 paddy threshers, 830 multi crop threshers, 1937 rotavators, 1417 power tillers and 5.27 lakh meter of water

carrying pipes were distributed. For site-specific activities, 79 check dams, 2 minor irrigation tanks, and 257 water harvesting structures were constructed. For post harvest & marketing support, one marketing shed (100 % assistance), 26 godowns, 1367 improved low cost paddy and grain storage were constructed and 1373 farm family level paddy processing units were distributed among farmers.

Chapter 7

National Food Security Mission (Oilseeds & Oilpalm) – NFSM (OS&OP)

7.1 Overview

Oilseed cultivation is undertaken across the country in about 26.00 Million ha, largely under rainfed areas covering 72% of marginal land and producing around 30.00 million tonnes of oilseeds. Nine oilseeds are the major source of vegetable oil in the country. Among nine major oilseeds soybean (39%), groundnut (26%) and rapeseed & mustard (24%), contribute to more than 88% of total oilseeds production in the country. However, in terms of vegetable oil production mustard, soybean and groundnut contribute 31%, 26% and 25% respectively.

The highest ever production of oilseeds was achieved during 2013-14 which declined during the subsequent 2 years due to deficient and erratic rainfall (**Table-2**).

However, inspite of the reduction in area coverage of about 2-3 million ha from 2013-14 to 2017-18, oilseeds production of 31.46 million tonnes was achieved during the latter and was largely driven by productivity increase. During 2017-18, area under oilseed crops decreased by more than 1.60 million ha over 2016-17. However, production was maintained at 31.46 million tonnes with an increased productivity of 1284 kg/ha. During 2018-19, production further increased to 32.26 million tonnes from an area of 25.50 million ha yielding 1265 kg per ha (**Table-1**).

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

Table-1 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	24.64	31.30	1270
2018-19	25.49	32.25	1265
2019-20 (Kharif)*	17.83	22.38	1255

* 1st advance estimate

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 the 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 (12%). Import growth in respect of edible oils during the last decades is about 174%. The import figure of edible oils during 2018-19 reveals that India imported

a total of 15.57 million tonnes of vegetable oils costing Rs. 69023 crore. The per capita consumption which was 19.30 kg per person per annum increased to 19.50 kg per person per annum in 2018-19 (Table-2)

Table-2 Demand and Supply of Vegetable Oils in India

Million tonne

Year	Total domestic demand	Domestic availability	Import	Import (%) of total domestic demand	Value of import (Rs Cr)	Per capita availability (kg/yr)
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						
(Nov-Oct)	25.92	10.35	15.57	60.00	69023	19.50

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

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

On-going Scheme

7.2 National Food Security Mission (Oilseeds & Oil Palm) – NFSM (OS&OP)

With effect from 2018-19, the NMOOP scheme has been merged with the National Food Security Mission (NFSM) and is being implemented as NFSM (OS&OP). This scheme comprises of three sub-missions namely, NFSM-Oilseeds, NFSM-Oil Palm and NFSM-TBOs. The scheme is being implemented through the State Departments

of Agriculture/ Horticulture in 25 States. Assistance under the various interventions of the scheme is focussed to benefit farmers and has a direct impact on increasing the income of farmers 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 objectives of the scheme during 2019-20 are:

- To augment the availability of vegetable oils and to reduce the import of edible oils by increasing the production and productivity of oilseeds from an average production of 29.79 million tonnes and productivity of 1122 kg/ha during the 12th plan period to 36.10 million tonnes and 1290 kg/ha, respectively by the end of 2019-20.

- ii. An area of 17110 ha will be covered under oil palm during 2019-20
- iii. An area of 2115 ha will be covered under TBOs namely olive, mahua, kokum, wild apricot, neem, jojoba, karanja, simaroba and tung during 2019-20.

7.3 Oilseeds and Oil production target 2022:

Considering the growing domestic demand for edible oils, the staggering deficiency and the cost to the exchequer on account of imports, the urgency of scaling up oilseeds

production does not need over-emphasis. It has now been planned to achieve a production of 45.64 million tonnes (mts) from nine (9) annual oilseed crops by 2022-23, expecting an additional production of about 15.58 mt over and above the 30.06 mt production (QE 2016-17) (**Table 5**). Thus, the availability of total vegetable oil from domestic production of nine annual oilseed crops would be about 13.69 mts by 2022 (at 30 per cent recovery) as against the current annual output of 7.0 mts (**Table-3**)

Table-3 Status and anticipated area, production and yield of oilseed crops in India

Crop	Quinquennium ending 2016-17			Year 2022			Oil production in million tonnes
	Area (m. ha)	Production (m. tons)	Yield (tons/ha)	Area (m. ha)	Production (m. tons)	Yield (tons/ha)	
Soybean	11.38	11.94	1.05	12.50	18.75	1.50	5.60
Groundnut	4.99	7.39	1.47	5.72	9.72	1.70	2.90
R & M	6.19	7.39	1.19	7.47	11.95	1.60	3.70
Sunflower	0.59	0.44	0.75	0.97	0.87	0.90	0.25
Safflower	0.16	0.08	0.53	0.27	0.22	0.80	0.06
Sesame	1.75	0.77	0.41	1.97	1.18	0.60	0.35
Niger	0.26	0.08	0.32	0.32	0.16	0.50	0.04
Castor	1.06	1.80	1.70	1.40	2.45	1.75	0.70
Linseed	0.28	0.14	0.49	0.57	0.34	0.60	0.10
Total	26.67	30.06	1.13	31.20	45.64	1.46	13.69

Vegetable oil availability from secondary sources such as coconut, cotton seed, rice bran, solvent extracted oil (SEO) and tree & forest origin has been estimated at 5.22 million tonnes by 2022. As a sequel, the

anticipated vegetable oil availability (primary + secondary + oil palm) would be around 17.03 million tonnes indicating a possible reduction in imports to the tune of about 15 per cent from the present 67 per cent by 2022.

This would be an impressive achievement of reduction in the import burden vis-à-vis the present status of import.

7.4 Strategies of oilseeds production

Strategies for enhancing the productivity (and profitability) of oilseed based production systems are prepared for oilseeds and for 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/handholding. The proposed strategies are categorized under three situations 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.

Newer opportunities to explore non-traditional seasons and regions for crops are also projected that have proven a success for area expansion and integration into the major cropping systems.



7.5 Annual Action Plan of NFSM (OS&OP) during 2019-20:

NFSM (OS&OP) programme has been implemented in 28 states comprising of NFSM-Oilseeds in 26 states, NFSM-Oilpalm in 12 states and NFSM-TBOs (Tree Borne Oilseeds) in 10 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.400 crore.

The sub mission wise salient features are given below:

7.5.1 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 Departments of Agriculture. NFSM-Oilseeds is also supporting ICAR institutes for undertaking FLDs on oilseed

crops and ICAR-KVKs for organizing cluster demonstration on oilseeds.

Major interventions targeted under the oilseeds programme during the year 2019-20 are as follows:

- Approx. 2.68 lakh qtls of seed production of oilseed crops
- More than 15.00 lakh qtls of certified seed distribution
- 1.66 lakh ha block demonstrations
- 0.45 lakh ha Front Line Demonstration (FLD) & Cluster FLDs through ICAR and KVKs
- 2155 farmers & officers' training
- Supply of soil ameliorants over an area of 3.18 lakh ha.
- Supply of PP chemicals/ Bio-pesticides/ weedicides/ micronutrient over an area of 2.13 lakh ha
- Distribution of 2.80 lakh farm implements / equipments
- Distribution of 3630 sprinklers and 55.37 lakh mt water carrying pipes
- 35 oilseed hubs have been established with a target of producing 60000 qtls of certified seeds through ICAR, SAUs and KVKs



Year and Season wise oilseeds production target and achievement during 2014-15 to 2018-19						
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	21.25	10.25	32.26*
2019-20	25.84	10.26	36.10	22.39**	-	-

* 4th Advance estimate, DES

** 1st Advance estimate, DES

7.5.1.1 Seed production, Minikits and FLDs during 2019-20

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. NSC, KRIBHCO, HIL (include NFL), NAFED and IFFDC for procurement of breeder seed (B/S), production of foundation seed (F/S), production of certified seed (C/S), supply of seed minikits (Kharif/Rabi TFRA/Summer) for Aspirational Districts & TRFA during 2018-19. In addition, support is also provided for conduct of Front Line Demonstrations (FLDs) through ICAR/SAUs network. During Kharif and Rabi 2019-20; a total of 4,54,490.43 of estimated seeds (B/S,F/S,C/S) and seed minikits of 8 oilseeds crops totalling 21,24,600 nos. were distributed 20,08,991 nos.

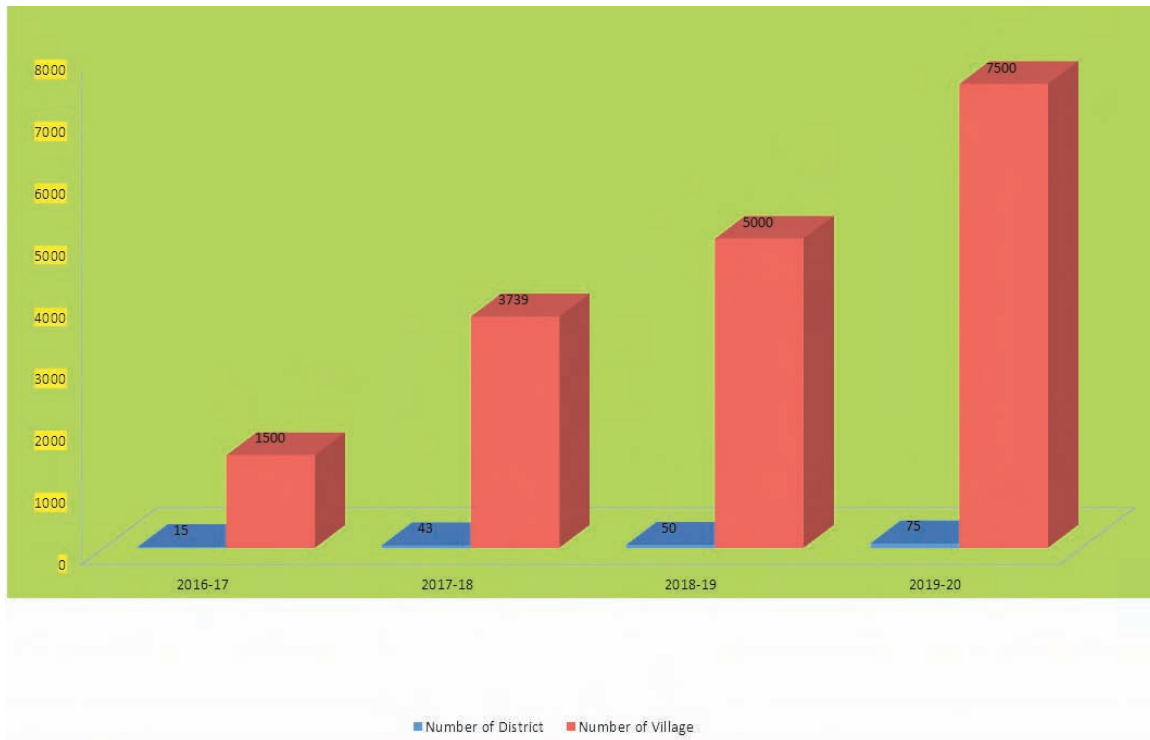
During 2018-19, 7610 FLDs on improved varieties and agro-techniques of six oilseeds crop (groundnut, soybean, castor, niger, sesame and sunflower), 5990 FLDs & 31315 CFLDs on nine oilseeds crops (groundnut, soybean, rapeseed-mustard, linseed, sesame, safflower, sunflower, niger and castor) during Kharif and Rabi/Summer 2019-

20 respectively were conducted through ICAR-AICRP network. During Kharif/ Rabi/ Summer 2019-20 a total of 60500 cluster FLDs have been planned through 545 KVKs of ICAR in different states covering groundnut, soybean, rapeseed-mustard, sunflower, safflower, linseed, sesame, niger and castor.

7.5.1.2 Targeting Rice Fallow Areas (TRFA) in six Eastern states

A new scheme namely TRFA was launched in 15 districts of 6 Eastern states in Rabi, 2016-17 for utilization of rice fallows for cultivation of pulses and oilseeds. A project to cover 4.5 million ha area @ 1.5 million ha area every year for 3 years i.e. 2017-18 to 2019-20 is being undertaken. Targeting Rice Fallow Areas was implemented in six Eastern states namely Assam, Bihar, Chhattisgarh, Jharkhand, Odisha and West Bengal from 2016-17 to 2018-19. During 2019-20, 4 new states namely Andhra Pradesh, Maharashtra, Karnataka & Tamil Nadu have been include under TRFA covering 75 districts and 7500 villages in these ten states with a production target of 3.50 lakh tonnes of oilseeds.

No. of Districts and Villages under TRFA in six Eastern States



7.5.1.3 Alternate crop plan to combat wheat blast:

The Action Plan for alternate crops to replace wheat by oilseed crops a project of 'Alternate crop plan to combat wheat blast' has been approved for West Bengal state during 2018-19 in 8 districts of West Bengal to replace wheat by oilseed over an area of 0.90 lakh ha. Action Plan under NFSM Oilseeds for an amount of Rs. 904.00 lakh comprising Central Share of Rs. 542.40 lakh and State Share of Rs. 361.60 lakh has been approved during year 2019-20.

7.5.2 NFSM-(Oil Palm)

i. National Food Security Mission–Oil Palm (NFSM-OP) is dedicated to oil palm area expansion and productivity enhancement. During 2019-20, NFSM-OP is being implemented in 10 states. Andhra Pradesh, Karnataka, Tamil Nadu, Orissa and Mizoram are major oil palm growing states.

- ii. Under NFSM-Oilpalm, financial assistance is being provided to farmers @ 85% cost of the planting material and @ 50% cost of other components like 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 purchase of machinery & tools etc.
- iii. 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 (old)
 - ✦ Dissemination of oil palm production technology in vernacular languages through digital video films (old)

- ✦ Design & development of oil palm crop doctor in vernacular language for dissemination of technology (old)
 - ✦ Optimization of procedure for sprout production and seed storage in oil palm for indigenous seed gardens
 - ✦ Development of planting materials for high oil yield by utilizing Elite Dura Mother Palms in Thodupuzha.
 - ✦ Enhancing profitability of oil palm farmers through diagnostic advisory in Nutrient Management
- iv. Major interventions of NFSM-Oil palm during 2019-20 are as follow:
- ✦ Additional area coverage of oil palm plantation of 17110 ha.
 - ✦ About 76814 ha area under maintenance and intercropping.
- ✦ Coverage of 5770 ha under drip irrigation
 - ✦ Distribution of 301 pump sets & 203 bore wells.
 - ✦ Farmers and officers training to 363 nos.
- v. All these developmental efforts have resulted in area expansion under oil palm from 8585 ha in 1991-92 to 3.45 lakh ha by the end of March 2019. Similarly, Fresh Fruit Bunches (FFBs) production and Crude Palm Oil (CPO) have increased from 21,233 MT and 1,134 MT respectively (1992-93) to 16.25 lakh and 2.70 lakh MT respectively during the year 2018-19. At present, Andhra Pradesh, Karnataka, Tamil Nadu, Mizoram and Odisha are major oil palm growing states.

NFSM-Oil Palm



7.5.3 NFSM-Tree Borne Oilseeds (TBOs)

- i. Assistance under NFSM-TBOs is provided to promote various TBOs namely simarouba, neem, jojoba, karanja, mahua, wild apricot, cheura, kokum, tung and olive having a capacity to grow and establish in varied agro-climatic conditions as well in the waste land of the country.
- ii. Interventions under NFSM-TBOs are integrated development of nurseries & plantation on wasteland, maintenance of TBO plantations, 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.
- iii. During 2019, NFSM-TBOs programme is being implemented in 10 (ten) states & UTs i.e Arunachal Pradesh, Chhattisgarh, UT of Jammu & Kashmir, UT of Ladakh, Madhya Pradesh, Maharashtra, Meghalaya, Mizoram, Rajasthan, Tamil Nadu, Tripura, Uttar Pradesh and West Bengal with plantation of TBOs in 3800 ha

7.6 Budgetary Estimate (BE) and release 2019-20:

During 2019-20, against the Budgetary Allocation of Rs.400.00.crore an amount of Rs. 230.89 crore has been released to the programme implementing states, Central agencies and R&D institutions as on 05.12.2019. The programme-wise allocation and release is given below:

(Rs. in crore)

NFSM (OS&OP)	Budget Estimation (BE)	Allocation (2019-20)	Release of fund as on 5.12.2019
A. States	280.00	332.91	171.84
i. NFSM-Oilseeds		265.30	142.40
ii. NFSM-Oilpalm		63.35	27.58
iii. NFSM-TBOs		4.26	1.86
B. Central agencies/ R&D institutions/TSG	120.00	120.00	74.54
Total	400.00	452.91	246.38

7.7 Implementation of Direct Benefit Transfer (DBT) – an initiative under NMOOP:

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

linked beneficiary details in the main NFSM DBT Portal. As on 18.12.2019, 39303 no. of beneficiaries are enrolled in the DBT Portal.

7.8 Fund flow (%) under SCSP and TSP:

The release of funds 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 funds to the states, mention of category-wise (SC/ST) break-up of amount that is to be utilized by the state is made.

7.9 Women beneficiaries:

While conveying the Budgetary allocation for Annual Action Plan to the States, 30% of allocation is earmarked for women beneficiaries/farmers at the level of state

Government implementing the NMOOP programme.

7.10 Extension Activities

The department is also organising Kisan Mela, seminars, workshops, Brain storming sessions, exhibitions for mass awareness of NMOOP programme and activities among the stakeholders including farmers. The details of events during 2017-18 to 2018-19, are as follows:

S N.	Event	Venue	Date
1.	National Seminar	Hyderabad (AP)	28-29 April, 2018
2.	Soyabean Kisan Mela	Betul, Jabalpur (MP)	20.09.2018
3.	Farmer Fairs-cum Exhibition on Groundnut	Junagarh (Gujarat)	01.10.2018
4.	Mustard Kisan Mela	ICAR-DRMR, Bharatpur, Rajasthan	02-02.2019

Chapter 8

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

8.1 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 the Missions/Programmes /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 is envisaged as one of the eight Missions outlined under the National Action Plan on Climate Change (NAPCC) which 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-Krishonnati

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)

8.2 Rainfed Farming System

Food grain production in the country accrues from approximately 140.13 million hectare of cultivated land. Of this, 68.38 million hectare is irrigated and the remaining area of about 71.74 million hectare is under rainfed conditions. Rainfed agriculture is complex, diverse, 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 the farm level, 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).

8.2.1 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), which is operational from 2015-16 in the country. PDMC (Per Drop More Crop) mainly focuses on water use efficiency at the farm level through precision/ micro irrigation. Besides promoting precision irrigation (Drip and Sprinkler Irrigation System) and better on-farm water management practices to optimize the use of available water resources, this component also supports micro level water storage or water conservation/ management activities as Other Interventions (OI) to supplement source creation through micro level water storage or water conservation/ management activities to complement and supplement drought proofing measures.

During 2019-20, an area of 5.60 lakh ha has been brought under Micro Irrigation (MI) till 19.12.2019 and the total area covered under PMKSY-PDMC since inception is 38.11 lakh ha. As on 19.12.2019, an

amount of Rs. 1426.28 crores has been released during 2019-20 to the States for implementation of the programme. Since inception (2015-16), an amount of Rs. 10711.72 crore has been released to States up to 19.12.2019 under PMKSY-PDMC. During the year 2018-19, an area of 11.58 lakh ha was brought under Micro Irrigation (MI), which is the highest ever coverage in a calendar year so far.

8.2.2 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 objectives 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 has approved Grant of Loan of Rs 616.14 crore by NABARD from the Micro Irrigation Fund (MIF) as a Top Up Subsidy (Additional State Share) to the Government of Andhra Pradesh during 2019-20.

8.2.3 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, 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 period is 3.94 lakh ha. As on 20.12.2019, an amount of Rs.114.98 crore has been released to the States for implementation of the programme during the current year. Since inception and up to 20.12.2019, an amount of Rs. 1235.94 crore has been released to States under RAD.

8.3 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 2019-20 by NRAA are:

- So far NRAA has prepared drought proofing action plans for 12 most critical drought prone districts out of a targeted 24 districts in consultation with the State governments of Rajasthan, Karnataka & Andhra Pradesh.
- A Task Force has been constituted for prioritization of 150 rainfed districts. Four meetings of the Task Force have been held after taking into account several key parameters and indicators.
- As part of multilateral and international cooperation, a MoU has been signed with FAO for Technical Cooperation Project (TCP) of 3 projects, namely, rainfed agriculture systems for improved income and nutritional security; reviving traditional pasture routes; and resource conservation in sugarcane farming by substituting it with sugarbeet.
- In the context of policy advisories, the following activities have been undertaken:
 - (i) In order to cover "Tree on Farms" for assistance under SDRF/NDRF, a detailed proposal has been finalised in consultation with various stake holders and eminent experts. It's recommendations are being formulated for consideration of the Ministry of Home Affairs;
 - (ii) On the directions of the Department of Land Resources (DoLR), Common Watershed Guidelines in the light of the Government's vision of Doubling

Farmers income in 2022 and recommendations of UNCCD COP14, New Delhi, on land degradation neutrality and current challenges of climate change are being revisited. The guidelines are expected to be finalized by February, 2020.

- (iii) A comprehensive Soil and Land Use Policy is being prepared in collaboration with GIZ in consultation with key stakeholders, ICAR institutes etc.
- To conserve Agro-biodiversity in the country, in the first phase two sites for in-situ conservation of land races have been identified and after survey, process of handing over land is at an advanced stage. Simultaneously, a DPR on Agro biodiversity in the country is being prepared.

8.4 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 2018-19, thirteen training courses in the aforementioned areas have been conducted. During 2019-20, thirteen training programmes have been planned with an outlay of Rs 60.00 lakh. An amount of Rs. 30 lakhs has been released for this purpose. Upto 20.12.2019, eleven training programmes have been completed so far. Participants for

the above training courses include officials of various State/UT governments, Central Government Organisations, NGOs, leading farmers, students & volunteers.

Natural Resource Management

8.5 National Bamboo Mission (NBM)

The restructured National Bamboo Mission (NBM) has been launched during 2018-19.

8.5.1 Objectives of the restructured National Bamboo Mission are:

- To increase the area under bamboo plantation in non-forest Government and private lands to supplement farm income as well as fulfill quality raw material requirement of industries.
- 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
- To promote product development in the bamboo sector through entrepreneurship & business models at micro, small and medium levels
- To rejuvenate the ailing bamboo industry as a global force to reckon with
- To promote skill development, capacity building and awareness generation for development of the bamboo sector
- 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 primary producers.

NBM focuses on the development of the complete value chain of the bamboo sector to link growers with consumers starting

from planting material, plantation, creation of facilities for collection, aggregation, processing, marketing, micro, small & medium enterprises, skill development and brand building initiative in a cluster approach mode. 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

The scheme is being implemented in non-forest Government land and private farmers' fields & States where it has social, commercial and economical advantage, including the bamboo rich States of the North Eastern region i.e Assam, Arunachal Pradesh, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura and other states such as Madhya Pradesh, Maharashtra, Chhattisgarh, Odisha, Karnataka, Uttarakhand, Bihar, Jharkhand, Andhra Pradesh, Telangana, Gujarat, Tamil Nadu, Kerala, Uttar Pradesh and Himachal Pradesh.

Budget Estimate under the restructured mission for the year 2019-20 is Rs. 87.00 crores. During 2019-20 an amount of Rs. 52.96 crore (as on 31.12.2019) has been released to the States/Agencies.

8.5.2 List of Technical Support Groups under NBM

- Indian Council for Forestry Research & Education (ICFRE), Dehradun, Uttarakhand.
- Kerala Forest Research Institute, Peechi, Kerala
- Cane and Bamboo Technology Centre, Guwahati, Assam

8.5.3 Physical Progress

So far (till 24.01.2020), 82 bamboo treatment units, 184 nurseries for quality planting material, 391 product development/processing units, 110 infrastructure projects for promotion and development of bamboo markets and an area of 22,603 ha for bamboo plantation have been approved as per the Annual Action Plans received from States and Institutes for the year 2019-20.

8.5.4 Other Initiatives taken

- Guidelines for Credit Linked Back Ended Subsidy have been formulated and circulated to all States.
- 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.
- National Conference on Bamboo was organized on 22.01.2019 in NASC Complex, New Delhi. The conference was attended by the State Mission Directors (NBM), Research Institutes, industry and entrepreneurs in the bamboo sectors. 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, 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 the innovative products made by artisans from different states.

8.5.5 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 industries. 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 Bamboos.

8.5.6 Research & Development

- Kerala Forest Research Institute, Peechi, Kerala is working on promoting indigenous supply of Litsea, base raw material for preparation of jiggets.

8.5.7 Agarbatti Sector

- A case analysis of domestic supply versus imported raw bamboo sticks for Agarbatti has been conducted by the Indian Institute of Foreign Trade (IIFT), New Delhi. The report finds that Agarbattis have huge potential as a manufacturing business because its demand is at an all-time high and increases during festivals.
- The Department of Commerce has amended the import policy for agarbatti and included it under the “Restricted

Category” from “Free Category” for import purpose to boost domestic raw Agarbatti production.

- BIS is also in the process of formulation of Standards for Agarbatti Sticks (traditionally hand rolled and machine rolled), premix and white agarbatti

8.5.8 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 wall and common roof covering/cladding materials have been included.

8.5.9 NITI Aayog Initiatives

- NITI Forum for 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 plant, common facility centres, cluster etc. to align with requirement of industries with forward linkages to bamboo plantations in the region taking into account a regional perspective and the same are being addressed by NBM.



Bamboo Nursery Developed at Rashtrapati Bhawan



Bamboo Artisans (Madhya Pradesh)



Bamboo Plantation on bunds

8.6 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 towards 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 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 as a pre requisite for Central assistance. At present the scheme is being implemented in 20 States namely i.e. Meghalaya,

Mizoram, Nagaland, Andhra Pradesh, Bihar, Chhattishgarh, Gujarat, Haryana, Himachal Pradesh, Jharkhand, Karnataka, Kerala, Madhya Pradesh, Maharashtra, Odisha, Punjab, Rajasthan, Tamil Nadu, Telangana, Uttar Pradesh and one UT i.e Jammu & Kashmir. Agroforestry helps in creating an additional source of income to farmers and thereby providing carbon sequestration for climate resilience and risk management.

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. These would include fruits, fodder, medicinal and timber species. Several new forward linkages are being established including tree borne oil seeds for production of biofuel and with Central Silk Board for silk worm host species. Links with other major wood based industries namely paper and plywood is also being done.

In order to create greater acceptance of the Mission among farmers, DAC&FW is in the process to associate with Indian Council for Forestry Research & 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 spread of ICFRE Institutes across the country would also enable partnering with States in reaching out to the farmers.

8.6.1 Financial Progress:

So far since 2016-17 to till date total ₹208.89 Crore has been released to the States/ agencies. During current year 2019-2020, a

total of ₹20.89 Crore has been released till December, 2019.

8.6.2 Physical Progress:

Under this scheme, an area of 52,321 Ha has been brought under plantation, 580 nos. of nurseries have been established and about 230.00 lakh trees have been planted during the last three years (2016-17 to 2018-19) across 20 states & one UT which are implementing the SMAF scheme. The major 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. As per available information 68617 farmers have been trained under this scheme till date.

8.6.3 Climate Change

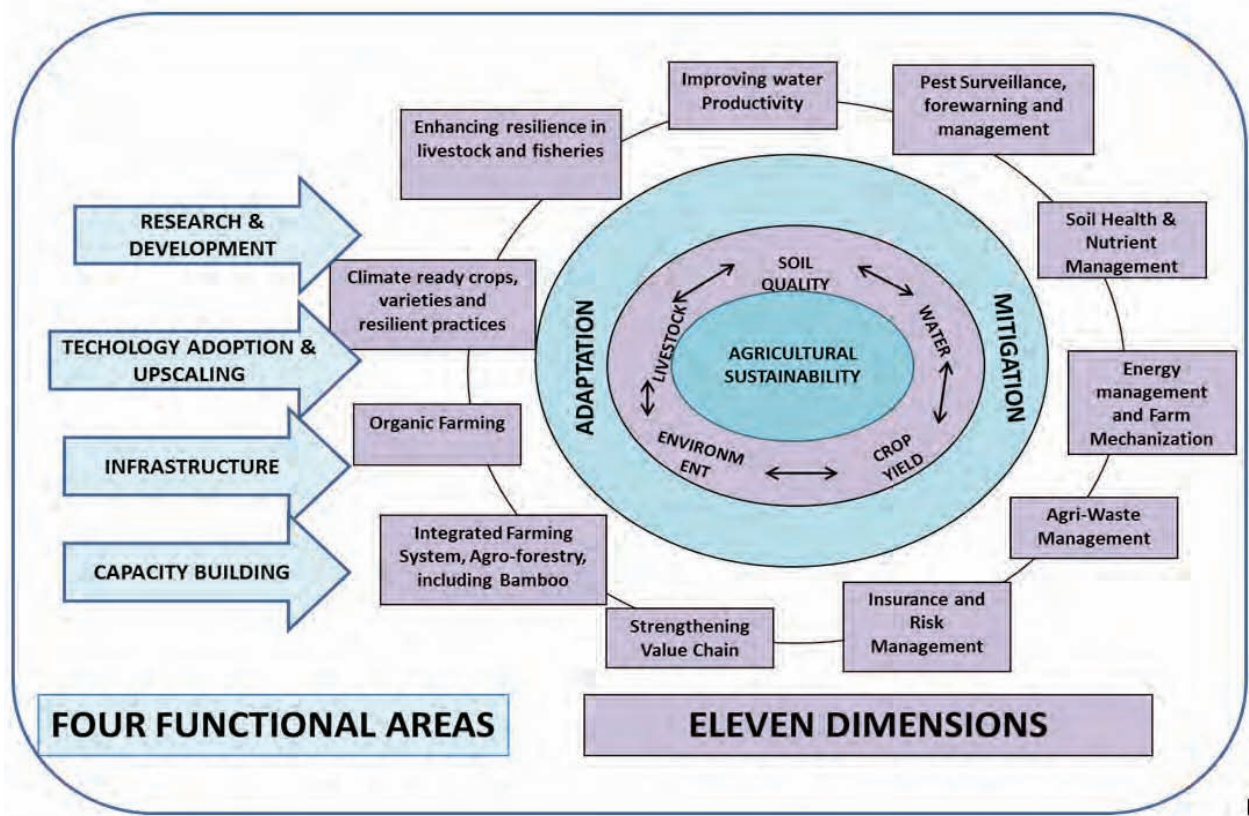
The National Mission on Sustainable Agriculture (NMSA) is one of the Missions launched under the National Action Plan on Climate Change (NAPCC) in 2008. The Mission aims to evolve and implement strategies to make Indian agriculture resilient to climate change. NMSA was approved for three major components i.e. Rainfed Area Development (RAD); On Farm Water Management (OFWM); and Soil Health Management (SHM). Subsequently, four new programmes were introduced under the ambit of NMSA namely Soil Health Card (SHC), Parampragat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development in North Eastern Region (MOVCDNER) and Sub Mission on Agroforestry (SMAF). During 2015-16, Pradhan Mantri Krishi Sinchayee Yojana (PMKSY) was operationalised wherein the OFWM component of NMSA was subsumed under Per Drop More Crop (PDMC) component of PMKSY. In addition

to the aforementioned programmes under NMSA, the Restructured National Bamboo Mission (NBM) was launched in April 2018. Details of these are furnished by the respective Program Divisions.

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 research & technologies being developed by ICAR and disseminated by programmatic

interventions of the DAC&FW and DAH&D and DoF.

The NMSA Strategy document was revised for the period from 2018 to 2030 and has adopted an integrated holistic approach focussing 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 risks. 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 2019-20*)
1	Area under organic farming (lakh ha)	25.34
2	Production of biofertilizers (lakh MT)	6.56
3	Precision irrigation (Lakh ha)	50.52
4	SRI/ Direct Seeded Rice from Transplantation (lakh ha)	10.01
5	Crop diversification (lakh ha)	3.40
6	Additional Area under plantation in arable land (lakh ha)	10.98
7	Climate Resilient Varieties (CRV) Identified/ Released (No.)	460
8 (a)	Identification of genotypes of crops with enhanced CO ₂ fixation potential and less water consumption & nutrients (No.)	98
8 (b)	Climate Resilient genotypes with greater adaptation to drought, flood, salinity and high temperature (No.)	109
9	Coverage of milch animals under ration balancing programme (lakh No.)	29.08
10	Establishment of bypass protein feed making unit (Capacity of 50 MT per day) (No.)	6.00

***Achievement as reported by implementing programme Division/Department as on 12th June 2019**

Biennial Update Reports (BUR) is a mandatory requirement for submission to 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. 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. The Climate Change cell at NRM Division collates data and 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 is to be submitted next year, preparatory activities for which have already started.

India hosted the 14th Session of the United Nations Convention to Combat Desertification – Conference of Parties (UNCCD-COP-14) from 2nd to 13th September 2019, at India Expo Mart, Greater Noida. The Division participated in the negotiations during

COP-14 and also organized a Panel Session on “Organic Farming”, chaired by Joint Secretary, INM Division, and speakers from



APEDA, State Governments, State Mission Directors etc.



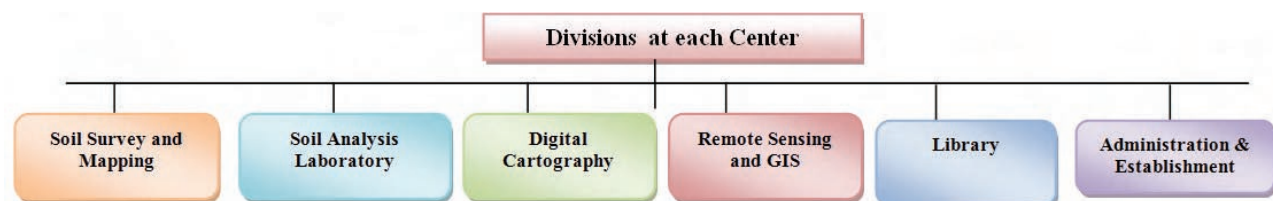
8.7 Soil and Land Use Survey of India (SLUSI)

Soil and Land Use Survey of India (SLUSI) was established in 1958 for carrying out soil survey and land resource mapping in the country. 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 equipped with Remote Sensing & Geographic Information System (GIS) laboratories for Image Analysis/ Interpretation along with modern facilities of soil analysis and cartography laboratories for acquisition of soil and land information for the development and management of a digital spatial database. It operates soil survey activities from its Headquarters at New Delhi and through 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.

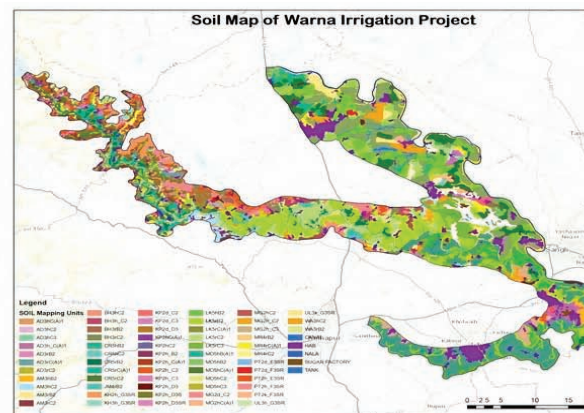
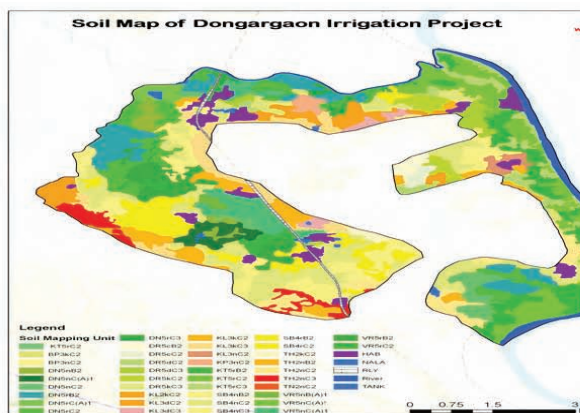


comprehensive Map of Villages in 37 Aspirational Districts of the country under Krishi Kalyan Abhiyan (KKA- I & II).

✦ **Review of Model Village Programme of Soil Health Card (SHC) Scheme (2019-20):**

The organization is a part of the monitoring team constituted by the Ministry in all States & UTs in review of model village programme of SHC (2019-20). The officers of the organization act as team leaders in the monitoring team and visit one village per block. The team will monitor various aspects of SHC scheme i.e. soil sampling, testing & distribution of Soil Health Cards and subsequent SHC based demonstrations in each model village besides organizing one fair/mela per village for scaling up awareness among farmers across India.

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



✦ **Release of Digital Micro-Watersheds Atlas of India:**

The digital Microwatershed Atlas of India was released on 29th March, 2019 during the Annual Technical Meeting of the Heads of the Offices of SLUSI. The Micro-watershed atlas aims at identifying and recognizing

So far, the work of monitoring has been initiated in 8 States & 2 UTs.

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

Soil & Land Use Survey of India (SLUSI) has been entrusted with the task of detailed soil survey, monitoring & collating information on the preparation of crop plan for 99 irrigation projects under the PMKSY mission. So far, SLUSI has completed the work of detailed soil data base generation for development of crop plan in 46 irrigation projects and is actively involved in coordinating among the various stake holders namely State Irrigation department, State Agricultural University (SAU), State Agriculture department for monitoring of water release status and crop planning in command areas.

each Micro-Watershed with **distinct spatial extent and a Unique National code** in the country. This will also help in prevention of overlapping of planning and implementation of development activities by various agencies by adoption of a web based transparent monitoring system.



✦ **Consultancy Project:**

- I. Testing of soil fertility and mapping of farm land in respect of Regional Fodder Station, Kalyani (West Bengal)
- II. Soil nutrient estimation of forests of North Bengal Plains, West Bengal state.

Through Sale of Soil and Micro Watershed data: Rs. 4,47,600/-

Through consultancy projects: Rs. 4978/-

✦ **Publication(upto October, 2019):**

- I. Detailed Soil Survey: 05 reports
- II. Soil Resource Mapping: 10 reports

✦ **Physical Target for Soil Survey Work:**

Target for field ground truthing & interpretation: 31.20 lakh ha

Achievement: 8.00 lakh area (upto Oct. 2019)

✦ **Revenue Generation(upto October, 2019):**

✦ **Participation in International Event:**

SLUSI has participated and represented the Ministry in the 14th session of the United Nations Convention to Combat Desertification (UNCCD-COP-14) organized by MoEF & CC from 29th August to 13th September 2019 at India Expo Mart, Greater Noida. SLUSI as the host country, put up a stall and exhibited in the conference with a theme based poster display, documentary video and presentation to brief about activities carried out by SLUSI. The objectives of participation were to provide wide publicity to the organizational work out put on an international platform, sensitizing the participants about the present status of

natural resources in the country and efforts made for restoration by various departments of Ministry and to establish networking with national and international organizations.

The organization has participated and represented the Ministry in the panel discussion on:

- a. Watershed Approach of Land Resource Management is a Tool to Achieve Sustainable Development Goals (SDGs) on 12th September 2019.
- b. Organic Farming: Mapping of Soils as a Guide for Program Interventions on 13th September.

Nearly 6000 participants from all over the world took part in the UNCCD COP14. The parties to the Convention agreed on the actions each will take over the next two

years and beyond to get us on a sustainable development path.

The UNCCD COP 14 ended after ten days of meetings, 11 high-level, 30 committee and over 170 stakeholder meetings, 44 exhibitions and 126 side events. The Conference adopted the Delhi Declaration in which parties expressed commitment for a range of issues which primarily include restoration of 26 million hectares of degraded land in India as,

- Land restoration is the cheapest solution to climate change and biodiversity loss
- Drought preparedness and response are critical in the face of climate change
- To put people first is to ensure gender balance, engage youth and secure land rights.

Glimpses of side events:



✦ Digitization:

SLUSI has started digitization of all its old reports & maps through GIS to make it available in digital form for users. Under this initiative, about 600 old hard copy reports and maps (upto October, 2019) have been digitized by different centers.

8.8 Integrated Nutrient Management (INM) & Organic Farming:

Ministry of Agriculture, and Farmers' Welfare, Department of Agriculture, Cooperation & Farmers' Welfare is implementing the INM & Organic Farming component under the National Mission for Sustainable Agriculture.

The financial assistance on various components as below is provided under the said components:

- 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 farmer's field.
- Support to research for development of organic package of practices specific to State and cropping system.
- Setting up of a separate Organic Agriculture Research and Teaching Institute (against specific proposal).

8.8.1 Major Schemes and its Objectives

- (i) Soil Health Card & Soil Health Management Scheme
- (ii) Paramparagat Krishi Vikas Yojana (PKVY)
- (iii) Mission Organic Value Chain Development for North Eastern Region (MOVCDNER)

Besides, the INM is also looking after Establishment matters of two attached Institutes viz. National Centre for Organic Farming (NCOF), Ghaziabad (U.P.) and

Central Fertilizers Quality Control and Training Institute, Faridabad, Haryana.

8.8.2 Assessment of Fertilizers:-

To ensure adequate availability of fertilizers, the 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 a 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. The supply movement is jointly monitored by the Department of Agriculture, Cooperation & Farmers' Welfare and Department of Fertilisers with the States through a weekly video conference.

- (a) **Kharif 2019 Season:** Requirement of major fertilizers viz, Urea, DAP, MOP, Complexes and SSP for Kharif 2019 season was assessed at 164.07 Lakh Metric Tonnes (LMT), 51.21 LMT, 20.38 LMT, 52.96 LMT and 25.05 respectively.
- (b) **Rabi 2019-20 Season:** Requirement of major fertilizers viz, Urea, DAP, MOP, Complexes and SSP for Rabi 2019-20 season was assessed at 182.04 Lakh Metric Tonnes (LMT), 52.08 LMT, 17.73 LMT, 51.86 LMT and 25.67 LMT respectively.

Consumption of Chemical Fertilizers:- Consumption of major chemical fertilizers along with N,P,K nutrients since 2002-03 is given below:-

(lakh tonnes)

Year	Urea	DAP	MOP	Complex	Nitrogen (N)	Phosphate (P)	Potash (K)	Total (N+P+K)
2002-03	184.93	54.73	19.12	48.10	104.74	40.19	16.01	160.94
2003-04	197.67	56.24	18.41	47.57	110.77	41.24	15.98	167.99
2004-05	206.65	62.56	24.06	55.08	117.13	46.24	20.61	183.98
2005-06	222.97	67.64	27.31	66.94	127.23	52.04	24.13	203.40
2006-07	243.37	73.81	25.86	67.99	137.73	55.43	23.35	216.51
2007-08	259.63	74.97	28.80	65.70	144.19	55.15	26.36	225.70
2008-09	266.49	92.31	40.78	68.05	150.90	65.06	33.13	249.09
2009-10	266.74	104.92	46.34	80.25	155.80	72.74	36.32	264.86
2010-11	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

8.8.3 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; up-gradation of skill and knowledge of soil testing laboratory staff,

extension staff and farmers through training and demonstrations etc.

The components under Soil Health include trainings for fertilizer dealers, foreign nationals, fertilizer inspectors and fertilizer laboratory staff, 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 Laboratory (FQCL), strengthening of FQCL etc.

The components under INM and Organic include setting up of fruit/vegetable/agro waste compost production units, setting up of bio-fertilizer production units, setting up of bio-fertilizer & Organic Fertilizer Quality Control Laboratories etc.

Under the scheme, setting up of 5 new Static STLs, 6 new Mobile STLs, Strengthening of 172 STLs, Setting up of 2 FQCL, Strengthening of 21 FQCLs, setting up of 1 Biofertilizer Unit, Strengthening of 12 Biofertilizer Units, setting up of 1 New BOQCC, Strengthening of 2 BOQCC, 1316 various Trainings, promotion of Micronutrients in 251692 ha and setting up 1561 Village Level Soil Testing Labs have been approved during 2018-19 under SHM component.

8.8.4 Soil Health Card

Soil Health Card has been approved for implementation w.e.f. 2015-16 to provide Soil Health Cards to all 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 is 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 and 10.74 crore Soil Health Cards were issued by States for the 1st Cycle (2015-16- 2016-17).

Similarly the 2nd Cycle of the scheme has commenced from May 2017 (2017-18-2018-19). In this cycle, 271.00 lakh soil samples were collected and 1156.29 lakh Soil Health Cards were distributed to farmers.

8.8.5 Financial Status

Funds amounting to Rs. 31.82 crore have been released till 31.12.2019 under Soil Health Management and Rs. 99.89 crore released under Soil Health Card. Comparison of funds released during the current year (till December, 2019) with that of previous years is shown below.

(Rs. in crore)

Year	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19	2019-20 (Till 31.12.2019)
Amount under Soil Health Management	19.24	63.98	44.39	60.31	18.65	78.31	31.82
Amount under Soil Health Card	0.00*	23.89	96.44	133.66	97.50	237.40	99.89
Total	19.24	87.87	140.83	193.97	116.15	315.71	131.71

* commenced from 2014-15.

8.8.6 Paramparogat Krishi Vikas Yojana (PKVY)

1. Paramparogat 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 (Gol: State Govt.) funding pattern in 8 NE states and 3 hilly States of Himachal Pradesh, Uttarakhand and earstwhile state of J&K, 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 scheme PKVY is implemented by the State Government on a per hectare basis for 500-1000 hectare area in each cluster for group of farmers having a total area of 20 hectare as far as possible in contiguous patch within a village. The farmer within a group can avail benefit to a maximum of 2 ha. and the limit of assistance is Rs.50,000 per hac., out of which 62% i.e., Rs. 31,000 is given as incentives to a farmer for organic conversion, organic inputs, on farm inputs, production infrastructure, etc., directly through DBT during the conversion period of 3 years. The target of an area of around 4 lacks ha is proposed to be covered in the coming 2 years which is double the area covered in the last three years.

3. The components of the scheme are as follows:

- a) Programme implementation through support agencies for handholding and capacity building of farmers in the cluster and Regional Councils as certification endorsing agency are well defined.
- b) PGS Certification through Regional Councils

- c) Incentive to farmers through DBT
- d) Value addition, marketing and publicity
- e) Enough flexibility is provided to the States to pick up the activities and inputs as per their requirement.

4. Physical and Financial Progress of the PKVY scheme:

- I. Phase I: Total amount allocated for the scheme 2015-16 to 2017-18 is Rs 947 crore and fund released Rs 696.77 crore till date. Total 11891 clusters have been formed during the period 2015-16 to 2017-18. Under PKVY scheme, 237820 hectares of land has been converted into organic farming and 5,94,550 farmers have benefited.
- II. Phase II: During 2018-19 fund released for 17,968 clusters for 1st year activities for 3.59 lakh ha area. Total amount allocated for the scheme 2018-19 to 2019-20 is Rs 685 crore and fund released Rs. 441.55 crore till date.
- III. Total area covered till date is 5.97 lakh ha for 29859 clusters in both phases. Total 5,94,550 farmers have benefited in Phase-I and 898400 farmers have benefitted during Phase-II.

5. Brand Name 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 & Gadchiroli Organic Farming
Jharkhand	Jaivik Jharkhand , From the Land of Jharkhand
Chhatisgarh	Aadim brand of Bhoomi Gadi FPO, Bastar Naturals
Punjab	Five Rivers
Tripura	Tripureshwari Fresh

6. Expenditure Status

(Rs in crore)

Year	Budget Estimate(BE)	Revised Estimate (RE)	Release as on 31.12.2019
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	-	226.39
Total	1632.00	1001.47	1138.32

7. Jaivikkheti portal: At present, the government is focusing more on marketing than on 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 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 platform and a marketing platform. Details of farmers practising organic farming, input suppliers, certification agencies, marketing agencies is available on this portal. Under this, the PKVY / PGS group can upload 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 2.09 lakh farmers have been registered under the Jaivikkheti portal and 2437 products have been transacted.

8. 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 year.
- 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 Nutrients 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

MANDI -PARISHAD for which Rs.10 crores were allotted as 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 and Nainital.
- Marketing/ Business Tie Ups: M/s Adani Group and M/s Home Burp, New Delhi is done to promote marketing of organic produce of Uttarakhand for more than 400 crores for the next five years.

Uttar Pradesh

- For the purpose of marketing of Organic Produce, Jaivik Kissan Bazar is being organised at Gomti Nagar, Lucknow on 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 Jaivik Kheti Portal. Farmers are also selling their organic produce in conferences and fairs organised at the National, state and district level.
- Progressive farmers of 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 the 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 in the Farmers' Market, Indore. The Organic Cluster Umariyakhurd in the name of Anandam Jaivik Sahkari Sanstha Maryadit Umariyakhurd has been registered under the Co-operative Societies Act for marketing of their organic produce.

9. 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 Participatory Guarantee System –India (PGS-India) is implemented by the Department of Agriculture, Cooperation & Farmers' Welfare.

10. 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:

- Online facility for Registration; Approval; Documentation; Record of Inspection; and Certification Transparency in the Certification Process.

- ii. Creation of a database of: organic producers; area under PGS Certification
- iii. Traceability of organic products
 - ✦ No. of Regional Councils registered - 327 nos
 - ✦ No of Local Groups registered - 22473 nos
 - ✦ Nos of farmers online registered/benefitted- 589717 nos (approx.)
 - ✦ The State implementing agency- either Agriculture Deptt./Horticulture

8.8.7 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 during 2015-16 to 2017-18.

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 entire value chain starting from inputs, seeds, certification and creation of facilities for collection, aggregation, processing, marketing and brand building. 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 units, 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. Under this scheme, an area of 50,000 ha has been targeted to be covered under organic farming in the North Eastern Region of the country during the period of three years i.e. from year 2015-16 to 2017-18.

A. Major Components of MOVCDNER:

1. Value Chain Production
2. Value Chain Processing
3. Value Chain Marketing
4. Value Chain Support Agencies

B. Physical and Financial Progress report of MOVCDNER scheme

An amount of Rs. 125 crore was allocated to the north eastern states during 2015-16, Rs. 100 crore during 2016-17, Rs. 100.00 crore during 2017-18, Rs. 160.00 for 2018- 19 and Rs. 160.00 crore for 2019-20, and funds released are an amount of Rs. 112.16 during 2015-16, Rs.47.63 crore during 2016-17, Rs.66.22 crore for 2017- 18, Rs.174.78 crore for 2018-19 and Rs.75.16 crore for 2019-20.

Under the scheme Mission Organic Value Chain Development for North Eastern Region during phase-I there was a target to form 100 Farmer Producer Companies (FPCs) which would cover 2500 Farmers Interest Groups (FIGs), 50000 ha area and 50000 farmers. Against this target, 2469 FIGs have been formed covering an area of 45918 Ha and 48918 farmers in eight North Eastern states. So far all the 100 Farmers Producer Companies have been registered.

For phase-II there is again a target to form 100 Farmers Producer Companies (FPCs) which would cover 2500 Farmers Interest Groups (FIGs), 50000 ha area and 50000 farmers. Against this target, 1364 FIGs

have been formed covering an area of 25574 Ha and 33376 farmers in eight North Eastern states. So far 39 Farmers Producer Companies have been registered.

8.8.8 Success Stories

Miss Laishram Rima Devi, aged 22, daughter of L. Ibomcha Singh and L.(O) Kumudini Devi is a budding young entrepreneur from LairikyengbamLeikai, Imphal East District, Manipur. She is the youngest among four sisters. She is a home science graduate from NaoremBirahari College, Imphal.

After her graduation, she had undergone a training programme on food processing in the year 2014 at District Industry Training Centre, Porompat, Imphal East and gained the basic technical knowledge in food processing. From this point in the same year, she started her business as M/s Rima Food Industries at her home in a small scale by making pickles from King chilli, garlic, bamboo shoot, mushroom, etc. by employing 2 women to help her in this venture. Her unit is registered under FSSAI and MSME with the Lic. No. 21615002000067 and UAN No. MN04A0000395 respectively. From this small scale business she could make a monthly income of ₹25,000.00 (Rupees Twenty five thousand only) after paying her employees. She continued her business of making pickles and marketing from 2014-2016. However, she was not satisfied with the quantum of her business and also had tough competition from well-established local food industries. She wanted to expand her business.

From 2016 she shifted her focus from pickles to Chakhao (Black Aromatic Rice) as there was very high demand of Chakhao outside the state and there were few entrepreneurs working on this crop leading to less competition. Her business is now concentrated only on marketing of high



quality graded Chakhao to buyers outside the state in bulk and some small portion in the local market. Her unit is equipped with a mechanical dehydration unit of capacity 200 kg/hour, grinding machine and sealing machine. She has employed 6 women to carry out manual grading of rice and other related works. She was able to earn about ₹40,000.00 (Rupees Forty thousand only) per month after paying her employees.

By the end of 2016, M/s Rima Food Industries learned about the MOVCDNER scheme and became associated with the Manipur Organic Mission Agency (MOMA) and was selected as a beneficiary entrepreneur under the MOVCDNER scheme. She was selected as an entrepreneur beneficiary for providing assistance of Integrated Pack House under Component B of the scheme and was sanctioned ₹16.9 Lakhs (Rupees Sixteen lakhs and ninety thousand only) after evaluating her DPR submitted to NEDFi.

She has started upgrading her existing units with the funds provided under MOVCDNER and started marketing Organic Chakhao under the scheme. Apart from her business of Chakhao rice, she has included Chakhao tea under the brand name “Aromatic Black Rice Tea” as her new product and is well received in the market. She is planning to include a milling machine for Chakhao and another section to produce Chakhao powder during this upgradation. With the intervention of this scheme MOVCDNER by marketing Organic Chakhao her monthly income has increased to ₹70,000.00 (Rupees Seventy thousand only) after paying her employees. Her products have reached almost all the

cities of India under different brands. Some of the firms which buy organic Chakhao from her are NERAMAC, M/s For8 (Delhi), M/s Mirisa(Delhi) and many buyers from other states like Gujarat, Assam, West Bengal, etc.

At the beginning of her venture in 2014 her annual turnover was only ₹4.2 lakhs (Rupees Four lakhs and twenty thousand only) which increased to ₹9.8 lakhs (Rupees Nine lakhs and eighty thousand only) in 2016 with the business of Chakhao and by the intervention of the MOVCDNER her annual turnover further increased to ₹14.2 lakhs (Rupees Fourteen lakhs and twenty thousand only).



Chakhao rice

Chapter 9

Pradhan Mantri Kisan SAMman Nidhi (PM-KISAN) & Pradhan Mantri Kisan Maandhan Yojana (PM-KMY)

9.1 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).

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

9.2.1 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. 1.6.2019 the Scheme was extended to all farmers, irrespective of the size of their land holdings.
- ✦ 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 1.2.2019.

9.2.2 Aims and objective of the Schème

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.

9.2.3 Beneficiaries of the Scheme

All landholding 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.

9.2.4 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:
 - 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 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).
 - All superannuated/retired pensioners whose monthly pension is Rs.10,000/- or more(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 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 14 crore.

9.2.5 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 'Vanshawali' (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 Vanshawali and possession of holding. This authenticated list of farmers after due verification of 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 Aadhar penetration is miniscule. 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 31.3.2020. However, this deadline was relaxed by the Government till 30th November, 2019. The mandatory requirement of Aadhaar seeding of data of beneficiaries will be 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 the 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 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.

9.2.6 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.

9.2.7 Setting up of Project Monitoring Unit (PMU)

- (i) A Project Monitoring Unit (PMU) at the Central level will be set up in DAC&FW. This PMU shall be tasked with the responsibility of overall monitoring of the scheme and shall be headed by

the Chief Executive Officer (CEO). PMU shall also undertake publicity campaigns (Information, Education and Communication-IEC).

- (ii) 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 Income Support Scheme.
- (iii) On the lines of PMU at 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.

9.2.8 Release of funds

As on 08.01.2020, an amount of around Rs. 48,939 crore has been disbursed and around 8.12 crore farmers have been granted benefit under the scheme. The State-wise detail of beneficiaries & fund released under the scheme is at Annexure given in next pages.

Overall Summary Detailed Report Part I as on 08.01.2020													
State Name	Payment Status for Beneficiaries Registered between 1st August 2019 to 31st November 2019					Payment Status for Beneficiaries Registered between 1st December 2019 to 31st March 2020							
	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated				Data verified by PM KISAN portal	Data verified by PFMS	FTO generated				
			1st Installment	2nd installment	3rd installment	4th installment			1st Installment	2nd installment	3rd installment	4th installment	
A&N	614	0	582	555	0	0	43	0	14	0	0	0	0
ANDHRA PRADESH	1	0	1	0	0	0	7,58,586	0	6,81,398	0	0	0	0
ARUNACHAL PRADESH	23,131	0	17,788	6,318	0	0	7,993	0	0	0	0	0	0
ASSAM	3,80,712	0	62,101	62,061	0	0	20,000	0	1,719	0	0	0	0
BIHAR	16,22,595	0	15,30,445	14,49,626	0	0	3,35,816	0	2,43,641	0	0	0	0
CHANDIGARH	191	0	189	153	0	0	0	0	0	0	0	0	0
CHHATTISGARH	3,15,772	0	2,19,584	1,57,453	0	0	90,335	0	25,402	0	0	0	0
DADRA AND NAGAR HAVELI	1,523	0	1,499	1,496	0	0	72	0	56	0	0	0	0
DAMAN AND DIU	189	0	176	175	0	0	17	0	8	0	0	0	0
DELHI	1,734	0	1,562	1,526	0	0	634	0	260	0	0	0	0
GOA	511	0	495	339	0	0	1,214	0	359	0	0	0	0
GUJARAT	2,28,830	0	2,11,283	1,90,014	0	0	43,815	0	28,235	0	0	0	0
HARYANA	91,561	0	83,141	60,058	0	0	37,897	0	0	0	0	0	0
HIMACHAL PRADESH	60,804	0	58,714	57,834	0	0	10,931	0	6,982	0	0	0	0
J & K	90,933	0	81,381	81,047	0	0	19,500	0	2,866	0	0	0	0
JHARKHAND	7,75,059	0	5,99,109	0	0	0	2,241	0	0	0	0	0	0

KARNATAKA	11,19,264	0	9,87,251	9,63,390	0	0	51,723	0	7,543	0	0	0
KERALA	58,026	0	54,689	41,339	0	0	25,006	0	2,863	0	0	0
LAKSHADWEEP	38	0	0	0	0	0	0	0	0	0	0	0
MADHYA PRADESH	17,23,214	0	12,80,838	7,45,785	0	0	1,26,479	0	51,233	0	0	0
MAHARASHTRA	6,88,232	0	6,12,566	4,70,076	0	0	5,90,363	0	1,62,031	0	0	0
MANIPUR	45,840	0	42,683	41,787	0	0	37,250	0	16,921	0	0	0
MEGHALAYA	30,954	0	27,833	27,822	0	0	1,854	0	1,214	0	0	0
MIZORAM	10,447	0	7,719	6,178	0	0	399	0	185	0	0	0
NAGALAND	69,009	0	61,819	59,769	0	0	778	0	572	0	0	0
ODISHA	5,60,337	0	5,53,293	2,63,894	0	0	0	0	0	0	0	0
PUDUCHERRY	297	0	281	17	0	0	160	0	127	0	0	0
PUNJAB	8,11,435	0	7,47,719	7,44,343	0	0	0	0	0	0	0	0
RAJASTHAN	9,63,035	0	5,48,052	4,31,363	0	0	1,18,937	0	13,765	0	0	0
SIKKIM	7,329	0	0	0	0	0	709	0	0	0	0	0
TAMIL NADU	1,30,728	0	1,24,939	1,16,282	0	0	94,442	0	75,569	0	0	0
TELANGANA	1,38,702	0	1,23,118	93,125	0	0	2,471	0	892	0	0	0
TRIPURA	5,181	0	5,006	4,846	0	0	2,323	0	1,390	0	0	0
UTTAR PRADESH	20,16,006	0	14,58,206	10,01,170	0	0	5,64,671	0	2,14,829	0	0	0
UTTARAKHAND	50,498	0	44,174	42,680	0	0	19,236	0	12,077	0	0	0
WEST BENGAL	0	0	0	0	0	0	0	0	0	0	0	0
Total:	1,20,22,732	0	95,48,236	71,22,521	0	0	29,65,895	0	15,52,151	0	0	0

Overall Summary Detailed Report Part I as on 08.01.2020													
State Name	Payment Status for Beneficiaries Registered between 1st Dec 2018 to 31st March 2019					Payment Status for Beneficiaries Registered between 1st April 2019 to 31st July 2019							
	Data verified by PM KISAN portal	Data verified by PFMS	FTO generated				Data verified by PM KISAN portal	Data verified by PFMS	FTO generated				
			1st Installment	2nd installment	3rd installment	4th installment			1st Installment	2nd installment	3rd installment	4th installment	
A&N	11,895	0	11,324	11,308	11,307	10,376	4,202	0	4,016	4,010	3,722	0	0
ANDHRA PRADESH	38,45,946	0	35,92,416	33,79,818	33,78,801	31,20,143	8,40,501	0	7,68,806	7,64,460	7,22,086	0	0
ARUNACHAL PRADESH	18,500	0	16,324	3,054	3,047	1,445	9,390	0	8,622	6,497	5,224	0	0
ASSAM	16,96,809	0	14,03,867	13,73,426	10,14,309	9,51,684	15,61,044	0	12,29,332	9,60,849	9,60,438	0	0
BIHAR	7,36,490	0	7,07,944	6,98,632	6,98,613	6,44,317	26,54,787	0	25,42,852	25,39,264	24,41,327	0	0
CHANDIGARH	271	0	267	267	267	218	0	0	0	0	0	0	0
CHHATTISGARH	2,68,202	0	2,03,266	2,02,636	1,68,184	86,935	13,78,161	0	12,00,639	11,94,944	6,72,817	0	0
DADRA AND NAGAR HAVELI	6,167	0	6,067	6,064	6,034	5,756	2,780	0	2,746	2,744	2,618	0	0
DAMAN AND DIU	2,663	0	2,590	2,580	2,515	2,316	677	0	660	613	550	0	0
DELHI	2,504	0	2,185	2,129	2,128	1,832	8,787	0	7,962	7,813	6,919	0	0
GOA	3,947	0	3,889	3,836	3,829	3,134	2,665	0	2,251	2,018	282	0	0
GUJARAT	31,47,062	0	30,15,842	29,95,455	29,91,498	23,95,552	15,75,826	0	15,04,826	14,92,084	13,47,524	0	0
HARYANA	12,53,982	0	11,67,142	11,61,676	11,50,466	8,68,308	2,10,675	0	1,92,200	1,91,414	1,84,091	0	0
HIMACHAL PRADESH	5,88,073	0	5,68,319	5,66,022	5,63,204	5,25,045	2,21,276	0	2,15,152	2,14,551	2,01,623	0	0
J & K	6,58,874	0	5,97,144	5,80,173	5,52,232	5,38,516	2,36,384	0	2,12,225	2,10,761	2,08,096	0	0
JHARKHAND	6,13,040	0	5,24,495	4,32,440	4,09,560	0	3,69,012	0	3,16,262	3,04,876	0	0	0
KARNATAKA	4,25,309	0	4,02,767	4,00,314	3,79,039	3,52,300	34,25,437	0	33,39,404	32,87,929	31,58,102	0	0

KERALA	26,13,786	0	24,05,502	23,75,200	18,43,204	14,89,771	2,81,962	0	2,63,933	2,61,903	1,94,095	0
LAKSHADWEEP	1,628	0	0	0	0	0	33	0	0	0	0	0
MADHYA PRADESH	19,077	0	13,982	13,564	13,561	85	42,65,282	0	38,43,441	36,70,882	22,51,323	0
MAHARASHTRA	42,34,972	0	37,54,388	33,33,586	32,54,079	15,28,741	33,69,951	0	29,92,102	28,98,782	15,99,453	0
MANIPUR	42,403	0	37,658	37,242	37,122	30,842	17,514	0	16,077	16,060	12,655	0
MEGHALAYA	26,385	0	24,834	22,010	15,674	15,674	12,742	0	12,225	12,194	12,172	0
MIZORAM	36,910	0	33,794	32,553	32,532	20,323	31,304	0	25,381	25,372	1,384	0
NAGALAND	43,519	0	36,594	36,437	36,172	28,894	67,262	0	60,934	60,843	43,729	0
ODISHA	9,84,118	0	9,72,450	9,54,829	5,71,684	3,82,676	22,47,861	0	20,96,038	16,88,234	14,48,823	0
PUDUCHERRY	6,362	0	6,297	6,154	1,286	0	2,726	0	2,680	2,661	1,515	0
PUNJAB	15,58,642	0	14,73,543	14,69,853	14,39,890	13,97,110	0	0	0	0	0	0
RAJASTHAN	30,11,468	0	27,60,098	27,13,512	26,08,793	18,20,295	18,39,310	0	14,98,262	14,71,688	10,33,143	0
SIKKIM	0	0	0	0	0	0	3,722	0	11	0	0	0
TAMIL NADU	27,73,646	0	26,57,491	26,43,637	26,42,810	22,77,710	6,30,847	0	6,04,647	6,02,319	4,86,213	0
TELANGANA	26,67,200	0	25,81,705	25,53,031	25,00,334	22,36,024	8,05,140	0	7,57,786	7,57,174	6,16,449	0
TRIPURA	1,63,091	0	1,59,516	1,59,241	1,59,241	1,36,247	25,932	0	25,249	25,222	21,925	0
UTTAR PRADESH	1,53,87,313	0	1,32,56,014	1,27,68,692	1,25,68,476	76,96,243	46,45,014	0	33,86,079	32,61,468	23,59,716	0
UTTARAKHAND	5,91,109	0	5,44,299	5,42,361	5,42,078	4,34,033	75,036	0	71,162	71,009	57,683	0
WEST BENGAL	0	0	0	0	0	0	0	0	0	0	0	0
Total:	4,74,41,363	0	4,29,44,013	4,14,81,732	3,96,01,969	2,90,02,545	3,08,23,242	0	2,72,03,962	2,60,10,638	2,00,55,697	0

9.3 Pradhan Mantri Kisan MaanDhan Yojana (PM-KMY)

9.3.1 Salient features

- (i) The Pradhan Mantri KisanMaanDhan 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) ThePM-KMYisaCentralSectorScheme 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 pay out.
- (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 premature 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.)
(1)	(2)	(3)	(4)	(5)
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 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 decentralised 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 process.
- (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 enrol themselves by contacting physically the State Nodal Officers (SNOs) (or agencies designated by them) in their respective districts.
- (xxxiii) Eligible beneficiaries may alternatively also enrol themselves online through links provided on the appropriate web-sites.
- (xxxiv) 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.
- (xxxv) 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.
- (xxxvi) 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.

9.3.2 Aims and objective of the Scheme

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 KisanMaan-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.

9.3.3 Beneficiaries of the Scheme

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

9.3.4 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 National Pension Scheme (NPS), Employees' State Insurance Corporation Scheme, Employees' Fund Organization Scheme etc.
- (ii) Farmers who have opted for Pradhan Mantri Shram Yogi MaanDhan Yojana (PM-SYM) administered by the Ministry of Labour & Employment
- (iii) Farmers who have opted for Pradhan Mantri LaghuVyapariMaan-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 land holders
 - 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.

9.3.5 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.

9.3.6 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 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) set up 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.

9.3.7 Project Monitoring Unit (PMU):

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

9.3.8 Farmers registered so far: So far (as on 3.12.2019), 18,84,323 farmers have registered for the Scheme.

Chapter 10

Crop Insurance

Agriculture Insurance

10.1 Keeping in view the risks involved in agriculture and to insure the farming community against various risks, the Ministry of Agriculture 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 the last 5 years under various schemes for crop insurance are as under:

(in Rs. crore)

Plan/ Year	Insurance Schemes	Expenditure
2014-15	National Agricultural Insurance Scheme (NAIS), Modified NAIS (MNAIS) and Weather Based Crop Insurance Scheme (WBCIS)	2598.35
2015-16	- do -	2982.47
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 -	9620.78*

* as on 01.11.2019

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

10.2.1 Pradhan Mantri Fasal Bima Yojana (PMFBY)

After detailed discussions with various stakeholders including State Governments and representatives of farmers' organizations, the 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 only 5%. The premium rates to be paid by

farmers are very low and balance of actuarial premium is being borne by the Government, to be shared equally by the State & Central Government, to provide full insured amount to the farmers against crop loss on account of natural calamities. There is no upper limit on Government subsidy.

Earlier, there was a provision of capping the premium rate which resulted in low claims being paid to farmers. This capping was done to limit Government outgo on the premium subsidy. This capping has now been removed and farmers will get claim against full sum insured without any reduction. Further, the sum insured has been equated to the Scale of Finance.

Efforts are being made to make the scheme technology driven with the primary objective to reduce 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 and the States have to provide an evidence of having conducted CCEs before Government of India share in subsidy is released. 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 which are also being coordinated by the MNCFC.

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, details of land records for de-duplication. In addition, Direct Transfer of Benefits (Claims) to the farmers' account has been initiated from Kharif 2018 season.

Revised Operational Guidelines

With a view to ensure better transparency, accountability and timely payment of claims to farmers, the Government has comprehensively revised the Operational Guidelines of the scheme recently which have become effective from 01.10.2018 and, inter-alia, include the following :

- i) Provision of 12% interest rate per annum to be paid by the Insurance Company to farmers for delay in settlement claims beyond 10 days of prescribed cut off date for payment of claims.
- ii) State Government has to pay 12% interest rate for delay in release of State share of subsidy beyond three months of prescribed cut off date/submission of requisition by Insurance Companies.
- iii) Increased time for change of crop name for insurance - upto 2 working days prior to cut-off date for enrolment instead of the earlier provision of 1 month before the cut off date.
- iv) Time for intimation of loss due to localized calamities and post-harvest losses has

been increased from 48 hours to 72 hours.

- v) A stratified grievance redressal mechanism viz. District Level Grievance Redressal Committee (DGRC), State Level Grievance Redressal Committee (SGRC).
- vi) Detailed plan for publicity and awareness - 0.5% of gross premium per company per season earmarked for the purpose.
- vii) Detailed Standard Operating Procedures (SOPs) for settlement of claims under localized calamities, post harvest losses, mid-season adversity, prevented sowing and redressal of disputes regarding yield data including add on features.
- viii) Inclusion of perennial crops and add on coverage for damage by wild animals on a pilot basis.

10.2.2 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 shortcomings under the 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 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 on the administrative lines of PMFBY and is available in the country from Kharif 2016 as Restructured WBCIS.

Coverage under PMFBY & RWBCIS

During 2016-17 (i.e. Kharif 2016 and Rabi 2016 seasons) about 583.7 lakh farmer enrolments were provided crop insurance for a sum of Rs. 2,04,835 crore and during 2017-18 (i.e. Kharif 2017 and Rabi 2017-18 seasons) about 530.4 lakh farmer enrolments were provided crop insurance for a sum of Rs. 2,04,790 crore under PMFBY & RWBCIS. State-wise & Season wise coverage details under PMFBY and RWBCIS during 2018-19 are given below:

State/UT Name	Number of Farmers Insured (number in Lakhs)			Area Insured (in Lakh Ha.)	Sum Insured	Gross Premium In Rs. Crore	Approved Claims	Claim Paid	No. of Farmers against paid Claims (number in Lakhs)
	Loanee	Non Loanee	Total						
A&N	0.0	0.0	0.0	0.0	0.2	0.0	-	-	-
ANDHRA PRADESH	12.0	6.9	18.9	13.3	10,475.6	942.9	-	-	-
ASSAM	0.2	0.0	0.2	0.2	99.1	4.0	-	-	-
BIHAR	-	-	-	-	-	-	-	-	-
CHHATTISGARH	33.8	3.4	37.2	22.1	20,125.7	1,165.9	-	-	-
GOA	-	-	-	-	-	-	-	-	-
GUJARAT	21.1	0.2	21.3	25.4	14,122.2	3,472.9	93.1	93.1	0.8
HARYANA	7.7	0.1	7.9	10.9	8,086.7	826.9	1.8	1.8	0.0
HIMACHAL PRADESH	1.1	0.0	1.1	0.4	131.8	7.5	-	-	-
J & K	-	-	-	-	-	-	-	-	-
JHARKHAND	1.1	3.7	4.8	2.8	1,682.6	162.9	-	-	-
KARNATAKA	5.4	6.7	12.1	8.5	5,466.4	1,350.2	49.0	-	-
KERALA	0.1	0.0	0.1	0.1	54.0	9.1	3.9	3.9	0.1
MADHYA PRADESH	23.5	0.2	23.7	37.7	10,681.6	1,657.2	-	-	-
MAHARASHTRA	15.5	112.0	127.5	68.6	24,833.3	4,770.3	21.5	21.5	0.1
MANIPUR	0.0	0.0	0.0	0.0	18.0	1.3	-	-	-
MEGHALAYA	0.0	-	0.0	0.0	3.4	0.1	-	-	-
ODISHA	28.7	16.1	44.8	17.5	30,458.0	5,862.4	-	-	-

2016-17 to 2018-19 - PMFBY & RWBCIS - All India Business Statistics									
Season	Number of Farmers Insured (number in Lakhs)			Area Insured (in Lakh Ha.)	Sum Insured	Gross Premium	Approved Claims	Claim Paid	No. of Farmers against paid Claims (number in Lakhs)
	Loanee	Non Loanee	Total						
Kharif 2016	304.9	102.6	407.5	382.4	131,482	16,009	10,559	10,555	108.7
Rabi 2016-17	141.0	35.2	176.2	188.9	73,353	5,907	7,281	7,278	41.2
2016-17 Total	445.9	137.8	583.7	571.4	204,835	21,916	17,839	17,833	149.9
Kharif 2017	243.8	109.6	353.5	336.0	125,547	18,826	18,039	18,033	147.0
Rabi 2017-18	140.7	36.3	177.0	179.0	79,243	6,555	4,319	4,282	29.8
2017-18 Total	384.5	145.9	530.4	515.0	204,790	25,381	22,357	22,315	176.8
Kharif 2018	223.2	120.1	343.3	321.5	138,226	20,921	15,436	14,924	118.3
Rabi 2018-19	134.2	91.0	225.2	266.4	98,944	8,382	5,286	5,084	45.2
2018-19 Total	357.4	211.1	568.5	587.9	237,170	29,303	20,721	20,008	163.4

* Kharif 2018 claims are not yet fully reported

* Rabi 2018-19 enrolment and claims statistics are provisional

10.2.3 Coconut Palm Insurance Scheme (CPIS)

The Coconut Palm Insurance Scheme (CPIS) is implemented since the year 2009-10 in 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 a premium of Rs. 3.26 crore, claims of Rs. 4.40 crore have been paid to about 0.09 lakh farmers.

10.2.4 Unified Package Insurance Scheme (UPIS)

A Unified Package Insurance Scheme has also been approved for implementation in selected 45 selected districts on a pilot basis from Kharif 2016 to provide financial protection & comprehensive risk coverage of crops, assets, life and student safety to

farmers. The Pilot includes seven sections viz., Crop Insurance (PMFBY/WBCIS), Loss of Life (PMJJBY), Accidental Death & Disability (PMSBY), Student Safety, Household, Agriculture implements & Tractor. The Crop Insurance Section is compulsory. However, farmers can choose atleast two sections from the remaining. Through UPIS, farmers may be able to get all requisite insurance products through one simple proposal/application form. But most States have made the selection of two sections voluntary in addition to PMFBY/RWBCIS.

Coverage of women farmers under PMFBY

All farmers whether sharecroppers or 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. The scheme is compulsory/mandatory for farmers obtaining seasonal agricultural operation loans for notified crops/areas from rural financial institutions i.e. loanee farmers are compulsorily covered and the scheme is voluntary for non-loanee farmers. Thus, loanee women farmers are covered compulsorily under the scheme and non-loanee women farmers are required to obtain crop insurance from approved channels i.e. Insurance Company or their agents, Banks, Common Service Centres and online on the National Crop Insurance Portal www.pmfby.gov.in. There is no specific extra benefit/provisions for women farmers under the scheme. However, the Government is bound to pay its share in premium subsidy for all 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 a 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 a favourable attitude among women farmers towards PMFBY.

Chapter 11

Agricultural Credit

Overview

11.1 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.

11.2 Policy initiatives for increasing the flow of credit

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

11.2.1 Agriculture Credit: Target and Achievement

Government sets target for agricultural credit flow every year, which has increased consistently over the years and it reached Rs.12,56,830/- crore against the target of Rs.11,00,000 crore during 2018-19. Target for the year 2019-20 has been fixed at Rs.13,50,000/- crore and the achievement is

Rs.9,07,843.37 crore upto November, 2019.

11.2.2 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 farmers.

ISS is available to farmers availing short term crop loans upto Rs.3.00 lakh at an interest rate of 7% per annum for one year. An additional subvention of 3% is also given to farmers for prompt and timely repayment of loans. The benefits of ISS have also been extended to farmers in allied activities like Animal Husbandry and Fisheries (to existing KCC holders) within the overall limit of Rs.3.00 lakh and issue of new KCC for 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 is also given to farmers affected by severe natural calamities for a maximum period of 5 years on the basis of report of an Inter-Ministerial Central Team (IMCT) for grant of NDRF assistance and Sub-Committee of National Executive Committee (SC-NEC).

During the financial year 2018-19, the Department released a sum of Rs.11,495.67 crore to the Reserve Bank of India (RBI)/ National Bank for Agriculture and Rural Development (NABARD) the implementing agencies for settling claims under the Interest Subvention Scheme. The Government has

allocated a sum of Rs.18,000 crore for the current financial year for settling claims under the scheme. An amount of Rs.13,001.95 crore has been released to RBI/NABARD as on

10.01.2020 for settlement of audited claims under the scheme. Details of funds released during the last five years including the current financial year are as under:

(Rs. in Crore)

2015-16	2016-17	2017-18	2018-19	2019-20
13,000	13,397.13	13,045.72	11,495.67	13,001.95 (as on 10.01.2020)

11.2.3 Kisan Credit Card Scheme (KCC)

KCC was introduced in 1998 to provide timely credit to farmers to meet short term/long term cultivation requirement, postharvest expenses, consumption requirement etc. KCC is implemented by Commercial Banks, Cooperative Banks and Regional Rural Banks (RRBs). Presently, there are 7.03 crore active KCCs against 14.5 crore operational landholdings which means there are a substantial number of farmers outside the ambit of KCC. To bring the maximum number of farmers under KCC in order to provide loan to them at a cheaper rate under the ISS scheme, the Government has launched a campaign for saturation of KCC to farmers. Necessary instructions have been issued to all the State Governments/Union Territories on 04.02.2019. The Department of Financial Services has separately issued necessary instructions to all the Banks on launching of a KCC Saturation Drive through their letter dated 04.02.2019 and the same was reiterated on 25.06.2019.

INITIATIVES ALREADY TAKEN FOR KCC SATURATION DRIVE

- 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 interest subvention and Prompt Repayment Incentive (PRI) with a sub-limit of Rs.2.00 lakhs with the approval of the Cabinet on 01.02.2019.

- The Indian Banks Association (IBA) on 04.02.2019 has waived off processing fee, inspection, ledger folio charges and all other service charges for fresh issue/renewal of KCC.
- The Reserve Bank of India on 07.02.2019 raised the collateral free existing agriculture loan limit from Rs.1.00 lakh to Rs.1.60 lakh.
- State Level Bankers Committees (SLBCs) has been requested to fix targets for issue of KCC with a focus on districts having less KCC penetration.
- Standardised common application form for KCC has been designed for easy understanding of farmers.
- The KCC Saturation Drive is being carried out by all banks jointly with the concerned State Governments.
- Camps are being organised Bank-wise or village-wise to provide KCC to all eligible farmers within 14 days from the receipt of the farmer's application.

Chapter 12

Agricultural Marketing

12.1 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. An enabling mechanism is also required to be put in place for procurement of agricultural commodities directly from the 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, to reduce intermediaries in the supply chain, to 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 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.

The Government has been playing an important role in developing the Agriculture Marketing system in the country. Agricultural Marketing Division of the Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW) is entrusted with the 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

present agricultural marketing system, reducing the intermediaries in supply chain, mitigate the uncertainty in prices of agri commodities and marketing and providing remunerative prices to farmers for their produce.

12.2 Agricultural Marketing Reforms

12.2.1 Objective:

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 even the production and productivity of foodgrains. 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 to farmers, accessible, competitive, efficient and barrier free markets with adequate marketing infrastructure and real time market information are 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 is considered 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 reform agenda including closely working with the States to reform their APMC Acts & to promote contract farming.

12.2.2 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. So far, 22 States/UTs have by and large adopted the major suggestions of the model APMC Act, 2003, though many of the States have made cosmetic reforms leading to no noticeable ground level development. 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 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 and through the marketing channel of their choice offering the better bid. Apart from the above, the model legal framework would attract investment from the private sector in developing post-harvest and marketing infrastructure. The model Act, inter-alia, provides for declaration of the whole State as one unified market, warehouses/silos/ cold storages as market sub-yards, rationalization of market fee and commission charges. Arunachal Pradesh has adopted the model APLM Act, 2017 in entirety and the States of Uttar Pradesh, Punjab and Chhattisgarh have adopted it excepting for a few major provisions. Other States are at varied stages in the process of adoption.
- (c) De-regulation of marketing of fruits & vegetables – Fruits & vegetables being perishable crops need a different set of markets and marketing system with optimal supply chain with reduced intermediation including cold storages & cold chain. The existing system of marketing through the network of APMC markets leads to high post-harvest losses, long intermediation in the supply chain and low return to farmers. In order to address this issue, the Department has been advocating with the States to provide complete freedom to 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. In addition to these, APMC Markets should also be available as one of the alternative choices to the farmers. Till now 17 States have moved in this direction, though in varied forms.
- (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 a National Agriculture Market (e-NAM) platform in April, 2016. So far, 585 regulated wholesale markets (APMCs) have been integrated in to the e-NAM platform by 31st March, 2019.

DMI, an attached office of DAC&FW, has formulated and uploaded tradable parameters for 150 commodities.

- (e) Considering the importance of integrating farmers including fruit and vegetable growers with agro-industries with the objectives 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 a facilitative eco-system for contract produce output but also for services all along the agriculture food value chain starting from pre-harvest, harvest and post-harvest including marketing. Tamil Nadu has legislated “The Tamil Nadu Agricultural Produce and Livestock Contract Farming and Services (Promotion and Facilitation) Act, 2019” and Punjab has already enacted a separate contract farming Act. The Division is pursuing with States/ Union Territories to adopt the same.
- (f) As per Union Budget Announcement 2018-19, Government has announced to develop and upgrade 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 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 concessional rate of interest. In order to coordinate among the various stakeholder Ministries/ Departments an Inter-Ministerial Coordination Committee on GrAMs has been constituted. The first meeting of the committee has already been held recently.

12.3 Integrated Scheme for Agricultural Marketing (ISAM):

- (a) The Marketing Division is also implementing an ongoing Central Sector Scheme from the XII 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, the 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 (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 CCS 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.

12.3.1 Agricultural Marketing Infrastructure (AMI)

To develop Agricultural Marketing Infrastructure including storage infrastructure, the Ministry of Agriculture & Farmers' Welfare is implementing a capital investment subsidy sub-scheme Agricultural Marketing Infrastructure (AMI) of the 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.

Now the Government has re-launched the scheme w.e.f. 22.10.2018 with certain modifications for the period coterminous with the 14th Finance Commission i.e. upto 2019-20 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 farmers individually and collectively through FPOs from farm level processing and marketing of processed produce along with promotion of small 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, labelling etc. wherein the product form is not changed.

(ix) To undertake publicity and awareness campaign among stakeholders including farmers, agri.preneurs, market functionaries and on other various aspects and functions of agricultural marketing including grading, standardization, quality certification, regulation, reforms, e-trading, promoting farmers facilitation centres for market information & intelligence by FPOs etc.

Brief of the scheme

Under the AMI sub-scheme, there are two components (i) Storage Infrastructure (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. The 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 infrastructure 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.

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.

a) **The 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 the 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 Centres by FPOs/FPCs are eligible under the scheme.

Further, infrastructure projects other than storage (non-storage) infrastructure including farmer-consumer market and development and up-gradation of rural haats/RPMs into GrAMs are also eligible under the scheme.

b) Progress of the Scheme:

Since inception of the scheme up to 31.12.2019, a total number of 38,964 storage infrastructure projects (godowns), with storage capacity of 65.54 million MT were sanctioned under the scheme and subsidy of Rs. 2957 crore has been released. Similarly, 18,565 other marketing infrastructure projects have also been sanctioned and subsidy of Rs.1816 crore has been released so far.

The detailed Operational Guidelines 2018 is available at <https://dmi.gov.in/Schemeamigs.aspx>

12.3.2 Marketing Research & Information Network (MRIN)

Under the MRIN scheme, an e-Governance portal has been developed for connecting the farmers to their markets. It is advantageous to have a network down to the mandi level to begin with. This can be progressively extended to villages and the household level. Presently, electronic connectivity has been provided to 3356 markets in the country. More than 300 commodities and 2000 varieties are reported on a daily basis on Agmarknet portal. This is one of the largest Market Information Systems in the world and has a large data base.

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 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:-

- Financial support for organizing training, research, awareness and sensitization campaign to state govt. organizations.
- 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>), Agrimarket App, Kisan Suvidha App, UMANG App, DD Kisan Channel etc.

Success Stories:

Based on the usage of mandi information by different stakeholders from open data portal with data access provided from the Agmarknet Project under the Marketing Research & Information Network(MRIN) scheme of ISAM has recently received the Platinum Award under Open Data Champion category in the Digital India Award 2018 and Skoch Order of Merit to the Agmarknet project in 2019.

12.3.3 Strengthening of Agmark Grading Facilities (SAGF):

- a) Quality Control Division (QC Division) of the Directorate of Marketing &

- Inspection (DMI) implements Agricultural Produce (Grading and Marking) Act, 1937 (as amended up to 1986) and other provisions as mandated by the Food Safety Standards Regulation 2011 under Food Safety and Standards Act 2006. Agricultural produce is certified under AGMARK if they conform to grade standards under 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 225 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 materials to processors/ manufacturers/ packers and remunerative prices to farmers. These 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 eight (8) food products i.e. blended edible vegetable oil, fat spread, honey dew, carbia callosa, kangra tea, til oil (sesame oil) obtained from white sesame seeds grown in Tripura, Assam and West Bengal, ghee having less Reichert value than that specified for the area where such ghee is sold and light black pepper.
- c) **Export:** European Union has notified vide commission regulation No 1580/2007 dated 21 December 2007 Agricultural Marketing Adviser as Official Authority and DMI as 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 inspection and certification body for exports of fruits and vegetables to EU countries. DMI has approved 29 private commercial labs to issue Certificate of Agmark Grading (CAG) for fruits and vegetables (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, a Central Agmark Laboratory through QC division at Head Office Faridabad.
- e) **Agmark online certification:** In order to fulfil the Digital India dream of the Hon'ble Prime Minister, 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 an online mode with several modules. While developing the online software, the application forms were appropriately reoriented to make the 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. On 26.09.2018, Hon'ble Union Minister of Agriculture and Farmers' Welfare Shri Radha Mohan Singh has launched the online software on agmarkonline.dmi.gov.in web portal for Agmark Certification.

- The software sends SMS/ emails to the applicants/officers/users at relevant stages. Through the Agmark online system, a certificate of authorisation (domestic), permission of printing press, permission of laboratories (domestic) and services related to laboratory information management system are provided online.

12.3.4 Chaudhary Charan Singh National Institute of Agricultural Marketing (NIAM)

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.

The CCS NIAM governing body is headed by the Hon'ble Union Minister for Agriculture and Executive Council is chaired by the Secretary, Agriculture and Farmers' Welfare, Gol. 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 and 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 is also an objective.
- 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 an efficient, innovative and competitive marketing process.
- To develop as a centre for excellence in the field of agricultural marketing by establishing adequate capacities.

Achievements of CCS NIAM

(i) Post Graduate Diploma in Management (Agribusiness Management) PGDM (ABM):

Post Graduate Diploma in Management (Agribusiness Management) PGDM (ABM) is a two year residential program approved by All India Council for Technical Education (AICTE). Admission to the course is made through CAT. For the session 2019-20, 60 students have taken admission to the 19th batch of PGDM (ABM). 100% placement of the 2018-19 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 the vast array of stakeholders across the States. In 2019-20, 163 training programmes have been designed for different sectors out of which 112 programmes have been completed. There are 49 programmes

- to be organized in the North Eastern States.
- (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 Departments of Agricultural Marketing and allied departments on various developmental programmes launched by the Ministry of Agriculture and Farmers' Welfare. The Programme also focusses on addressing marketing issues around a state specific dominant crop or sector. 10 such programmes will be conducted covering all public and private stakeholders in Agricultural Marketing. 4 such programmes have been conducted as on date.
- (b) Krishi Gyan Deep Knowledge Series Lectures aim at absorbing and disseminating the most successful experiences in Agricultural Marketing to all important stakeholders in the country. Prominent professional leaders in Agricultural Marketing are invited to share their experiences at CCS NIAM, documented through films and disseminated to all stakeholders in the country through cost effective IT platforms. Stakeholders covered through such 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 & scientists. 10 Programmes are planned. So far 3 Krishi Gyan Deep Knowledge Series Lectures have been organised.
- (c) CCS NIAM accords high priority for organizing training programmes to farmers and extension functionaries of the North Eastern States. 49 training programmes were proposed to be conducted in the North Eastern States against which 58 programmes have been completed.
- (d) CCS NIAM being a National Institute is organizing 48 Training Programmes throughout the country addressing different dimensions of Agricultural Marketing. These programmes are mostly organized with partner Institutions thus ensuring a synergetic impact.
- (e) Refresher programmes aim at updating the latest trends in Agricultural Marketing to officials working in the public sector. CCS NIAM provides a national platform for Agricultural Marketing professionals of Agricultural Universities annually to exchange views and refresh knowledge. One Refresher programme has been completed.
- (f) Research: During the year 2019-20, fourteen research projects are in progress.
- (g) 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 income is enhanced. Commodity specific knowledge and skills are imparted to farmers by expert institutions at all the critical stages. Kisan Business School research focuses on commodities like banana, wheat, dairy, maize, potato, poultry, fisheries etc.
- (h) Research projects on policy issues like e-NAM, marketing reforms, AGMARKNET etc. is being conducted in the year 2019-20.

(i) A Research Internship programme has been initiated by taking young interns to work on contemporary issues in research in agriculture marketing. 8 research internship projects have been completed during 2019-20.

(j) Consultancy

(a) As a lead agency with WDRA, CCS NIAM is conducting 30 awareness programmes for farmers and traders. Management programmes for warehouse operators and managers are also being conducted to increase information about warehouse management.

(b) Project with CAZRI – ICAR has been sanctioned to work on capacity building of farmers and the community in a water shed area for better marketing practices and opportunities for better livelihood and is in progress.

(iii) Establishment of Ten Centres

In order to cater to the emerging areas in Agriculture Marketing through training, research and consultancy, NIAM has established ten academic centres and is strengthening their activities. The Centres are headed by senior faculty members.

(iv) RKVY RAFTAAR Programme for Supporting Agri-startups

CCS NIAM has been recognized as a Knowledge Partner by the Ministry of Agriculture and Farmers' Welfare, Govt. for promoting agri-startups in 5 states namely, Rajasthan, Bihar, Jharkhand, West Bengal and Odisha. CCS NIAM has completed one agripreneurship orientation programme and one agri incubation programme covering 47 budding agripreneurs. Another agri-incubation programme is in progress covering 12 agripreneurs. As a

Knowledge Partner, NIAM has initiated incubation programmes in Odisha, Bihar and Rajasthan.

12.3.5 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 the RBI, SBI, IDBI, EXIM Bank, Oriental Bank of Commerce, NABARD, Canara Bank, Bank of Baroda, NAFED etc.

(i) Formation of Farmer Producer Organization (FPO)

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 the formation of Farmer Producer Organizations (FPOs). The initiative which started in 2011-12 under the 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 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 under the National Food Security Mission (NFSM) and Mission for Integrated Development of Horticulture (MIDH).

As on 31st December, 2019, against a target of 8.85 lakh farmers to be mobilized 8.44 lakh small & marginal farmers have been identified and formed into 49677 Farmer Interest Groups (FIGs). These FIGs further have been federated into

FPOs and so far 840 FPOs have been registered and 70 are under the process of registration.

(ii) Equity Grant and Credit Guarantee Fund Scheme for Farmer Producer Companies:

a) Equity Grant Fund :

SFAC is also implementing an Equity Grant and Credit Guarantee Fund Scheme for Farmer 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 547 Farmer Producer Companies (FPCs) amounting to Rs. 34.23 Crore. The performance of the Equity Grant Scheme from 2014-15 to 2019-20 is as under :

(Rs. in lakhs)

Sl. No.	State	No. of Equity Grant Sanctioned	Total Amount
1	Andhra Pradesh	10	44.07
2	Bihar	23	115.73
3	Chhattisgarh	4	19.48
4	Gujarat	7	50.52
5	Haryana	11	92.51
6	Himachal Pradesh	1	2.84
7	Karnataka	73	678.46
8	Kerala	2	16.85
9	Madhya Pradesh	58	266.12
10	Manipur	3	23.16
11	Maharashtra	96	566.28
12	Odisha	8	62.66
13	Rajasthan	10	55.21
14	Tamil Nadu	84	632.90
15	Telangana	5	26.34
16	Tripura	1	8.44
17	Uttar Pradesh	87	444.16
18	Uttarakhand	1	10.00
19	West Bengal	63	307.47
	Total	547	3423.18

Out of 489 cases, 18 FPCs have taken 2nd tranche of the grant

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 Institutes providing loans to

Farmer Producer Companies (FPCs) without collateral up to Rs. 1.00 crore.

SFAC has sanctioned Credit Guarantee to 96 FPCs for Rs. 36.89 crore w.e.f 2014-15 to 2019-20 with details as under:

State -wise sanctioned project – Credit Guarantee Fund scheme from 2014-15 to 2019-20

Sl. No.	State -wise	No. of cases	C.G. cover sanctioned (Rs. in lakhs)
1.	Gujarat	8	121.55
2.	Haryana	3	84.15
3.	Rajasthan	3	56.10
4.	Madhya Pradesh	18	720.66
5.	Telangana	1	17.70
6.	Tamil Nadu	29	1402.96
7.	Maharashtra	18	797.11
8.	Kerala	2	102.00
9.	Karnataka	12	318.53
10.	Odisha	1	25.50
11.	West Bengal	1	42.50
	Total	96	3688.76

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.

investment of Rs. 9632.35 Crore, which will provide an assured market to 1.97 lakhs farmers for their produce and create direct employment for 105690 persons. During the year 2019-20, SFAC has sanctioned a Venture Capital amount of Rs. 75.82 Crore to 295 agribusiness projects across the country with a total private & institutional investment of Rs. 867.28 Crore.

SFAC has assisted a total of 2831 agribusiness projects and sanctioned/released Venture Capital Assistance of Rs. 815.03 crore generating private and institutional

The performance of the Venture Capital Assistance Scheme since inception to 2019-20 is as under :

Plan Project	Venture Capital Assistance (Rs. in crore)	Total Project Cost (Rs in crore)	No. of projects
X Plan (2002-2007)	23.86	262.51	103
XI Plan (2007-2012)	120.17	1461.03	409
XII Plan (2012-2017)	336.34	4062.09	1111
2017-2018	128.48	1385.30	460
2018-2019	130.35	1594.13	453
2019-20 (up to 31.12.2019)	75.82	867.28	295
Total	815.02	9632.34	2831

12.4 National Agriculture Market (e-NAM)

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 is a pan-India electronic trading (e-trading) portal which seeks to network the existing physical APMCs 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 the 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 for farmers is the aim.

12.4.1 Scheme Design:

Under the scheme an appropriate common e-market platform has been set up and deployed in 585 regulated wholesale markets in 16 States & 02 Union Territories by March 2019. Further, DAC & FW has approved an additional 415 mandis to be integrated with e-NAM by 2020.

DAC&FW gave a grant as a one time fixed cost subject to the ceiling of ₹ 75.00 lakhs per mandi (other than to private mandis) for related equipment / infrastructure. Initially ₹ 30.00 lakhs per mandi was allotted as a one time fixed grant for computer hardware, internet facility, assaying equipment. An additional ₹40.00 lakhs per mandi was sanctioned for creation of facilities such as sorting, grading, cleaning and packaging and for a bio-composting unit per mandi ₹ 5.00 lakhs was also allocated.

Further, free access is given to the e-NAM platform for e-NAM trade operation. In addition, free training is provided to

stakeholders in e-NAM mandis i.e farmers, Farmer Producer Organisations, traders, commission agents & mandi officials.

12.4.2 Marketing Reforms Mandatory for Joining e-NAM:

For pursuing reforms in a focussed manner, out of various areas of reform, the department identified 3 reforms and made them mandatory as a pre-condition for the state to participate in the e-NAM scheme. These areas of reform are summarised as follows:

- a) To promote and permit e-trading;
- b) Single point levy of market fee;
- c) Unified registration/ license for trade/ transaction in more than one market;

12.4.3 Objectives of e-NAM:

The main objectives of the Scheme are:

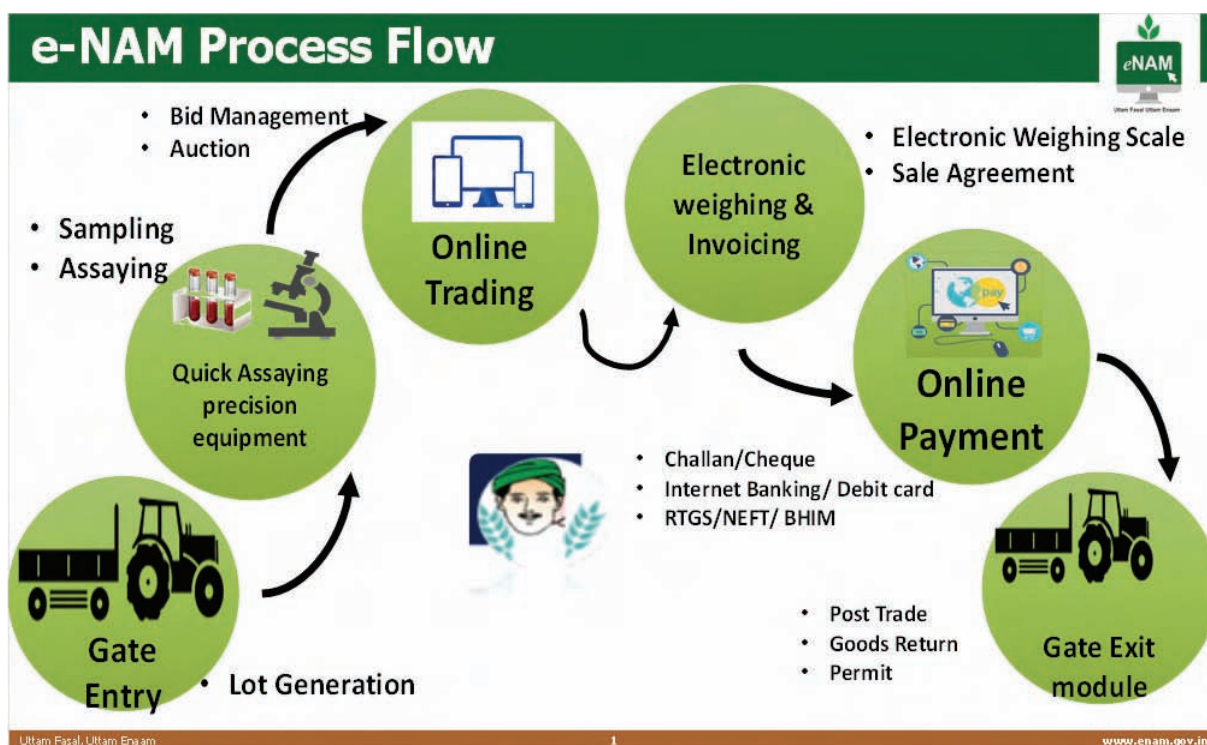
- i. to promote better marketing opportunities for farmers/Farmer Producer Organisations / sellers through online access to more buyers / markets, removal of information asymmetry between farmer and trader, better and real-time price discovery based on actual demand and supply of Agri-commodities, transparency in 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 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

12.4.4 Benefits to Farmers

- a) Farmers can access the prevailing commodity price information on the e-NAM mobile App. prior to even going to the mandi.
- b) Farmers may see the live online bid value of their produce through mobile.
- c) The details of final bid rate of commodity of the farmer is received through SMS by him.
- d) An online payment gateway is available for transfer of bid value directly to the bank account of farmers.
- e) Facility of pre-registration of a 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.



eNAM coverage as on 31st October 2019

State	Integrated Mandis
Andhra Pradesh	22
Chandigarh	1
Chhattisgarh	14
Gujarat	79
Haryana	54
Himachal Pradesh	19
Jharkhand	19
Madhya Pradesh	58
Maharashtra	60
Odisha	10

Puducherry	2
Punjab	19
Rajasthan	25
Tamil Nadu	23
Telangana	47
Uttar Pradesh	100
Uttarakhand	16
West Bengal	17
Total	585

12.4.5 Performance at a glance (till 31st December 2019):

a) Stake holder Registration

- No. of Farmers Registered on e-NAM : 1.65 Crore
- No. of Traders Registered : 1.26 Lakhs
- No. of Commission Agents Registered : 70,765

b) Trade Recorded

- Total trade recorded in volume : 3.15 Crore MT
- Value recorded : Rs. 89,896 Cr.
- Tradable parameters notified : 150 commodities

12.4.6 Key features of e-NAM**1. Unified trading licensing system for inter State trade**

This feature has been created for traders to apply for interstate trade license in their e-NAM Login to enable them to participate across eNAM mandis in the country.

2. Farmer Friendly Mobile App:

- i. Multilingual (9 languages)
- ii. Geo-tagged eNAM 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. Advance Gate Entry
- iv. Track Lot Progress
- v. Sampling and Assaying Facility
- vi. Online Payment Facility for Traders
- vii. SMS Alert on Receipt of Payment

3. Improved Website and eLearning

A new enhanced website supports 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 eNAM users. The website has a section providing live status of mandis providing trade details.

4. Discounts to Traders at the Time of e-Payment

To incentivize the move towards a cashless economy, the various state Governments have come up with incentives of discounts on digital transactions. Thus, e-NAM was introduced with discount facilities on e-Payment. To avail the facilities, the application administrator can configure the desired discount percentage in the application and in case of e-Payment Mode selected by the buyer, configured discount facilities will be automatically applicable in the transaction.

5. 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.

6. Bunching of Multiple Invoices

Bunching of selected invoices for single payment purpose for use by the trader is a user-friendly feature to reduce multiple transaction costs and time for traders. This feature is applicable for inter-mandi and interstate invoices also.

7. Auto Sale Agreement

An auto sale agreement feature has been added to reduce e-NAM workflow execution time. This has benefitted transaction waiting time for farmers.

8. BHIM Payment Facility

Currently, the eNAM portal facilitates direct online payment to farmers through RTGS/ NEFT, Debit Card and Internet Banking. Facilitation of Unified Payment Interface (UPI) through BHIM has helped in easing out payment to farmers by reducing the payment realization time from the buyers' account to the pool account and in turn its disbursement to farmers.

9. Logistic Information Module

A logistic module has been integrated in the eNAM trader portal, where a logistics provider may register themselves in the e-NAM portal to provide logistics support to eNAM sellers & buyers. It is a value added to the supply chain where the product is being transported from one point in the chain to the next for providing logistics services to eNAM buyers.

10. GPS based feature: A GPS based feature to show e-NAM mandis with route map & prices within ~100 kms radius is available on the e-NAM mobile

App which can be accessed by any user without login into the App

On boarding FPOs on e-NAM platform: In order to provide last mile connect to small & marginal farmers, Farmer Producer Organisations' (FPOs) integration with eNAM has been given a special focus. FPOs can now upload pictures of their produce including the total quality parameters from their premise and enable the bidding of their produce in e-NAM without first bringing it to APMC mandis.

For integration of FPOs with the e-NAM ecosystem, eNAM process trainings & demonstration of trade meetings were conducted in Andhra Pradesh, Telangana, Maharashtra, Gujarat, Uttar Pradesh, Himachal Pradesh, Haryana, Rajasthan, Tamil Nadu and West Bengal.

12.4.7 State level e-NAM meetings for on boarding FPOs

FPO meeting for onboarding on e-NAM held in Andhra Pradesh on 12th September, 2019



Farmer Producer Organisations are now able to serve their members regularly using the eNAM portal by providing direct market linkages to a number of buyers without any intermediaries.

Till 31st December, 2019, 836 Farmer Producer Organisations (FPOs) from 16 States have been on-boarded on the e-NAM platform.

This has benefited farmers directly in the following manner:

- Provide transparency in trade
- Access to a larger number of buyers
- Assured timely online payments
- Access of information on mobile App about prices and trade

The State-wise list of FPOs registered on e-NAM is as under:

S. No.	State	No of Farmer Producer Companies (FPC) Registered
1	Andhra Pradesh	80
2	Chhattisgarh	5
3	Gujarat	23
4	Himachal Pradesh	33

5	Haryana	47
6	Jharkhand	20
7	Maharashtra	205
8	Madhya Pradesh	12
9	Odisha	17
10	Punjab	01
11	Rajasthan	79
12	Telangana	54
13	Tamil Nadu	88
14	Uttarakhand	11
15	Uttar Pradesh	85
16	West Bengal	76
	Total	836

12.4.8 Inter-State trade on e-NAM platform

The Prime Minister's flagship program e-NAM has recently achieved another milestone by commencing inter-State trade between mandis of two different States. Earlier trade used to happen either within the APMC or between two APMCs situated within the same state. So far, 12 States/UT have participated in inter-state trade on e-NAM. Inter-State trade has started in 20 commodities (which include fruit, vegetables, pulses, cereals, oilseeds, spices etc.).



Inter State trade meeting between Uttar Pradesh, Gujarat & Rajasthan – Jodhpur

12.5 Awareness & Training Programs Conducted

Training Program Gallery



e-NAM Training Program – Ulundurpet (Tamilnadu) on 05th August, 2019



e-NAM Training Program – Daltonganj(Jharkhand) on 6th September, 2019



Gram Sabha level: e-NAM awareness & training programs for farmers



e-NAM Training Program – Kuchinda (Odisha) on 25th September, 2019

State level Workshops on e-NAM:

Ministry of Agriculture and Farmers' Welfare in collaboration with the Confederation of Indian Industry (CII) undertook 05 State level workshops for scaling up trade through the e-NAM platform, covering 15 States across

all regions. The workshop had representation from all stakeholders of the agri marketing supply chain particularly with participation by farmers, FPOs, big retailers, processors, exporters etc. for scaling up inter-mandi and inter-State trade.



First e-NAM Workshop of the series with traders, big retailers, processors & exporters – Ahmedabad (Gujarat)



e-NAM Workshop– Lucknow (Uttar Pradesh)

National Agriculture Market (e-NAM) has been awarded in the category of prestigious “Changemaker – Digital Transformation

Award” of THE HINDU BUSINESS LINE-CHANGEMAKER AWARDS 2019 on 15th March 2019 at New Delhi.

Chapter 13

Agricultural Cooperation

Overview:

13.1 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 term and short term strategies for reducing economic disparities between the less well off 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.

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 and 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.

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 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.

13.2 Amendment to the Constitution in Respect of Cooperatives:

Amending the State Cooperative Societies Act 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.

13.3 Major Schemes and Objectives:

13.3.1 Assistance to NCDC Programmes for Development of Cooperatives

The Central Sector Integrated Scheme on Agricultural Cooperation (CSISAC) is being implemented through the 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 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 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 an effective linkage with credit and other institutional structures in the area; develop PACS as multi-purpose entities and modernization of management of cooperatives.

13.3.2 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 the cooperative institutions, their working, business development activities, social 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 a 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 Vaikunth Mehta National Institute of Cooperative Management (VAMNICOM)

Providing training to middle and senior level personnel of 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.

13.4 Scheme under Umbrella Scheme of PM-AASHA implemented by the DAC&FW

13.4.1 Umbrella scheme of Pradhan Mantri Annadata Aay Sanraksh Han Abhiyan (PM-AASHA), has been implemented with the 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 (PDPS) and pilot of Private Procurement and Stockist Scheme (PPSS). Under PM-AASHA, States / UTs are to choose either PSS and PDPS in a given procurement season with respect to a 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 oilseeds. 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 the 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 as under :

Details of Pulse & Oileeds Procured at MSP under PSS (as on 16-11.2019)							
Year		Oilseed & Copra		Pulses		Total	
		Quantity Procured (IN MTs)	MSP Value (Rs. IN Crore)	Quantity Procured (IN MTs)	MSP Value (Rs. IN Crore)	Quantity Procured (IN MTs)	MSP Value (Rs. IN Crore)
2009-10 To 2013-14	2009-10	65,97.18	288.97	-	-	65,197.18	288.97
	2010-11	34,543.41	149.04	586.01	1.75	35,129.42	150.78
	2011-12	336.70	1.52	1.57	0.01	338.27	1.53
	2012-13	77,232.54	394.06	96,382.03	407.22	1,73,614.56	801.28
	2013-14	3,94,598.30	1,626.39	54,861.57	235.86	4,49,459.87	1,862.25
Sub Total		5,71,908.12	2,459.98	1,51,831.17	644.83	7,23,739.30	3,104.81

2014-15 To 2019-20	2014-15	12,097.84	45.52	3,64,171.00	1,128.93	3,76,268.84	1,174.45
	2015-16	4,241.68	15.89			4,241.68	15.89
	2016-17	2,22,168.46	946.71	2,05,490.39	1,039.39	4,27,658.85	1,986.10
	2017-18	11,69,265.86	5,072.73	15,73,481.70	8,566.13	27,72,747.56	13,638.85
	2018-19*	16,15,735.29	7,091.11	41,75,316.02	20,145.60	57,91,051.31	27,236.71
	2019-20**	11,02,480.13	4,636.90	9,01,120.07	4,293.01	20,03,600.20	8,929.91
Sub Total		41,25,989.26	17,808.86	72,19,579.18	35,173.05	1,13,45,568.44	52,981.91

(ii) **PDPS:-** This scheme envisages direct payment of the difference between the MSP and the selling / modal price to pre-registered farmers selling their 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 farmers are paid the difference between the MSP and Sale / Modal

price on sale in notified markets. During 2018-19 Kharif season, based on the proposal received from the Govt. of Madhya Pradesh, a sanction of 16,82,700 MT of soyabean under PDPS in Madhya Pradesh has been accorded.

(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 district involving the participation of private stockists. The pilot district/ selected APMC(s) of 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.

13.4.2The 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 the 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 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 the cost of the commodity procured plus permitted overhead expenses. Details of sanction accorded under MIS during the last 3 years are as under:

Details of Sanction accorded under MIS from 2017-18 to 2019-20 (As on 16.11.2019)					
Year and Procurement Period	Commodity	State	Market Intervention Price (MIP)(Rs Per MTs)	Sanctioned Qty (In MTs.)	MIP Value (Rs In lakh)
2017-18					
08.04.2017 to 07.05.2017	Potato	Uttar Pradesh	4,870	1,00,000	4,870.00
02.05.2017 to 31.05.2017	Red Chilli	Telangana	50,000	33,700	16,850.00
02.05.2017 to 31.05.2017	Red Chilli	Andhra Pradesh	50,000	88,300	44,150.00
04.06.2017 to 03.07.2017	Potato	Nagaland	6,000	6,600	396.00
17.06.2017 to 16.07.2017	Turmeric	Andhra Pradesh	55,720	12,100	6,742.12
13.06.2017 to 12.07.2017	Garlic	Rajasthan	28,600	10,000	2,860.00
09.06.2017 to 08.07.2017	Onion	Madhya Pradesh	5,867	6,51,000	38,194.17
27.06.2017 to 26.07.2017	Onion	Rajasthan	3,650	20,000	730.00
02.03.2018 to 31.03.2018	Potato	Uttar Pradesh	5,490	2,00,000	10,980.00
2018-19					
13.04.2018 to 20.06.2018	Garlic	Rajasthan	32,570	1,54,000	50,157.80
13.04.2018 to 12.05.2018	Onion	Rajasthan	6,180	2,60,000	16,068.00
2019-20					
09.09.2019 to 15.12.2019	Apple	Jammu & Kashmir	With relaxation of guideline MIP are being fixed by the Designated Price Committee		

13.4.3 In addition to the above, this Division has also implemented a scheme for release of pulses to intending States/UTs at discounted rate for utilization in various welfare schemes from the stock of pulses procured under PSS. This scheme was implemented from October, 2018 to September, 2019. The objective of the scheme was for disposal of pulses procured under PSS by way of distribution to States/ UTs for utilization under various welfare schemes like the Mid-Day-Meal (MDM), Integrated Child Development Services (ICDS), Public Distribution System (PDS), etc. with Central Subsidy of Rs. 15 per Kg. over the issue price as a One time Measure on First Come- First Serve and First in First Out (FIFO) basis for a period of 12 months or till the PSS pulses stock of 34.88 lakh MT lasts, whichever is earlier. Details of state-wise and commodity wise allocated pulse is given at **Annexure 13.1**.

13.5 Income / Production and Target/ Achievement

13.5.1. Assistance to NCDC Programmes for Development of Cooperatives

The National Cooperative Development Corporation (NCDC) is a non-equity based development financing institution created exclusively for the cooperative sector with the aim & objective to promote, strengthen and develop farmers' cooperatives; assist programmes of cooperatives for supply of inputs, processing, storage and marketing of agricultural produce & consumer goods and those dealing with notified commodities & services; and assist cooperatives of weaker sections such as those comprising of members from the scheduled castes, scheduled tribes, labour & 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 the annual budget of NCDC for financing all activities under the notified services so that the focus of NCDC continues on financing of cooperatives in the agriculture & allied sector. In 2019-20, an assistance of Rs.10923.07 crore has been disbursed (as on 31.10.2019) against an approved outlay of Rs.13400.00 crore for the various programmes implemented by NCDC.

13.5.2 Cooperative Spinning Mills: In order to improve the economic condition of cotton growers as well as handloom & power loom weavers and to consolidate the gains achieved so far, the Department, through NCDC, continued to provide financial assistance to spinning mills & 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 2019-20, NCDC released Rs.45.28 crore (as on 31.10.2019) for this component.

13.5.3 Cooperative Storage: DAC&FW 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. Storage capacity assisted by NCDC stood at 165.11 lakh MT as on 31.03.2019 and a total amount of Rs.1074.57 crore has been released by NCDC under various programmes towards construction of godowns, repair and renovation of godowns and technical and margin money assistance for business promotion. During the year 2019-20 (as on 31.10.2019), Rs.4.49 crore has been released for the storage programme.

13.5.4 Cold Storage: As on 31.03.2019, 323 cold storage projects have been organized/sanctioned with a capacity of 9.88 lakh MT.

Against this, 305 cooperative cold storage projects with a total capacity of 9.36 lakh MT assisted by NCDC have been completed / installed. This includes 36 projects of capacity expansion of 1.28 lakh MT. Besides, 18 cold storage projects of 0.523 lakh MT (including 2 capacity expansion projects of 0.144 lakh MT) are under implementation. During 2019-20 (as on 31.10.2019), NCDC released Rs.2.53 crore for promotion and development of cooperative cold storages in the country.

13.5.5 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 2019-20 (as on 31.10.2019), NCDC released Rs.0.31 crore (as subsidy) and cumulatively, as on 31.10.2019, released 166.19 crore to foodgrain processing units.

13.5.6 Oilseed: NCDC provide financial assistance for establishment of oilseed processing units. During 2019-20 (as on 31.10.2019), NCDC released Rs.2.21 crore and cumulatively, as on 31.10.2019, NCDC has released Rs.692.39 crore for oilseed processing units.

13.5.7 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 2019-20 (as on 31.10.2019), NCDC released Rs.3.45 crore and cumulatively, as on 31.10.2019, NCDC has released Rs.166.24 crore for this activity.

13.5.8 Fruit & 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 it in an efficient manner, which in turn may help in increasing the income of farmers. Cumulatively, upto 31.10.2019, NCDC has released Rs. 60.06 crore for 80 fruit & vegetable processing units.

13.5.9 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, sericulture, Scheduled Castes, Scheduled Tribes, labour & women cooperatives.

- a) **Fisheries:** NCDC provides assistance to fishery cooperatives to take up activities relating to production, processing, storage, marketing, etc. During 2019-20 (as on 31.10.2019), NCDC sanctioned Rs.30.00 crore and released Rs.115.54 crore. Cumulatively, as on 31.10.2019, NCDC has released Rs.2035.44 crore under this head.
- b) **Poultry:** NCDC has been extending assistance to poultry cooperatives. Cumulatively, NCDC has released Rs.96.383 crore to 379 units/projects by the end of 31.10.2019.
- c) **Dairy & 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 2019-20 (as on 31.10.2018), under the dairy & livestock programme, NCDC has sanctioned financial assistance of Rs.370.64 crore and released Rs.376.61 crore. Cumulatively, as on 31.10.2019, NCDC has released an amount of

Rs.5680.52 crore to dairy & livestock cooperatives.

d) Handloom: The Scheme assists for the development of handloom cooperatives right from Apex, Regional and Primary Handloom Cooperatives. During 2019-20 (as on 31.10.2019), NCDC released Rs.0.44 crore. Since inception of the scheme, NCDC has released an amount of Rs.466.80 crore.

e) Jute: The scheme for development of jute cooperatives includes establishment/expansion/modernization of jute mills and construction of godowns and showrooms. During 2018-19, NCDC has released Rs.35.64 crore to 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 released Rs.39.61 crore for 183 units/projects.

13.5.10 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 NCDC has released Rs.3.06 crore in 2019-20 (as on 31.10.2019) and cumulative assistance release upto 31.10.2019 stood at Rs.327.35 crore.

13.5.11 Computerisation of Cooperatives:

NCDC has been encouraging and financing cooperatives for computerization from primary level to the national level by providing financial assistance for computerization which includes cost of hardware system & application software, networking, technical manpower, maintenance, infrastructure & site preparation, training & capacity building as well as technical guidance for computerization

of their processes. During the year 2019-20 (as on 31.10.2019), NCDC released Rs.22.47 crore and cumulatively released Rs.531.61 crore under this activity.

13.5.12 Integrated Cooperative Development Projects: NCDC is implementing an Integrated Cooperative Development Projects (ICDP) scheme in selected districts. During the year 2019-20 (as on 31.10.2019), NCDC has released assistance of Rs.42.56 crore for ICD projects.

13.5.13 Cooperatives in Least-Developed/Under-Developed States:

The process of economic development in the country had 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 shown below:

Cooperatively Least-Developed States/UTs: Arunachal Pradesh, Assam, Bihar, Jharkhand, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim, Tripura, Jammu & Kashmir (UT) and Ladakh (UT)

13.5.14 Cooperatively Under-Developed States/UTs: Andhra Pradesh, Chhattisgarh, Goa, Himachal Pradesh, Madhya Pradesh, Odisha, Rajasthan, Telangana, Uttar Pradesh, Uttarakhand, West Bengal, Andaman & Nicobar Islands (UT) and Lakshadweep (UT)

During 2018-19, NCDC sanctioned financial assistance of Rs.29304.30 crore and released Rs.22104.44 crore to LD/UD States accounting for 83.25% and 78.18% of total sanction & release respectively. Cumulatively, as on 31.03.2019, Rs.85832.33 crore were released to LD/UD States under various schemes of NCDC which accounts for around 68.73% of the total assistance released by the Corporation.

13.5.15 Development of Women Cooperatives:

NCDC encourages women cooperatives to avail assistance under its various schemes. A large number of women members are engaged & involved in cooperatives dealing with activities related to foodgrain processing, plantation crops, oilseed processing, fisheries, dairy & livestock, spinning mills, handloom & powerloom 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.

During the year 2018-19, NCDC sanctioned Rs.747.87 crore to 11 units under various programmes like ICD Projects, service cooperatives and diary and livestock programme and released Rs.190.21 crore under various programmes. NCDC assistance has been provided to these women cooperatives in the form of working capital loan to meet their fund requirement towards expansion of their businesses. By these initiatives of the Corporation for funding women cooperatives, more than 23 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.

Cumulatively, as on 31.12.2019, NCDC has sanctioned and released financial assistance of Rs.2816.83 crore and Rs.1940.98 crore respectively for the development of cooperative societies exclusively promoted by women. This included activities related to foodgrain processing, plantation crops, oilseed processing, fisheries, dairy & livestock, storage, spinning mills, handloom & powerloom weaving, Integrated Cooperative Development Projects & service cooperatives.

In the 4921 projects/units sanctioned in 2018-19, it is estimated that 23.86 lakh women are enrolled as members, out of which 1016 women members are Directors on the Boards.

NCDC established the Laxmanrao Inamdar National Academy for Cooperative Research and Development (LINAC) at Gurugram, Haryana as its training institute to train and develop personnel engaged in NCDC assisted projects / schemes. During 2019-20, the Institute held 36 training programmes wherein 900 participants attended the trainings. The Corporation has set up 6 Regional Training Centres (RTCs) of LINAC at Bengaluru, Bhubaneswar, Gandhi Nagar, Hyderabad, Kolkata, and Pune. The RTCs have conducted 11 training programmes for Primary Level Cooperative Societies in which 201 participants were trained.

13.6 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/training, skill development programmes and for undertaking commercial/economic activities

for self-reliance and sustained growth and development. During the year 2018-19, financial assistance has been provided to the following National Level Federations:-

13.6.1 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 2018-19, Rs.10.00 lakhs as grants-in-aid has been released to it.

13.6.2 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, 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 2018-19, Rs.5.00 lakhs as grants-in-aid has been released to it.

13.6.3 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 2018-19, Rs. 5.00 lakhs as

grants-in-aid has been released to it. The Federation's objectives are to provide a common forum to 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 Government of India, the Reserve Bank of India and the respective State Governments.

13.6.4 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 2018-19, Rs.17.50 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 the economically weaker sections of society.

13.6.5 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 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 2018-19, Rs.27.50 lakhs as grants-in-aid has been released to it.

SUGAR FEDERATION

13.7 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 to problems of its member cooperative sugar factories and allied subjects.
- (v) To act as accredited representative and spokesperson organisation of the cooperative sugar sector factories at the policy fora of the 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.

13.8 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 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 is also conducting various programmes at NCUI Head Office.

During the financial year 2019-20 (From 1st April 2019 to 30th September 2019), NCUI through its Cooperative Education Field Projects conducted wide-ranging programmes on various issues of Cooperative Development. Under UDS Projects, NCUI has organized 18384

trainings in which, 2,81,907 participants have been benefited.

The National Centre for Cooperative Education (NCCE) of NCUI during the year 2018-19, organized 133 training programmes against the target of 75 programmes including a 12 weeks Diploma Programme in Cooperative Education and Development. 4495 persons from various sectors of the cooperative movement in different states were trained through these programmes. Out of 133 training programme, 28 programmes were for weaker sectors like labour, fisheries, tribal cooperatives etc. and exclusively for SC/ST cooperatives in which 112 persons participated. Sixteen programmes were organized exclusively for women cooperatives in which 524 women participated. During April-September, 2019, NCUI through its NCCE organized 74 programmes with 2412 participants against the target of 50 programmes and 1500 participants. Out of these events 14 programmes with 464 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, 14 programmes were conducted exclusively for women participants. During this period, courses like Diploma on Cooperative Management 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 the students may establish cooperatives for self employment and also meet the requirement of professionals of cooperative organizations in India. During the Financial Year 2018-19, no grant-in-aid was released to NCUI by DAC&FW.

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. 1636.75 Lakhs towards Assistance to NCCT and Rs. 70.00 Lakhs towards Assistance to NCCT (NER) during the year 2018-19. During the year 2018-19, NCCT has organized 1817 training programmes and trained 62517 participants against the target to organize 1740 training programmes and to train 43,500 participants. During the current financial year 2019-20, a sum of Rs. 710.00 Lakhs has been released till date as grants-in-aid to NCCT including NE Region Out of the total 1740 planned programmes during the year 2019-20 and to train 43500 participants, NCCT conducted 785 training programmes and trained 26817 participants up to October, 2018.

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.

Assistance is also given to the Centre for International Cooperation and Training in Agricultural Banking (CICTAB) Pune. During the year 2018-19, a sum of Rs. 3.75 Lakhs has been released to CICTAB to conduct two international training programmes for the personnel working in the cooperatives of SAARC countries.

13.8.1 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, Bengaluru, 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, for 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 MBA affiliated with State Universities.

13.8.2 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 Securities and 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.

13.8.3 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 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.

13.8.4 TARGET AND ACHIEVEMENT

PROGRESS OF TRAINING PROGRAMMES-NCCT UNITS DURING THE LAST FOUR YEARS 2015-18 & 2018-19

Year	Target		Achievement	
	Prog	Participants	Prog	Participants
2015-16	1600	40000	2170	70687
2016-17	1600	40000	2012	63147
2017-18	1600	40000	1924	61548
2018-19 (Upto January 2019)	1740	43500	1491	50591

Chapter 14

Agricultural Trade

14.1 Overview

The 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. The Agriculture Trade Policy, Promotion and Logistics Development Division is the nodal Division of the Department for coordinating/formulating responses on the World Trade Organization's (WTO) Agreement on Agriculture (AoA) including 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).

14.2 India's Agriculture Trade

14.2.1 India has emerged as a significant Agri-exporter in several crops viz. rice, spices, cotton, oil meals, castor oil, coffee, cashew, tea, fresh vegetable and sugar. As per WTO's Trade Statistics, the share of India's agricultural exports and imports in the world agriculture trade in 2018 were 2.15% and 1.54%, respectively.

14.2.2 Share of agricultural exports as a percentage of agricultural GDP has increased

from 9.4% in 2017-18 to 9.9% in 2018-19. During the same period, share of agricultural imports as a percentage of agricultural GDP has declined from 5% to 4.9%.

14.3 Agricultural Exports and Imports

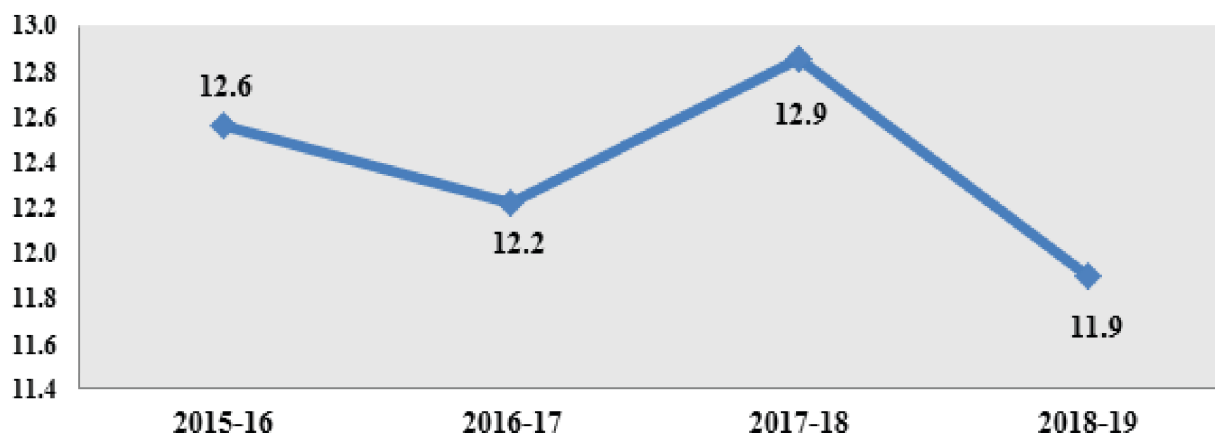
14.3.1 Export of agricultural commodities has helped producers to take advantage of the wider international market and get the farmers better prices for domestic production. Crops exported in large quantities viz. rice, sugar, and spices have witnessed a significant increase in area coverage and in the growth rate of production.

14.3.2 Agri and allied exports increased significantly from Rs. 2,26,652 crores in 2016-17 to Rs. 2,74,575 crores in 2018-19, thereby registering a growth of nearly 21.1%, the growth was maintained but at a lower scale of 9.1% during 2018-19 as against 2017-18. Major commodities which witnessed high growth in the year 2018-19 were sugar (82%), oil meals (50%), Basmati Rice (22%), raw cotton (20%), spices (16%) etc.

14.3.3 Major destinations of exports for India's Agri and allied commodities are the United States of America, Vietnam, United Arab Emirates, Bangladesh, Saudi Arabia, Iran, China, Malaysia, Indonesia, Nepal, the Netherlands, Japan, Pakistan, Thailand and the United Kingdom.

14.3.4 The share of agricultural exports in India's total merchandise exports remained in the range of 12% but showed a decrease from 12.9% in 2017-18 to 11.9% in 2018-19.

% Share of Agri and Allied Exports in Total Merchandise Exports



Source: Department of Commerce, Government of India

14.3.5 India's top 10 agricultural export commodities in terms of value for the year 2016-17 to 2018-19 are given in 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	
		Qty	Value	Qty	Value	Qty	Value
1	Rice (Basmati)	3985	21513	4057	26871	4415	32804
2	Spices	1014	19111	1096	20085	1092	23218
3	Rice (Non-Basmati)	6771	16930	8819	23437	7600	21185
4	Raw Cotton	996	10907	1101	12200	1143	14628
5	Oil Meals	2632	5410	3571	7043	4486	10577
6	Sugar	2544	8660	1758	5226	3988	9519
7	Castor Oil	599	4522	697	6730	619	6170
8	Tea	243	4906	273	5397	270	5828
9	Coffee	289	5646	318	6245	283	5722
10	Fresh Vegetables	3404	5791	2448	5298	2933	5668
Total Agri & Allied Exports			226652		251564		274575

Source: Department of Commerce, Government of India

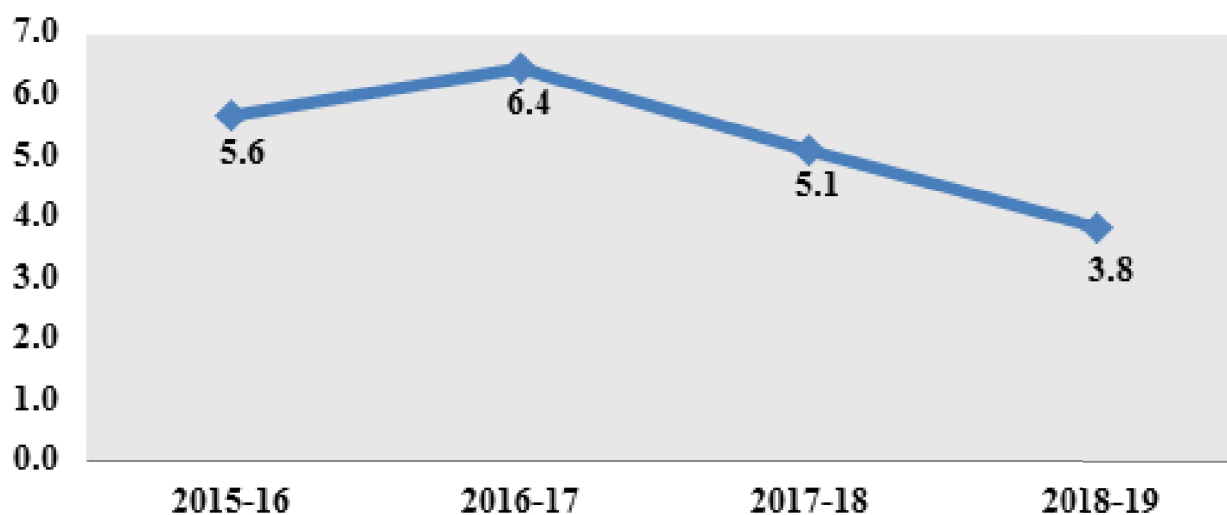
14.3.6 India's Agri and allied commodities imports also decreased significantly from Rs. 1,64,681 crore in 2016-17 to Rs 1,36,990 crore in 2018-19, thereby registering a fall of nearly 16.8%. As compared to the previous year, the Agri and allied imports in the year 2018-19 fell by 9.9 %. Decrease in value of Agri and allied imports during 2018-19 were primarily on account of lower import of vegetable oils, pulses, raw cotton, sugar, coffee etc. Major commodities which witnessed decrease in the year 2018-19 as compared to 2017-18 were pulses (57%), sugar (47%), raw cotton (31%) and vegetable oils (8%) etc. The import of vegetable oils in 2018-19 constituted about 50 % of India's total import of Agri and allied

commodities. Out of various vegetable oils imported, palm oil constituted the largest share (around 60%), followed by soybean oil (22%) and sunflower oil (17%).

14.3.7 Major source of imports 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.

14.3.8 The share of Agri and allied imports in total merchandise imports decreased from 5.1% in 2017-18 to 3.8% in 2018-19.

% Share of Agri and Allied Imports in Total Merchandise Imports



Source: Department of Commerce, Government of India

14.3.9 India's top 10 agriculture import commodities in terms of value for the year 2017-18 to 2018-19 are given in Table 2 below:

Table 2: India's Imports of Top-10 Agricultural Commodities

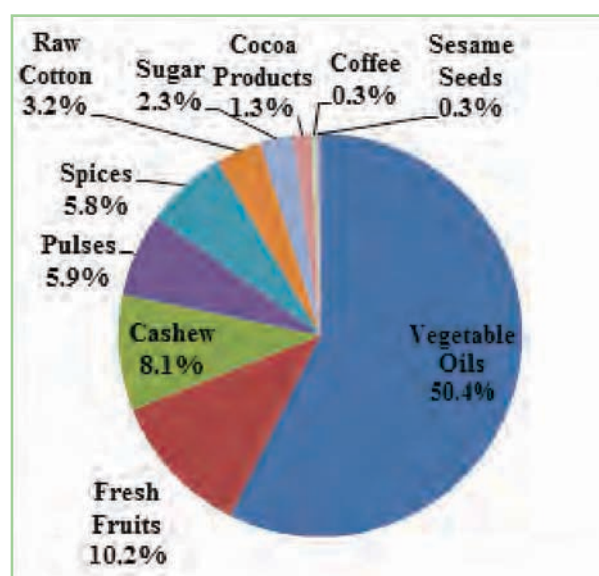
[Value in Rs. Crores, Quantity in '000' Tonnes]

S. No.	Commodity	2016-17		2017-18		2018-19	
		Qty	Value	Qty	Value	Qty	Value
1	Vegetable Oils	14010	73048	15361	74996	15019	69024
2	Fresh Fruits	1040	11241	995	12525	1124	13932
3	Cashew	774	9027	654	9134	840	11162
4	Pulses	6609	28524	5608	18749	2528	8035
5	Spices	240	5758	222	6385	240	7911
6	Raw Cotton	499	6337	469	6307	299	4383
7	Sugar	2146	6869	2403	6036	1491	3175
8	Cocoa Products	64	1540	71	1473	88	1846
9	Coffee	78	927	77	997	83	959
10	Sesame Seeds	69	442	26	177	88	875
Total Agri & Allied Imports			164681		152095		136991

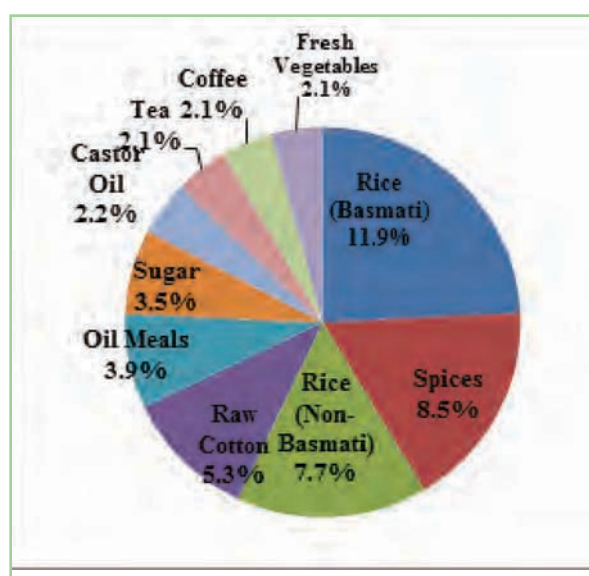
Source: Department of Commerce, Government of India

14.3.10 Share of top 10 exported and imported agricultural commodities during 2018-19 are as follows:

Import share in 2018-19 (Top-10 Items)



Export share in 2018-19 (Top-10 Items)



Source: Department of Commerce, Government of India

14.4 Agriculture Export Policy (AEP)

An Agriculture Export Policy was rolled out in Dec, 2018 with the vision to harness export potential through suitable policy instruments and to make India a global power in agricultural trade. In line with the Governments' vision of Doubling Farmers' Income by 2022, AEP seeks to double agriculture exports from the present ~US\$ 30+ to ~US\$ 60+ Billion by 2022. Exports are further targeted to be increased to the level of US\$ 100 Billion thereafter in a few years through a stable trade policy. AEP also focuses on cluster development, diversification of the Agri export basket, boosting high value and value added Agri exports including organic products and enabling farmers to get benefit of export opportunities in overseas markets. Some of the major components of the AEP are as follows:

- Creation of a stable policy regime
- Reforms in the APMC Act and streamlining of mandi fee
- Greater involvement of State governments in Agri exports and identification of nodal state departments/agencies for Agri export promotion
- Inclusion of agricultural exports in state export policy
- Strengthening of infrastructure and logistics support services to facilitate Agri exports with a cluster orientation.
- Promotion of value added exports including organic products
- Develop packaging and quality standards.
- Promotion of organic products of the North East region.
- Skill Development

- Promotion of Brand India.
- Focus on Ease of Doing Business and Digitization
- Resolving of Sanitary and Phytosanitary (SPS) and Technical Barrier of Trade (TBT) issues.
- Creation of Agri start-up fund.

14.5 Foreign Trade Policy

14.5.1 India, with a large and diverse agriculture, is among the world's leading producers of rice, wheat, sugarcane, castor seeds, groundnut, millet, sesame seed, fruits and vegetables. Therefore, changes in its balance sheet for key commodities will have a potentially large impact on world markets. Over the years, India has developed export competitiveness in certain specialized agriculture products viz. basmati rice, spices, non-basmati rice, castor oil, and oil meals.

14.5.2 Recent measures taken on foreign trade policy of agricultural commodities

- Export of all varieties of edible oil except mustard oil has been made free with effect from 6th April 2018. However, export of mustard oil in branded consumer packs of up to 5kg continues to be permitted for export with a Minimum Export Price (MEP) of USD 900/MT.

14.5.3 The export incentive scheme available for agriculture and all other sectors is under revision. Detailed inputs were prepared and shared with DOC after in depth examination of incentives and Agreement on Agriculture.

Import conditions and tariffs:

- Minimum Import Price (MIP) for cashew kernel, broken has been increased from Rs 288/kg to Rs 680/kg and cashew

kernel, whole from Rs 400/kg to Rs 720/kg respectively in June 2019.

- Import duty on wheat has been increased from the existing 30% to 40% in April 2019.
- The procedure for import of 1.75 lakh MT of pigeon peas (*Cajanus Cajan*) tur dal from Mozambique has been laid down during the fiscal year 2019-20 under the MoU between the Government of India and the Government of the Republic of Mozambique, for cooperation in the field of production and marketing of pigeon peas (tur) in April 2019.
- The procedure for import of maize (feed grade) under Tarrif Rate Quota (TRQ) Scheme has been notified for 2019-20 with the following relaxations/conditions:
 - ✦ Import of 4 lakh MT (plus 1 lakh MT notified conditioning actual users) of feed-grade maize (corn) under TRQ is allowed.
 - ✦ Application invited from STEs for import of feed-grade maize (corn) under the TRQ Scheme @ 15% customs duty and meant only for actual users. Import for trading purpose is not allowed.
- Import of pulses is free without any restrictions except for peas, tur, moong

and urad. Details of quantity allowed to be imported for the fiscal year 2019-20 are as follows:

- ✦ peas (1.5 Lakh MT) with minimum import price of Rs. 200/kg
- ✦ moong (1.5 Lakh MT)
- ✦ pigeon peas/tur (4 Lakh MT)
- ✦ urad (4 lakh MT)
- In addition to these, import of tur to the extent of 1.75 lakh MT is allowed for Mozambique.
- Under India-Mercosur Trade Agreement, DGFT has notified 30,000 MT of Tariff Rate Quota (TRQ) for the import of crude soya oil from Paraguay on August, 2019.

14.6 Foreign Direct Investment (FDI) Policy in Agriculture

14.6.1 Hundred percent FDI has been allowed in development and production of seeds and planting material. In addition, 100 percent FDI is allowed for floriculture, horticulture and cultivation of vegetables and mushrooms under controlled conditions. Also, 100 percent FDI is allowed in animal husbandry, pisciculture, aquaculture and services related to agro and allied sectors. Similarly, 100 percent FDI is allowed in the plantation sector namely tea, coffee, rubber, cardamom, palm oil tree and olive oil tree.

14.6.2 Time series of FDI in agriculture 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 (April-September)	677.81	97.20

Source: Department for Promotion of Industry and Internal Trade (DPIIT)

14.7 Goods and Services Tax

14.7.1 The Government rolled out a new tax regime namely the Goods and Services Tax (GST) with effect from 1st July 2017. GST envisages introducing 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). GST is more a comprehensive, compliable, simple, harmonized and development oriented tax system. The GST, unlike the earlier system, will allow the supplier at each stage to set-off the taxes paid at previous levels in the supply chain. It is essentially a tax on value added component at each stage. The final consumer will thus bear only the GST charged by the last dealer in the supply chain, with set-off benefits at

all the previous stages. The Division has been taking up GST related issues with the Ministry of Finance when any demand is made by various farmer organizations and bodies.

14.7.2. Service Tax on the agricultural sector: Most service activities relating to agriculture are currently exempted from the levy of service tax under GST.

14.8 FTA, WTO, Agri-cells

14.8.1 FTA/CECA/CEPA/CECPA

The issues pertaining to various bilateral, multilateral and regional trade agreements and Partnership agreements were examined. The Division also furnished inputs for the India-USA Mini Trade deal during November, 2019.

14.8.2 WTO Meetings

Officers of the Agriculture Trade Policy, Promotion and Logistics Development Division participated in 90th and 91st Meeting of the Committee on Agriculture (CoA) at the World Trade Organisation in Geneva, Switzerland. Issues related to quantitative restriction on pulses, rise in import duty on wheat, tariff rate quota (TRQ) on rapeseed/colza/mustard oil, increased import duty protections on several edible oils (i.e. soyabean oil, sunflower oil and canola oil), issues of Merchandise Exports from India Scheme (MEIS) benefits on non-basmati rice and soyabean meal was replied and inputs were also shared with the Department of Commerce. Major countries such as the USA, New Zealand, Australia, Canada, EU, Thailand, Russia, Ukraine, and Japan have raised these issues.

14.8.3 Strengthening India's Agri Export –Creation of Agri-Cells in nations abroad

Agri-cells were created and officials were nominated by the Ministry of External Affairs in the top agriculture produce export destinations wherein India has a trade deficit in Agri & allied trade for robust agri-export and handling agri-trade and related issues. Now, Agri-Cells have been formed in 13 countries namely UAE, USA, Saudi Arabia, Vietnam, China, Nepal, Bangladesh, Iran, Malaysia, Japan, Argentina, Indonesia and Singapore.

14.9 Institutional Mechanism for In-House Knowledge Management

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 the 'Agriculture Trade Policy, Promotion and Logistics Development Division' at <http://agricoop.nic.in/divisions>.



Chapter 15

Rashtriya Krishi Vikas Yojana (RKVY)

15.1 Overview

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. 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.

15.2. Objectives of the 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, 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.

15.3 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.

15.4. 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 SAPs for identifying a shelf of projects for RKVY -RAFTAAR.

15.5. 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 sector-wise cost of projects approved by the States under the scheme during the last year and current year is given respectively at **Annexures-15.1 and 15.2.**

15.6. 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. Eight 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 and 2019-20 is Rs.450 crore , Rs.315 crore and 375 crore respectively.

- ii. Crop Diversification Programme (CDP):** This scheme was launched in 2013-14 to promote technological innovation to encourage farmers to choose crop alternatives. The allocation for this programme during 2017-18, 2018-19 and 2019-20 is Rs. 40 crore, Rs. 19.96 crore and Rs. 20 crore respectively.
- 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 and 2019-20 is Rs.30 crore, Rs.20 crore and Rs.20 crore respectively.
- iv. Additional Fodder Development Programme (AFDP):** This programme was launched in 2014-15 in order to mitigate the impact of drought on livestock. The allocation for this programme for 2017-18 was Rs. 20 crore and for 2018-19 and 2019-20 is Rs.10 crore and Rs.20 crore respectively.
- v. 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. The allocation for the programme for 2019-20 is Rs.55 crore.
- vi. 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 the current year (i.e. 2019-20) Rs.40 crore is earmarked for the rabies control programme, mobile veterinary units and glanders surveillance units under this sub-scheme.

- vii. 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. The allocation for the programme in 2019-20 is Rs.25 crore.

- viii. Pilot Intervention for Most Vulnerable Drought Prone Districts:** This programme was also initiated as a sub-scheme during 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. The allocation for the programme in 2019-20 is Rs.5.40 crore.

15.7. Success Stories

Some of the success stories reported by the States under the scheme are given hereunder:

RKVY- ANDHRA PRADESH

BACKYARD POULTRY- A BOON TO THE TRIBAL COMMUNITY (A success story of Sri Venkateswara Veterinary University)

THE INITIATIVE

- ✦ Promoting backyard poultry in tribal areas through improved breeds.

THE BENEFICIARIES

✦ Savaras, Jatapus, Paidi - native tribals of Kurupam, Gummalakshmi Puram

mandals of Vizianagaram District, Andhra Pradesh



PROBLEM

- Backyard poultry is a traditional livelihood activity of tribal people. But it has been encountering constraints such as low

egg production and poor weight gain of birds, poor vaccination facilities and higher mortality rate.



Backyard poultry in Gujjipadu village



Backyard poultry in Durbili village

THE CHALLENGE

- ✦ Illiteracy of the tribal community
- ✦ Lack of awareness about nutrition
- ✦ Lack of knowledge about improved breeds
- ✦ Promoting alternative livelihoods

THE SOLUTION

- ✦ Creating awareness on importance of backyard poultry
- ✦ Promoting improved breeds of poultry
- ✦ Promoting micro-enterprises



Kadaknath



Rajasree

THE INTERVENTION

An initiative of promoting backyard poultry in tribal communities with improved breeds like Vanaraja, Kadaknath, Rajasree was taken up by KVK, Rastakuntubai. Tribal families were given training by the KVK scientists for maintenance of backyard poultry with improved breeds. Each family was provided with 10-20 birds of improved breeds.

Krishi Vigyan Kendra, Rastakuntubai trained them with necessary knowledge on these birds. With technical guidance of KVK, Rastakuntubai, tribal farm families of Gujjipadu and Durbili villages could successfully establish backyard poultry units after acquiring knowledge regarding maintenance of shed, rearing of birds, vaccination schedules and marketing etc.



Distribution of improved breeds of poultry to tribal families

THE OUTPUT

Awareness was spread among tribal farm families about the nutritional & income benefits of backyard poultry with improved

breeds. The nutritional status of farm families especially vulnerable groups of women & children was found to have improved besides receiving additional income of Rs 600-800 per week by selling eggs & chicken.

Eggs of Rajasree and Kadaknath



Hatching eggs under Desi hen



THE OUTCOME

Income & nutritional security to the tribal community was achieved through backyard poultry farming with improved breeds. They could establish microenterprise units by

hatching eggs of these improved breeds, multiplying the chicks & selling them. Farmers from the neighbouring villages were also attracted due to benefits gained by these birds. They approached KVK scientists for further guidance to adopt the technology.

THE IMPACT

Economic impact of Kadaknath and Rajasree birds

S.No	Particulars (per bird)	Kadaknath bird	Rajasree bird
1	Maximum wt in 2 years (kg)	2.5 (kg)	4 (kg)
2	Cost including feed (Rs)	1000	
3	Sale Price (Rs)	2000 per bird	1600 per bird
4	Profit (Rs)	5000 for 10 birds	

Tribal farmers receive a profit of Rs. 2000/- on Kadaknath by sale of two birds and Rs. 3000/- on sale of 5 Rajasree birds. Earlier with Desi birds, farmers used to gain Rs.1500/- per month. Now they are receiving

Rs.5000/- per month through the sale of eggs and birds. With this result, the intervention has quickly attracted farmers, farm women, and tribal youth from within and nearby villages in the tribal areas of the district.

Chapter 16

Drought Management

16.1 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 the annual rainfall. DAC&FW closely monitors the progress of the SWM in the country, in coordination with the India Meteorological Department (IMD) and keeps a watch over deficient/large deficient rainfall conditions.

16.2 DAC&FW has reviewed and updated the Crisis Management Plan (CMP) for Drought (National) during the current year i.e. 2019. The Plan defines the roles and responsibilities of various agencies involved in crisis management including media management during drought. CMP 2019 (National) was circulated to all States/Union Territories for preparing their own CMPs.

16.3 State Governments initiate necessary relief measures in the wake of natural calamities including drought, 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 General Category States (18 out of 28, 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 Special Category States (10 out of 28, namely, 8 North Eastern States of Arunachal Pradesh, Assam, Manipur, Meghalaya, Mizoram, Nagaland, Sikkim and Tripura and 2 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 has been made on the basis of recommendations' of the 14th Finance Commission for a period of 5 years from 2015-16 to 2019-20 and allocation under SDRF is for State Governments only.

16.4 During the year 2019-20, as per information available till date, the State Governments of Manipur and Rajasthan have declared drought and submitted Memoranda seeking financial assistance from NDRF. Inter-Ministerial Central Teams (IMCTs) have visited the States to assess the loss/damage to crops etc. and recommend appropriate financial assistance from NDRF.

16.5 The Central Research Institute for Dryland Agriculture (CRIDA), under the Indian Council of Agricultural Research (ICAR) has developed a detailed District-

wise contingency plan to provide a broad advisory to farmers at the district level, prescribing 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 in the country.

16.6 Every Ministry/Department is mandated to prepare a Disaster Management Plan under Sections 36/37 of the Disaster Management (DM) Act, 2005. A Drought Management Plan has already been prepared in 2017 by this Department as required under the Act. The task of preparation of the National Agriculture Disaster Plan is underway.

16.7 Based on the directive of PMO, the DAC&FW has initiated work of preparation of District-wise Action Plans for drought proofing. 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). The Project of preparation of DDPPs for 24 identified districts was assigned to CRIDA which has prepared and submitted the plans. These Plans were handed over to NRAA for preparing a convergence map and an expenditure plan for implementation in consultation with State Governments. NRAA is in the process of implementing these plans in consultation with State Governments.

Chapter 17

International Cooperation

17.1 Overview

17.1.1 Mandate & 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. The Department of Agriculture, Cooperation & Farmers' Welfare is the contact point in the Government of India for the Food & Agriculture Organization (FAO) and the World Food Programme (WFP) of the United Nations. Bilateral Agreements, Memoranda of Understanding (MoU), 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.

17.1.2 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.

17.2 COOPERATION WITH INTERNATIONAL ORGANISATIONS:

17.2.1 FOOD & AGRICULTURE ORGANIZATION (FAO):

India collaborates with the 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 year 2018. This document will be succeeded by a new country programming framework for the period 2019-2022 in line with UN Sustainable Development Goals (SDGs) within the framework of the United Nations Sustainable Development Framework (UNSDf).

Important FAO events/meetings attended:

- i. The 161st Session of the FAO Council was held in Rome, Italy during 08-12 April, 2019.
- ii. The 41st Conference of FAO of Election of Director General, FAO was held in Rome, Italy during 22nd-23rd June, 2019.

- iii. The 46th Session of the Committee on World Food Security was held in Rome, Italy during 14th-18th October, 2019.
- iv. The 163rd session of the FAO Council was held in Rome, Italy during 2-6 December, 2019.

The details of the major projects which are currently under implementation with FAO assistance in the States are as under:

- (i) Strengthening Agriculture and Allied Sector Contributions to India's National Biodiversity Action Plan (NBAP) 2008 and National Biodiversity Targets (NBTs): The Project is implemented in the States of Kerala, Punjab and Mizoram. The project supports the efforts of the Government of India (GOI) with increased capacity at national, state and local levels through the development of policy with strategy and an action plan on mainstreaming biodiversity conservation into agriculture and allied sectors.
- (ii) Implementing, Monitoring and Analyzing Food and Agricultural Policies (MAFAP) Programme: The project is implemented in the States of Chhattisgarh, Gujarat, Haryana, Bihar, Uttar Pradesh and Odisha. The TCP provides technical support to establish and strengthen a country-owned, robust policy monitoring and analysis mechanism in the areas of food and agriculture.
- (iii) Technical Assistance for Development of Sustainable Agricultural Value Chains in Mizoram. The project is implemented in the State of Mizoram to strengthen the capacity of community stakeholders to improve livestock management; for sustainable and ecological jhum management and to develop business plans for sustainable value chain development.
- (iv) Technical Assistance for Development of Sustainable Agricultural Value Chains in Nagaland. The project is implemented in the State of Nagaland to strengthen the capacity of community stakeholders for sustainable and ecological jhum management, develop business plans for sustainable food value chains and improve and upgrade the agricultural curriculum.
- (v) Scaling-up agro ecology through policy support and farmer field schools on Zero Budget Natural Farming: The objective of the project is to strengthen methodologies and capacities on agro-ecology to improve farmer livelihoods and ecosystem resilience in India.
- (vi) Time-critical measures to support early warning and monitoring and sustainable management of the Fall Armyworm in India: The objective of the project is to increase resilience of rural livelihoods to climate change, recurrent natural disasters and assistance in trans-boundary cooperation.
- (vii) Scaling-up agro-ecology through policy support and Farmer Field Schools on Zero Budget Natural Farming: The objective of the project is to improve agricultural productivity and increase farm incomes and to reduce vulnerability, enhance social inclusion, skilling and employability in the agriculture sector.

(viii) Sustainable and resilient livelihood options for rain-fed areas of India through improved integrated crop livestock farming system: The project is implemented in rain-fed areas to enhance resilience and sustainability of livelihood options in rural rain-fed areas for farmers through integrated crop livestock farming.

17.2.2 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 the Government of India for the biennium is US \$1.92 Million towards WFP Pledge Contribution which is used by them to support the WFP India Country Programme. Besides, Gol makes an annual payment of Rs. 30 Lacs 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 2020-21 and 2021-22.

A 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 Gol and the UNWFP was signed for 2019-2023.

17.2.3 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. India has so far pledged US\$ 211 million, for the current replenishment cycle 2019-2021. The Government of India pledged US\$ 60 million. The Department of Economic Affairs is the nodal for IFAD in India.

Currently, the following projects with assistance from IFAD are under implementation in the agricultural sector:

- (i) Andhra Pradesh Drought Mitigation Project – Implemented by the State Government of Andhra Pradesh, the overall goal of the programme is to improve incomes and strengthen drought resilience. The Development Objective is to strengthen adaptive capacity and productivity of agriculture in the rainfed areas of five districts in southern AP.
- (ii) Fostering Climate Resilient Upland Farming System in Northeast (FOCUS) (Nagaland & Mizoram) – Implemented by the states of Mizoram and Nagaland, the overall goal of the project is to increase agricultural income and to enhance their resilience to climate change. This would be achieved through the development objective of increasing environmental sustainability and profitability of farming systems practiced by highland farmers.

17.2.4 Other International Organizations:

In addition to the 3 Organisations already mentioned, this Department is a member of the following International Organizations (IOs) and the annual contributions to these International Organizations are made as per agreed commitment/agreement:

1. Trust Fund of FAO for Desert Locust in 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)
7. International Institute of Refrigeration (IIR)

17.3 BILATERAL COOPERATION

17.3.1 MoU/MoC/Agreements/Work Plans: MoUs/MoCs/Agreements with 62 countries Department of Agriculture, Cooperation and Farmers' Welfare has entered into 65 in the field of agriculture.

17.3.2 As a follow up of the various MOUs, meetings of the following Joint Working Group (JWG) were held in 2019:

SI No	Event and country	Date	Venue
1	4 th Meeting of India-South Africa Joint Working Group	24.01.2019	New Delhi.
2	1 st meeting of India-Palestine Agricultural Steering Committee	18.03.2019	New Delhi.
3	6 th meeting of India-Germany Joint Working Group	27.03.2019	New Delhi.
4	1 st meeting of India-Uzbekistan Joint Working Group	05.09.2019	Through DVC.
5	1 st Meeting of India-Bangladesh JWG	7-8 December, 2019	Dhaka, Bangladesh

17.3.3 INDIA-NEPAL COOPERATION:

The inaugural meeting of the 'India-Nepal New Partnership in Agriculture' was held under the Chairmanship of Hon'ble Minister of Agriculture and Farmers' Welfare and Hon'ble Agriculture Minister of Nepal on 19.6.2018 at New Delhi. Among other areas of cooperation identified, India will assist Nepal in organic farming and soil health under a mutually approved Detailed Project Report (DPR) with a budgetary allocation of

Rs 5.01 crores to be provided by India. Under this Pilot Project, two training programmes on Organic Farming and Certification for 20 Nepalese participants each, was organized by the National Centre for Organic Farming (NCOF), Ghaziabad from 15th November, 2018 to 14th December, 2018 and 1st February, 2019 to 2nd March, 2019. Also, one International Course on Management of Soil Health and Fertility for 20 Nepalese

participants was organised during 25th November, 2019 to 24th December, 2019 at Central Fertilizer Quality Control & Training Institute (CFQC&TI), Faridabad, Haryana under the India-Nepal New Partnership in Agriculture.

17.3.4 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 also been included under the India-USAID Trilateral Cooperation.

17.4 STRATEGIC GROUPS :

17.4.1 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.

17.4.2 G-20: One first meeting of G-20 Agriculture Deputies was attended by Joint Secretary(IC) DAC&FW during 5th-7th March, 2019 in Tokyo, Japan and the second meeting of G-20 Agriculture Deputies held on 10th May, 2019 in Niigata, Japan was also attended by Joint Secretary(IC), DAC&FW. G-20 Agriculture Ministers' Meeting was held on 11th-12th May, 2019 in Niigata, Japan, attended by Member NITI Aayog and Joint Secretary(IC), DAC&FW.

17.4.3 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 9th June 2017 at a summit in Astana. Regular Meetings of the SCO Permanent Working Group (PWG) on Agriculture was held in Bishkek, Kyrgyzstan on 25th September 2019 in which a draft Implementation Plan on Cooperation on Food Security was discussed. Further, a meeting of the Permanent Working Group (PWG) on Agriculture issues of SCO States was held on 10th-11th December, 2019 in Moscow, Russia.

17.4.4 BRICS: The Indian delegation participated in the Ninth Meeting of BRICS Ministers of Agriculture held in Bonito, Brazil on 25th-26th September 2019, under the theme "Promoting Innovation and Actions to Enhance New Solutions for Food Production Systems." Collaboration in the areas of food productivity, food safety and environmental security were discussed in the meeting. Issues concerning innovation in the communication sector, agritech

start-up companies, trade facilitation, scientific principles, risk based approach and sustainable development in Agriculture were also discussed in the meeting.

17.5 INTERNATIONAL EVENTS :

17.5.1 International Seminars/ Workshops/Conferences etc. : During 2019-20 (upto December, 2019), this Department took part in 100 International Conferences/Meetings/ Seminars/Trainings etc. dealing with various aspects of agricultural development organized by the FAO and others.

17.5.2 World Food Day (WFD): World Food Day (WFD) was celebrated throughout the country on 16th October, 2019 to commemorate the founding day of the FAO. The theme of WFD 2019 was “Healthy Diets for a # Zero Hunger World”.

On the occasion of World Food Day on 16th October, 2019, a ‘Poshan Vatika’(Nutrition Garden) was inaugurated in the Anganwadi Centre at Gejha in Noida by the Department of Agriculture Cooperation and Farmers’ Welfare and the Ministry of Women and Child Development. The event was attended by Joint Secretary, DAC&FW and Joint Director (Poshan Abhiyan), M/o WCD and other officers from both the Ministries. On the occasion, pregnant women were distributed packets of nutritional food & fruits. The importance of nutritional food in the form of fruits, vegetables and millets was emphasised among pregnant women and malnourished children. Tomatoes, cabbage, carrots, fenugreek, spinach, papaya, beetroot plants were planted on a 1000 square feet of land at Gejha, Anganwadi center.

17.5.3 Declaration of 2023 as the International Year of Millets: The Food and Agriculture Organization (FAO) of the United Nations (UN) has approved the proposal of the Government of India to observe 2023 as the International Year of Millets (IYM).The approval came during the 160th Session of the FAO Council currently being held in Rome from 3rd-7th December 2018. The proposal will next move to the United Nations General Assembly (UNGA) for consideration and approval.

17.6 EXTERNAL ASSISTANCE :

17.6.1 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.

17.6.2 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;

by creating and enhancing partnerships at national, regional and global levels.

17.6.3 Japan International Cooperation

Agency (JICA): Himachal Pradesh Crop Diversification Promotion Project is being implemented.

17.6.4 Global Environment Facility (GEF):

GEF's mission is to safeguard the global environment by supporting developing countries in meeting their commitments to multiple environmental conventions and

GEF 6 : Under the Project 'Transforming Indian Agriculture for global environmental benefits and the conservation of critical biodiversity and forest landscapes' with GEF grant of \$33.55 million and co-financing of \$868.39 million, the following proposals have been approved :

- MP – Chambal landscape.
- Uttarakhand – Corbett Rajaji landscape.
- Odisha – Simlipal landscape.
- Mizoram – Dampa landscape.
- Rajasthan – Desert National Park landscape.

Chapter 18

Integrated Scheme on Agriculture Census & Statistics

18.1 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 to 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.

18.2 Target and Achievement during 2019-20

The tenth Agriculture Census with reference year 2015-16 is progressing in the country. The progress of phase wise activities of the Agriculture Census 2015-16 is given at next page:

Agriculture Census during 2019-20		
Phases	Target	Achievement
I	Completion of Phase-I	Data of Phase-I has been finalized and released. The report is placed in the public domain.
II	Completion of Phase-II	Data of Phase-II has been finalized. Preparation of report is completed.
III	Completion of Phase-III work (Input Survey 2016-17)	The work of phase-III is nearing completion and data has been finalized for 31 States/UTs. This phase is planned to be completed by March, 2020.

18.3 New Initiatives during Agriculture Census 2015-16:

Data of land holdings is being computerized in the country. Since, Agriculture Census is predominantly based on land records; the feasibility of extraction of data using computerized land records was experimented with in a few States viz., Andhra Pradesh, Telengana, Maharashtra and Gujarat during the Agriculture Census 2015-16.

18.4 The Way Forward

For compliance of survey timelines and to ensure quality of data, the extraction of data from computerized revenue records in States/UTs, digitization of data collection, scrutiny and processing with use of tables and improvement in Census methodologies are being planned in the Department for the ensuing 11th Census 2020-21.

18.5 Gender Perspective in Agriculture Census

Since 1995-96, following the recommendations of the Central Statistics Office, Ministry of Statistics and Programme Implementation, gender dis-aggregated data in Agriculture Census is 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.

18.6 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 published results of Phase-I include data from all the NE States.

All the North Eastern States have also finalized Phase-II and III.

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.					

Chapter 19

Sub-Mission on Agricultural Extension (SMAE)

Agriculture Extension:

19.1 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 the 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.

19.2 Major Schemes-Objectives

19.2.1 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 the district level. Under the Scheme grants-in-aid are released to states with an objective to support State Governments efforts at 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 in 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, agri-preneurs, 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 the 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 the Central/ 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.

19.2.2 MASS MEDIA SUPPORT TO AGRICULTURAL EXTENSION

This Scheme utilizes countrywide infrastructure and networks of All India Radio and Doordarshan and focuses on dissemination of the 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, farmers need technology, investment, better quality inputs, real time information and most of all the latest know-how for 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.

19.2.3 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 the behalf of the 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 the North-Eastern and Hill States. Now, benefits of MUDRA Scheme loans also are made available to entrepreneurs establishing agri-ventures under the Scheme.

19.2.4 KISAN CALL CENTERS (KCC)

The KCC Scheme was launched on 21st January 2004 to provide answers 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. 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 States and UTs. Calls are attended from 6.00 am to 10.00 pm on all 7 days of the week.

19.2.5 Human Resource Development (HRD) SUPPORT

DAC&FW has strengthened a network of training institutions in the country by supporting the National Institute of Agricultural Extension Management (MANAGE) at Hyderabad; four Regional Extension Education Institutes (EEl)s at the regional level and the State Agricultural Management & Extension Training Institutes (SAMETIs) at the State level.

Model Training Courses (MTCs): Model Training Courses of eight days' duration on thrust areas of agriculture and allied sectors are sponsored by the Directorate of Extension (DOE) with the objective of improving professional competence and upgrading the knowledge and skills of middle level field functionaries working in agriculture and allied departments of the State/UTs Governments.

Diploma in Agricultural Extension Services for Input Dealers (DAESI): DAESI is a 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 to their business with extension services, besides discharging regulatory responsibilities enjoined on them.

19.2.6 National Gender Resource Centre in Agriculture (NGRCA)

NGRCA of the DAC&FW has been established in Extension Division and is supported under the Scheme of Extension Support to Central Institutes/ DOE. 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 the 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.

19.3 Income/Production and Target Achievement

19.3.1 SUPPORT TO STATE EXTENSION PROGRAMMES FOR EXTENSION REFORMS SCHEME (ATMA SCHEME)

Implementation Status

- A total of 691 ATMAs have been constituted in 28 States and 5 UTs.

- Institutional arrangements viz. Inter Departmental Working Group (IDWG)/ in 28 States and 5 UTs, ATMA Core Committees – Governing Board (GB) & ATMA Managing Committee in 684 Districts; Block Technology Team (BTT) in 6040 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/3 UTs have been prepared and approved based on District Agriculture Action Plans of 672 ATMA districts. As against the B.E. of Rs. 614.83 crores, an amount of **Rs.530.40 crore has been released** to the States up to 31st December, 2019 for implementation of the Scheme and the total release since the inception of the Scheme in 2005-06 up to 31st December, 2019 has been to the tune of **Rs.5318.49 crore**.
- Physical performance of the Scheme since its inception in 2005-06 (April 2005) to 30th November, 2019 is as below:
 - ✦ Over 53191076 farmers including 12961895 farm women (24.37%) have participated in farmer oriented activities like exposure visits, trainings, demonstrations, Farm Schools & Kisan Melas.
 - ✦ Over 289429 Commodity based Farmer Interest Groups (CIGs)/ FIGs have so far been mobilized under the Scheme.
 - ✦ Over 151214 Farm Schools have been organized on the fields of outstanding farmers.
- Progress of implementation during the current financial year (up to November, 2019):
 - ✦ 2500589 farmers including 661701 farm women (26.50%) have been reportedly participated in farmer oriented activities like exposure visits, trainings, demonstrations & Kisan Melas.
 - ✦ 17650 CIGs/ FIGs organized.
 - ✦ 12361 Farm Schools organized.
 - ✦ 14353 specialists & functionaries have been reported as deployed under ATMA upto November, 2019.
 - ✦ 175562 Farmer Friends also identified by the States.

19.3.2 MASS MEDIA SUPPORT TO AGRICULTURAL EXTENSION

Telecast of Krishi Darshan Programmes

on Doordarshan: Under this Scheme, a 30 minute programme is being telecast 5 days a week through 1 National and 18 Regional Kendras of Doordarshan. Similarly, 96 Rural FM Radio Stations of All India Radio are being utilized to broadcast 30 minute programmes namely, Kisan Vani (6 days a week) and 03 programmes namely – Krishi Darshan, Hello Kisan and Choupal Charcha (5 days a week) on DD Kisan – a 24 hour dedicated Channel for agriculture and the farming community. A new programme ‘Kisan Ki Baat’, on the lines of Kisanvani is being broadcast from FM Gold channel of AIR, 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 a separate programme in respective dialects/languages.

Telecast/ Broadcast of spots/ jingles advisories under ‘Free Commercial

Time (FCT) on AIR and DD: In addition to the 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 Schools, 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 Neem Coated Urea, Pradhan Mantri Krishi Sichai Yojana, Crop Insurance Scheme, National Agriculture Market, Soil Health Card, Bee Keeping, Paramparagat Krishi Vikas Yojana and Organic Farming etc and contingency plans 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 a 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 media campaigns on its 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 Scheme (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 and broadcasting agriculture related programmes.

Print Media/Social Media: Awareness is also being 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.

Financial Provisions:- During the year 2019-20, out of 213.10 crore (BE), an amount of Rs. 148.16 crore has been incurred upto 26.09.2019 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.

19.3.3 ESTABLISHMENT OF THE AGRI-CLINICS AND AGRI-BUSINESS CENTRES (AC&ABC)

So far, 69,472 candidates have been trained and 28510 agri-ventures have been established in the country during the period of implementation of the Scheme upto December, 2019. During the year 2019-20, starting from April, 3706 candidates have been trained and 379 agri-ventures have been established upto December, 2019. Out of the ventures established since inception, 2475 have been subsidised as on December, 2019. During the year 2019-20, 140 ventures were subsidized.

The Scheme has been on-boarded with DBT Bharat Mission on 18-04-2017 and Aadhaar particulars have been made mandatory for deriving benefits under the Scheme. An online process for the 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 the 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 accessed at www.agriclinics.net.

19.3.4 KISAN CALL CENTERS (KCC):

Since inception of the Scheme till December, 2019 over **459.58 lakh** calls have been registered in the KCCs. During the current year around **46.95 lakh** calls have been

received upto December, 2019. In order to make farmers aware of this facility, audio and video spots on Kisan Call Centres have been broadcast/telecast through All India Radio and Doordarshan channels. A Kisan Knowledge Management System (KKMS) has been created at the backend to capture details of the farmers calling KCCs. A Modified Call Escalation Matrix has also been put in place. If the queries are not answered by the FTA, it is escalated to the 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 Personal Computers (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, call holding time less than 30 seconds etc. The farmer calling KCCs can also register for receiving SMSs from experts in the subject. With these modernized facilities at each KCC location, there has been an encouraging response from farmers.

19.3.5 HUMAN RESOURCE DEVELOPMENT (HRD) SUPPORT

MANAGE: 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 2018-19, 193

training courses have been organized by MANAGE up to March, 2019. Budget estimate of Rs.1440.00 lakh as increased at RE stage to the tune of Rs. 1570.00 lakh and an amount of **Rs.1557.00 lakh has been released** till 31st March, 2019. MANAGE has conducted 71 training programs with 1906 participants during April-December, 2019. Against a BE of Rs. 1399.00 lakh, an amount of Rs. 466.33 lakh has been released till September, 2019. 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 2019-20.

Extension Education Institutes (EEl)s: Four Extension Education Institutes at Nilokheri (Haryana), Hyderabad (Telangana), Anand (Gujarat) and Jorhat (Assam) are functioning at the Regional Level. The objectives of EEl)s is 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 2019-20, a total of 222 training programmes have been planned, out of which the EEl)s have conducted 165 training programmes with 3586 participants upto September, 2019. Against the budget grant of Rs. 13.43 crore an amount of Rs. 13.43 crore has been released to the EEl)s upto December, 2019.

Model Training Courses (MTCs): During 2019-20, 70 Model Training Courses have been planned, out of which 37 training courses have been organized with 770 participants upto December, 2019. Against the budget grant of Rs. 1.45 crore, an amount of Rs. 1.43 crore has been released upto December, 2019.

Diploma in Agricultural Extension Services for Input Dealers (DAESI): So far 24753 input dealers have been trained upto December, 2019. 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, Agri. Colleges & NGOs. During the current year 2019-20, as against the target of 288 programmes, 145 programmes have been started upto December, 2019 with 3240 participants.

PRE-SEASONAL DAC&FW-ICAR INTERFACES

The Extension Division of DAC&FW has been organizing pre-seasonal Interfaces before Kharif & Rabi every year involving the Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW) and the Indian Council of Agricultural Research (ICAR). The effort is aimed at understanding key issues-both from the Research and Development perspective in the agriculture and allied sectors and evolving joint strategies to address those issues in the coming Kharif/ Rabi season. The issues that emerge and 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 redressal. The Interface provides a forum to examine issues and finalize specific recommendations for the subsequent crop season and are also circulated to State Departments, ICAR Institutes, KVKs and concerned organizations for implementation of recommendations at the field level.

The Pre-Kharif 2019 DAC&FW-ICAR Interface was organized on 18th April, 2019 and the group recommendations of the said Interface were shared with senior officers of State Agriculture Departments during the National Conference on Agriculture for Kharif Campaign held during 25th and 26th April, 2019. The Pre-Rabi 2019 DAC&FW Interface was held on 16th September, 2019 and the group recommendations were shared with all States/UTs in the National Conference on Agriculture for the Rabi Campaign held on 20th September, 2019.

19.3.6 National Gender Resource Centre in Agriculture (NGRCA)

The Macro/Micro level and Action Research Studies undertaken by the Centre are as follows:

- a) Study on Kisan Credit Card & Issues Related to Credit Availability to Women: Role of Financial Institutions in Empowering Women Farmers (completed)
- b) Study on Gender Based Impact Analysis of ATMA Programme (ongoing).

The Centre celebrated Mahila Kisan Diwas, on October 15, 2019 by organizing a Consultation on Gender Mainstreaming at Krishi Vistar Sadan, Pusa, New Delhi. The Consultation meeting was attended by the representatives of the Ministry of Rural Development; MANAGE, Hyderabad;

NIAM, Jaipur; Gender Coordinator of different Divisions of DAC &FW; Gender Coordinators from States working under the ATMA Programme and representatives of civil society organizations including FAO, UN World Food Programme, CARE India and ISAP. The participants of the consultation shared their valuable experiences, best practices and suggestions in the efforts towards gender mainstreaming. Valuable recommendations have emanated from this consultation which will serve as an input to improve the condition of women farmers and women agripreneurs.

19.4 PROGRAMMES OF NORTH-EASTERN STATES

The status of implementation of Schemes in the North Eastern Region is as follows:

19.4.1 Support to State Extension Programme for Extension Reforms

S.No.	Name of the State	No. of ATMA Registered
1.	Arunachal Pradesh	20
2.	Assam	33
3.	Manipur	9
4.	Mizoram	8
5.	Meghalaya	11
6.	Nagaland	12
7.	Sikkim	4
8.	Tripura	8
Total:		105

During the current financial year 2019-20, Budget Estimate of Rs. 60.65 crore was earmarked for the North Eastern States for implementing the Scheme whereas, an amount of Rs. 19.42 crore has been released

to the North Eastern States - Manipur (Rs. 3.92 crore), Meghalaya (Rs. 8.26 crore), Mizoram (Rs. 3.66 crore), Nagaland (Rs. 12.17 crore), Tripura (Rs. 4.18 crore) and Sikkim (Rs. 1.37 crore) till December, 2019.

19.4.2 Establishment of Agri-Clinics and Agri-Business Centres (AC&ABC):

Candidates from the North-Eastern States are entitled for an additional benefit of 44% subsidy on the Total Financial Outlay (TFO) as against 36% for General Category Candidates. Details of candidates trained and ventures established since inception is given below.

S. No.	State	Candidates Trained	Ventures Established
		Since Inception	Since Inception
1.	Arunachal Pradesh	35	03
2.	Assam	754	227
3.	Manipur	439	128
4.	Meghalaya	35	03
5.	Mizoram	35	00
6.	Nagaland	184	21
7.	Sikkim	09	01
8.	Tripura	05	01
Total		1496	384

19.4.3 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 originated. Since the beginning of the Scheme, calls registered from various states of the North-Eastern Region upto December, 2019 are, Arunachal Pradesh (10544), Assam (322669), Manipur (32291), Meghalaya (16840), Mizoram (8057), Nagaland (3724), Sikkim (14121) and Tripura (46782). The calls registered from these states during current year up to December, 2019 are Arunachal Pradesh (684), Assam (21999), Manipur (611), Meghalaya (275), Mizoram (96), Nagaland (265), Sikkim (567) & Tripura (1892).

19.4.5 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 in 8 States of the North Eastern Region and West Bengal. During the year 2019-20, 16 courses have been organized with 484 participants trained. An amount Rs. 274.00 lakhs has been released to EEI Jorhat upto December, 2019 as against the Budget Estimate of Rs. 280.00 lakh during 2019-20.

19.4.6 Mass Media Scheme in the NE Region:

The programmes under the Scheme are being disseminated throughout the country including the 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.

Chapter 20

Sub-Mission on Seed and Planting Material (SMSP)

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. Its 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 – a subordinate office.
- Matters relating to International Rice Research Institute (IRRI), South Asia Regional Centre (ISARC), Varanasi, Uttar Pradesh.

20.2 Major Schemes – Objectives

- (i) **SUB-MISSION ON SEED AND PLANTING MATERIAL (SMSP):-** Sub Mission on Seed and Planting Material (SMSP) 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 SMSP scheme are as under :

SI 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 and foundation seeds as well as 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	9977 (Target)	222504	4310095

(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 during the year 2018-19. During the year 2019-20 (upto 26 November, 2019) 117 cases of export and 84 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 111.10 lakh hectare in 2018-19 (89% of the total cotton area) and production of cotton has increased from 86.21 lakh bales in 2002-03 to 300.87 lakh bales in 2018-19.

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 gram plus 120 gram of refugia.

(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 implementation agencies in the country namely National Seed Corporation, State Seeds Corporation 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 for 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 outsourced service, computerization and networking facilities. In a contingency situation, the implementing agencies make available seeds to the farmers for re-sowing purposes at reasonable cost.

Year	Targets of Physical quantity (in lakh quintals)	Physical Achievement (in lakh quintals)	Amount released to implementing agencies (Rs. in crores)
2017-18	3.66	3.36	26.78
2018-19	3.71	3.14	11.50

(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 & Climate Change (MoEF&CC) in 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 the total cotton area) to about 110.10 lakh hectare in 2018-19 (89% of the total cotton area) and production of cotton has increased from 86.21 lakh bales in 2002-03 to 2587.08 lakh bales in 2018-19.

(viii) SAARC SEED BANK:

India signed the 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 and 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 SAARC Regional Seed Bank in India. The National Designated Agency (NDA)

would be entrusted with the task of establishing a 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.

(viii) 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 for 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 farmers being trained 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* (as on 27.12.2019)	18740	39.88

*The progress from most implementing agencies is yet to be received after crop harvest.

(ix) **BOOSTING SEED PRODUCTION IN PRIVATE SECTOR:** - Under this component of the 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 will be allowed 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 31.10.2019.

(x) **PROGRAMME BEING IMPLEMENTED IN THE NORTH-EASTERN STATES:** - Details of the programmes being implemented in the NE region is at **Annexure-20.1.**

20.3 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.

20.4 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 seed 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 258 varieties in 20 crops have been enlisted 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.

20.5 GENDER PERSPECTIVE IN THE IMPLEMENTATION OF SMSP:

There is no separate allocation of funds under the various components/ schemes of Seeds Division for women farmers. The implementing States/ agencies have been requested to allocate adequate funds for participation of women farmers in the Seed Village Programme.

20.6 Organisations under Seed Division

(i) Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA)

Implementation of Protection of Plant Varieties and Farmers' Rights

Legislation for Protection of Plant Varieties and Farmers' Rights was enacted in the year 2001. The legislation provides for the establishment of an effective system for protection of plant varieties, the rights of farmers' and plant breeders and to encourage the development of new varieties of plants.

Funds are released to Protection of Plant Varieties and Farmers' Rights Authority (PPV&FRA) to provide necessary back-up support for implementation of this legislation.

Achievements

- (a) During 2019-20, the Authority received 148 applications representing 29 genera/species belonging to 48 new, 91 extant and 6 farmer's categories. The highest number of applications was received for cereals (62), followed by vegetables (39), fibre crops (17), fruits (10), legumes (3), oilseeds (3), cucurbits(3), sugar crop (3) and spices (2) etc.
- (b) Strong linkages have been developed with the seed industry and, as of now, several stakeholders including private companies have submitted applications for registration with the Authority.

The Authority issued 281 certificates of registration for 33 crop species. The highest number of certificates were issued in rice (59) followed by brinjal (48), cotton (40), apricot (30), tomato (21), maize (10), cauliflower (10), wheat (9), grapes(5), pearl millet(5), pigeon pea (5), sorghum (5), walnut (4), okra (4), sugarcane (3), cabbage (2), finger millet (2), jute (2), onion (2), turmeric (2), barley (1), bottle gourd (1), cashew (1), chilli (1), custard apple (1), field pea (1), groundnut (1), Indian mustard (1), paprika (1), rose (1), safflower (1), soyabean (1) and sunflower (1).

- (c) Out of 281 certificates of registration issued during 2019, 61 belonged to New category, 61 to Extant Notified, 82 to Extant VCK, 13 to Essentially Derived Variety (EDV) and 1 to Farmers' Category.



- ✦ A total of 135 applications after their successful testing have been notified for pre-registration objections during the period in the last three issues of Plant Variety Journal which are potentially

registerable varieties in 30 crops, after the expiry of period of three months from the publication of PVJ respectively.

- ✦ Plant Genome Saviour Farmer Reward and recognition for the year 2016-17 was

held on 22nd October, 2019 at B.P. Pal Auditorium. A total of five farmer/farming communities were conferred with PGSC Awards. Plant Genome Saviour Farmer Reward was conferred on 3 farmers and Plant Genome Saviour Farmer Recognition was conferred on 6 farmers.

- ✦ The PGSC Awards for the years 2016-17 and 2017-18 and PGSF reward and recognition for the year 2017-18 are being processed.
- ✦ A detailed Annual Report of the Authority and Registry is approved by the Authority for submission to both the Houses of Parliament of India by November 30, 2019 along with Audit and Finance Report.

(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 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 National programme to maintain uniformity in seed testing, during 2019-20 (till Oct, 2019) NSRTC has received 14441 nos. of seed samples under 5% re-testing programme, 21 nos. of Court referred seed samples and 06

nos. of seed samples under PT programme from ISTA, Switzerland.

NSRTC has organized 3 National Training Programmes and 01 National Seed Congress on various seed related issues for the benefit of various stakeholders of Govt., Public and Private Sector etc.

(iii) INTERNATIONAL RICE RESEARCH INSTITUTE (IRRI), SOUTH ASIA REGIONAL CENTER (ISARC):

IRRI South Asia Regional Centre (ISARC), Varanasi has initiated activities from the beginning of 2019 after its inauguration by Honourable Prime Minister, Shri Narendra Modi on December 29, 2018. ISARC, Varanasi derives its research program from the memorandum of agreement (MoA) between Department of Agriculture, Cooperation & Farmers' Welfare (DAC&FW), Ministry of Agriculture & Farmers' Welfare (MOA&FW), Government of India and the International Rice Research Institute (IRRI), Philippines and aligns its research program with IRRI South Asia Business Plan 2019-2024, IRRI South Asia Resilient Rice Systems Initiative, IRRI-Indian Council of Agricultural Research (ICAR), New Delhi Work Plan 2017-2022 and IRRI Education Strategy for South Asia.

ISARC has in the last year focused on the development of a world class field facility for their basic research, adaptive research and training. ISARC, Varanasi is structured to implement its research program and deliver outputs through its three component units, (a) Center of Excellence in Rice Value Addition (CERVA) (b) Broader Program for Research and Partnership (BPRP) and (c) IRRI Research and Education Program (IREP).

During the first year, CERVA established a world class milling quality, nutritional quality,

food safety and quality sensory laboratory for research at ISARC, Varanasi. Around 70 traditional germplasm has been obtained from eastern Uttar Pradesh and is being tested at ISARC research farm. Side by side CERVA is also expanding its activities in the evaluation of low Glycemic Index rice and traditional germplasm improvement through mutation breeding. CERVA also organized a symposium on Transforming Rice Grain Quality and Nutrition in South Asia and ICAR-IRRI Low Arsenic Rice and Bioactives for Healthier Rice Planting Workshop on March 7, 2019 and September 27, 2019, respectively.

BPRP has initiated research on development of climate resilient rice varieties for both transplanted and direct seeded situation to grow rice with less water under mechanized cultivation practices. Breeding lines combining 7-12 genes through marker assisted breeding are evaluated for suitability to the region. For climate smart practices, nutrient management practices have been developed to improve rice yield under abiotic stress condition like drought and flood. Direct Seeded Rice Consortium, a group of private seed companies and IRRI, started activities on mechanized DSR, weed management and water management practices.

As ISARC's educational arm, IREP rolled out a comprehensive suite of teaching and capacity building programs for rice-based agri food sector in India, South Asia and Africa. ISARC's high quality research facilities and IRRI's overall extensive knowledge base are primed to make IREP an important capacity development hub in the region. Key courses, co-designed with partners, will be delivered to the next generation of rice scientists, extension workers, NARES partners, the private sector and future leaders and policy

makers of the agri food sectors, from a world class training facility that has been established at the center. IRRI education has conducted 9 training programs and has trained 805 participants that have included researchers, extension agents and farmers. ISARC also has hosted 11 workshops in 2019.

(iv) NATIONAL SEEDS CORPORATION LIMITED: 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 9001:2015 & 14001:2015 certification. The performance of NSC during 2018-19 is as under:-

During 2018-19 NSC has produced/procured 15.70 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 wide range of vegetable crops. During the financial year 2018-19, NSC has distributed 19.23 lakh qtls of seed in the Country. NSC earned Profit After Tax (PAT) of Rs. 41.32 crores during 2018-19. NSC will pay dividend @ 30% on Profit After Tax amounting to Rs. 14.94 crores (including Dividend Tax) pertaining to year 2018-19, as per the approval of the shareholders at their 56th Annual General Meeting held on 20.12.2019.

The company is producing all kinds of seeds i.e Test Stock, Breeder Seed, Foundation Seed and Certified Seed. The 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 the farmers.

20.7 Photographs



Visit of Sh. Rajesh Verma, IAS, Additional Secretary on 02nd October 2019 at NSRTC Campus, Varanasi.



9th National Seed Congress 2019 organized by NSRTC at IARI, New Delhi during 14th -16th October 2019.



Training of Farmers and Seed Distribution under Seed Village Scheme



Farmers Awareness-Cum Training under NFSM-OS&OP



Field performance of multiple stress tolerant lines at ISARC farm during WS2019 a) Non-stress, b) stress



Field performance of lines with genes and QTLs for DSR traits, biotic and abiotic stress tolerance under dry DSR condition at ISARC farm during WS2019



Launch of Rice -Wheat Crop Manager for Eastern UP, 25th March 2019



Dr. Sanjay Agarwal (Secretary, DAC&FW), Shri Ashwini Kumar (Joint Secretary, Seeds & Mechanization, DAC&FW) from Ministry of Agriculture, with IRRI management team

Chapter 21

Sub Mission on Agricultural Mechanization (SMAM)

21.1 Overview

Agriculture Mechanization is an essential input in 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 cost of cultivation. Agriculture Mechanization also helps in improving safety and comfort of the agricultural worker, improvements in the quality and value of farm produce and also enabling farmers to take a second and subsequent crop 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 increasing demand of food grains.

About 85% of the total land holdings are in small and marginal size groups which need special efforts for their mechanization.

Subsequently, recognizing the need to mechanize marginal and small farms, 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 landholdings 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.

21.2 Financial assistance in SMAM under its various components: 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 the farm machinery component under RKVY, NFSM and 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 a low level of farm mechanization, financial assistance @80% of the project cost for farm machinery banks is given 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 mechanized means of farming, during the last five years is given below:

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	7,96,873	51,680
2018-19	8,97,548	51,523

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 2.02kW/ha by 2017-18.

21.3 Training of Farmers & Technicians:

The Farm Machinery Training & Testing Institutes (FMTTIs) located at Budni (Madhya Pradesh), Hissar (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 equipment.

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 2018-19, 9905 trainees were trained till 31st March, 2019 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, training programmes are funded as per norms prescribed by the Ministry of Skill Development and Entrepreneurship. During the year 2019-20 till 31st December, 2019, 7694 trainees were trained.



Visit of Ms.Dolly Chakrabarty, Additional Secretary, DAC&FW to SRFMTTI, Ananapur



Visit of Shri Ashwani Kumar, Joint Secretary, DAC&FW to Testing Center, HAU, Hisar.

21.4 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 nationally 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 combine harvesters under CMVR 1989. The Institute at Garladinne is authorized to test power tillers and also conduct tests on various agricultural implements & equipments. 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 2018-19, the four FMTTIs altogether have tested 428 machines of various categories, including tractors, power-tillers, combine harvesters, and other machinery and equipment, till 31st March, 2019 against a target of 320. During the year 2019-20 till December 2019, 302 machines were tested.



Draw bar testing of tractor at CFMTTI, Budni



Visit of Shri Pattanayak , Secretary, DAC&FW at CFMTTI, Budni

To cope up with the ever increasing demand of testing of agricultural machines and equipments, DAC&FW has designated 34 testing centers of SAU, ICAR and State Governments. During 2018-19, Farm Machinery Testing Centre College of Food Technology, University of Horticulture Sciences Udyanagiri, Navanga, Bagalkot, Karnataka and re-designated College of Agricultural Engineering and Technology, Marathwada Agricultural University, Parbhani, Maharashtra, Post Harvest Equipment/ Machinery Centre at ICAR-Regional Centre of CIAE-Bhopal at Coimbatore and Post-Harvest Equipment/ Machinery Testing Centre at ICAR-CIAE, Bhopal and during 2019-20 Farm Machinery Testing Center, JNKVV, Jabalpur (M.P.) were approved as designated testing centers of DAC&FW.

21.5 Demonstration of Newly Developed Agricultural/Horticultural Equipment: To support and encourage agriculture mechanization at field level and to bring awareness of new technologies among farmers, demonstrations of newly developed agricultural equipment including post harvesting horticultural equipment have

been included under component 1&2 of the SMAM scheme. Under these components, 100% financial assistance as Central Sector Scheme is provided for procurement of advanced agricultural machines and equipment and also for field demonstration of farm machinery and post harvest technology/ equipment on the farmer's field. 378 field demonstrations have been conducted by the FMTTIs during the current financial year, 2018-19. During the year 2019-20 till December 2019, 410 demonstrations were conducted.



Field visit in Sikkim of Dr.Tarsem Chand, Joint Secretary, DAC&FW



Training on Power Tiller repair.

21.6 Custom Hiring Centres: To promote the mechanization of small and marginal farm holdings and farm holdings in difficult areas with low level of mechanization, efforts have 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, a total of 1469 Farm Machinery Banks and 3614 Custom Hiring Centers for providing custom hiring services in the country and during the year 2019-20 till December 2019, a total of 1189 Farm Machinery Banks, 970 Custom Hiring Centers and 30 Hi-Tech Hubs were established .



Field Testing of rotavator at NERFMTTI, Assam



Training on tractor repair at CFMTTI, Budni

21.7 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 and MIDH is applicable as per guidelines of SMAM to 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

21.8 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 2018-19, a total of 1004 trainees were trained at this NERFMTTI at Biswanath Chariali, Assam against a target of 1000 and tested 30 nos. of agricultural implements and machinery against the annual target of 30. 765 trainees trained up to December, 2019 in the financial year 2019-20 and 9 machines tested up to December, 2019 in the financial year 2019-20. To support agricultural mechanization in the North Eastern States where 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 2018-19, cost subsidy of Rs.112.26 crores has already been released to NE States under the different components of SMAM. During the year 2019-20, cost subsidy of Rs.70.18 crore has already been released.

21.9 Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total of 3019 women have been trained during the Financial Year 2018-19. 429 women trained up to December, 2019 in the financial year 2019-20. A list of about 30 identified gender-friendly tools and equipment developed by the Research and Development Organization 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.



**Training programme for women
at NERFMTTI, Assam**



**Field Demonstrations for women
at CFMTTI, Budni**

21.10 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 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 in operation in which the Government of India has equity.

21.11 Promotion of Agricultural Mechanization for In-Situ Management of Crop Residue in the States of Punjab, Haryana, Uttar Pradesh and the NCT of Delhi.

21.11.1 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 holdings 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.

21.11.2 Components of the Scheme

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 project 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. The machinery identified by the Task Force for in-situ crop residue management are super straw management system (Super SMS) to be attached with combine harvester, happy seeder, paddy straw chopper/shredder/mulcher, shrub master/cutter cum spreader, hydraulic reversible M. B. plough, rotary slasher, zero till seed cum fertilizer drill and rotavator.
- (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 activities to be undertaken towards Information, Education and Communication

(IEC). These activities 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.

(iv) Funds Released: (Rs. In Crores) – 2018-19

States/Agency	Establishment of CHCs	Distribution of machinery	IEC activities	Flexi Funds/ Admn. Expenses	Total
Punjab	176.00	71.30	16.80	5.28	269.38
Haryana	72.00	41.50	21.64	2.70	137.84
Uttar Pradesh	37.58	95.27	12.84	2.91	148.60
ICAR	0	0	19.36	0	19.36
Total	285.58	208.07	70.64	10.89	575.18

(v) Funds Released: (Rs In Crores) –2019-20

States/ Agency	Establishment of CHCs	Distribution of machinery	IEC activities	Flexi Funds/ Admn. Expenses	Total
Punjab	107.20	149.34	15.06	2.2	273.80
Haryana	90.66	73.00	12.20	18.2	192.06
U.P.	32.62	61.67	8.62	2.37	105.28
Delhi	2.20	1.80	0.52	0	4.52
ICAR	-----		15.08	3.4	18.48
Total	232.68	285.81	51.48	26.17	594.14

(vi) 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

on in-situ management of crop. Due to 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 22

Sub-Mission on Plant Protection and Plant Quarantine (SMPPQ)

22.1 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 Green Revolution (Kishonnati 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).

22.1.1 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 pesticide.

During 2019-20, 13151 numbers of certificates of registration/letters/ permits have been issued from April to November, 2019.

The Central Government and State Governments are jointly responsible for quality control. The Central and State Governments have notified Insecticide Inspectors respectively. These inspectors draw samples of insecticides from manufactures/ dealers and analyse them in 70 State Pesticide

Testing Laboratories (SPTLs) spread across the country. 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 for testing bio-pesticides which are at par with CIL for bio pesticide testing. Funds are provided to State Government for setting up/ strengthening pesticide testing labs.

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 launching of prosecution in case of misbranded samples and illegal practices adopted by any manufacturer/importer. A total No. of 192 officers of the Directorate have been notified

as Central Insecticide Inspectors (CIIs). State Governments have also notified 10946 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 this year (2019-20) till November, 37916 pesticides were analyzed, 1030 were found misbranded and prosecution has been launched in 153 cases against firms which were found to be involved in selling and manufacturing of sub-standard pesticides and illegal import of pesticides.

A new notification has been published vide G.S.R .782(E) dated 11 October 2019 regarding amendment of rules related to labels and leaflets and may be called the Insecticides (Third Amendment) Rules, 2019.

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 (up to November, 2019), 360 FFSs were conducted in which 10790 farmers were trained. A total of 60 two-days and 10 five-days Human Resource Development Programmes were conducted in which 2840 number of state extension officers, pesticide dealers and farmers were oriented about Integrated Pest Management.

A 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 was 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. 39 nos. of Farmer Field Schools were conducted by CIPMCs on the maize crop during kharif 2019 in different States. 26 nos. 2- days HRD Programmes, 10 nos. of 5-days HRD Programmes and 07 nos. of one day workshop on Management of Fall Army Worm (FAW) on maize were organized by different CIPMCs. In these programmes more than 3200 AEOs and farmers were trained. A National Inception Workshop was

also organized by NIPHM, Hyderabad on 29th – 30th November, 2019 in collaboration with FAO and Department of Agriculture, Cooperation & Farmers’ Welfare. A total of 66 participants from various institutes participated in the workshop.

Apart from conducting FFS, the CIPMCs carry out pest/disease monitoring, production, release and conservation of bio-control agents. The pest and disease situation was surveyed covering 535 thousand hectares. A total of 1265 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 557 thousand hectares. Eighty-seven (87 Nos.) of IPM packages of practices for pest/disease management in major crops have been developed in collaboration with NIPHM, Hyderabad and NCIPM, New Delhi. The revised IPM packages of practice have also been circulated to State Departments of Agriculture/Horticulture/ICAR Institutions/ State Agriculture Universities & all States/ UTs. These packages have already been uploaded in the DPPQS and DACFW websites as well as on farmers’ portal.

Seed treatment and Grow Safe Food (GSF) campaign were also taken up. 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.

A Grow Safe Food campaign has been taken up on a large scale basis to avoid abuse and misuse of chemical pesticides in agriculture. Farmers and pesticide dealers are sensitized

through display of hoardings and distributing literature.

b. Locust Control and Research:

Indian Agriculture is highly prone to the desert locust. The desert locust is a trans-boundary pest which can cause irreparable damage. The scheme Locust Control and Research is being implemented through an Organisation known as 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 and Locust Division at Central Headquarter Faridabad (Haryana). Besides, there is one Field Station for Investigation on Locust (FSIL) situated at Bikaner. 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. The frequency of the survey is doubled from May to November (rainy season) as compared to the frequency of surveys from December to April. Surveys are undertaken from sunrise to midday and for a few hours in the evening before sunset in the temperature range of 20°-38° C.

During the year 2019-20, a locust attack was reported in the desert areas of Rajasthan and Gujarat. A total area of 8.09 lakh ha has been surveilled this year for locust and locust was successfully controlled in 3.29 Lakh Ha area. Out of the total area controlled, 1.74 lakh hectares area was in Jaisalmer, 67769 hectares in Bikaner, 45869 hectares in Barmer, 26284 hectares in Jodhpur, 972 hectares in Hanumangarh, 791 hectares in Sriganganagar, 500 hectares in Churu, 3720 hectares in Jalore and 475 hectares in Nagaur districts of Rajasthan. Control operations were also undertaken in Gujarat State in 2252 hectare area of Kutch and 5929 hectare area of Banaskantha districts. A total of 2.40 lakh liter malathion pesticide worth Rs.10.21 Crore was used in locust control operations. 16 nos. of Locust Situation Bulletins have been issued and 5 nos. of Indo-Pak border meetings have been held for sharing/exchanging information on locust.

22.1.2 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 Destructive Insect and Pests Act, 1914. Consequently, the Department has established Plant Quarantine facilities to administer various entry points. Post entry quarantine inspection is under taken 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 57 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.

A total of 1901 treatment providers (Pest Control Agencies) have been accredited for undertaking fumigation with methyl bromide (736 No.) under NSPM-12, Aluminum Phosphide (548 No.) under NSPM-22, and

563 facilities were certified for wood packing materials Forced Hot Air Treatment (FHAT).

To facilitate export of fresh mango fruit units registered for hot water immersion 41 treatment facilities, 8 vapor heat treatment facilities/2 facilities of heat treatment of nigerseed and 3 irradiation facilities have been registered to ensure pest free export of agricultural commodities to foreign countries.

To meet the requirement of importing countries as per bilateral agreements specific SOPs were formulated and 215 units were registered as rice processing units for export of rice to USA and China; 97 peanut processing units, 156 chilli warehouses/processing units and 72 pack houses for export of fresh fruit and vegetables were established.

During 2019-20, Pest Risk Analysis (PRA) for 308 agricultural commodities was carried out to determine potential biosecurity risk if imported, while for obtaining market access of Indian products in other countries, technical information for 120 commodities to the various National Plant Protection Organizations was provided. For better services to stakeholders and to facilitate trade, Plant Quarantine activities were started in 09 new seaports, 4 new airports and 14 land frontier stations. Single Window clearance was implemented for issuance of Phytosanitary Certificate (PSC) under Ease of Doing Business. To facilitate trade and to reduce the dwell time, 28 items were identified as processed items (Plant Products) which do not require Plant Quarantine clearance. To facilitate trade, 208 items out of 299 items of Schedule VII of the PQ Order were identified as low risk items and categorized under only 5% inspection under Risk Based Management System (RMS). 77 items of schedule VI were also included

under RMS and 37 items were placed in 5% inspection, 12 at 50% inspection and 28 at 80% inspection. Market access was gained for pearl millet and guar from Argentina; banana and mango from uzbekistan; tropical fruits from serbia; tobacco, rapeseed meal, chilly meal from China, banana, brinjal, okra, walnut, custard apple, pomegranate, litchi, papaya, pineapple and mandarin from Canada. Pomegranate is our priority fruit and we are in the process of obtaining market access from Australia and China.

Plant Quarantine stations played an important role in biosecurity as during inspection of imported commodities from various countries during 2019-20, 2399 Quarantine pests were intercepted viz. *Venturiainaequalis*, *Hylesinusvarius*, *Silvanus unidentatus*, *Phratoralaticollis*, *Ahasverusadvena*, *Ephesiakuehniella*, *Platypus australis*, *Ilvanusplanatus*, *Heterobostrychusbrunneus*, *Silvanus planatus*, *Thlaspiarvense*, *Bitomasulcata*, *Lyctusbrunneus*, *Tomicuspiniperda*, *Hylotrupesbajulus*, *Ephesiakuehniella*, *Coccotrypescarpophagus*, *Hypothenemushampeii*, *Cryptolestesferrugineus*, *Pachymeruslacerdae*, *Raphanusraphanistrum*, *Brachinus* sp, *Telephanuslecontei*, *Silvanus bidentatus*, *Galiumaparine*, *Phaenomerus* sp, *Hololeptaplana*, *Raphanusraphanistrum*, *Trochoideusdesjardinsi*, *Polygonumlapathifolium*, *Echinochloa crus-pavonis*, *Plodiainterpunctella* by various PQ stations.

During 2019-20, 94269 number of Import Release Orders and 311326 number of Phytosanitary Certificates were issued and a total revenue of Rs.329.38 Crore was earned. During the period, 98.82 Lakh MT agricultural commodities were imported and 313 Lakh MT of agriculture commodities were exported.

22.1.3 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).

During 2019-20, a total of 17615 samples were collected and analyzed and the residues were found exceeding above the Food Safety and Standard Authority of India (FSSAI) Maximum Residue Limit (MRL) in 529 (3.0%) samples.

22.1.4 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 the year 2019-20, 94 training programmes have been organized wherein a total of 2606 participants were imparted training on various aspects of Plant Health Management. NIPHM has initiated a Massive Open Online Course (MOOCs) in Plant Biosecurity which consists of 24 chapters (Eight modules/ month) with a duration of 3 months. Seventy participants completed the course successfully in the first batch. The second batch commenced on September 2019 and eighty-nine participants are undergoing the course.

NIPHM also initiated a Massive Open Online Course (MOOCs) in Rodent and Household Pest Management. The course consists of 21 chapters (Seven modules / month). The duration of the course is 3 months. The advertisement for inviting applications has been issued for this course.

NIPHM has developed a computer assisted digital identification key for stored grain, insect pests and fruit flies, of concern for import and export. On the occasion of NIPHM foundation day, digital keys for stored grain pests were launched. During 2019-20, a total of 323 samples were analyzed for laced chemical

pesticides, 1078 samples were analyzed for pesticide residues under MPRNL scheme, 93 samples were analyzed under *Analysis of Heavy metals in Green Leafy Vegetable samples*, 6 samples of pesticide formulations, 35 samples of tobacco and 107 samples of fruits, vegetables and soil received from different agencies/companies/customers were also analyzed at NIPHM.

NIPHM also conducted studies on biodiversity of natural enemies in the maize ecosystem under AICRP project. The project has the objective of survey, surveillance and collection of natural enemies in the maize field, mass production and evaluation of *Nomurea riley* NIPHM MRF-1 strain against Fall Army Worm using different grains and evaluation of NIPHM white media for production of *Metarhiziumanisopliae* for management of Maize Fall Army Worm (*Spodopterafrugiperda*)

Through village adoption programmes, NIPHM has adopted 3 villages to popularize bio-intensive pest management strategies in different cropping ecosystems viz.,

- i. Amdapur- Rangareddy district
- ii. Mohammed Nagar- Medak district in collaboration with the Ekalavya Foundation KVK
- iii. Ibrahimpatnam Periurban Horticulture

NIPHM conducted a brainstorming session on Plant Health Management in organic farming systems during 10th and 11th May 2019, conducted an International Satellite Seminar and a Satellite Seminar on behavior modifying chemicals in pest management on 25.07.2019 at ICAR-IIHR Bangalore ICPPH from 24th to 27th July 2019.

NIPHM also conducted a special on campus programme on (i) Project on climate resilient agriculture (PoCRA) for Maharashtra officials

for two batches with 64 participants and (ii) Training to Pest Monitors on Field Diagnosis for IPM under CROPSAP (Maharashtra) for two batches with 62 participants. Off campus training was conducted for KVK officers at

KVK Sagroli, Nanded, Maharashtra under PoCRA, at Parbhani and Tamil Nadu on on-farm production of bio-fertilizers and biocontrol agents.

Photographs of different activities of NIPHM



Brainstorming session organized for the course with different stakeholders



Village adoption programme



Introductory remarks offered by DG, NIPHM at Brainstorming session with different stakeholders



Institutional Farm Research Activities



Inauguration of MOOCs course on Rodent and Household Pest Management by Dr.W.R.Reddy, DG, NIRD&PR on 24.10.2019



On campus training on Field Diagnosis for IPM under CROPSAP (Maharashtra)

Chapter 23

Gender Perspective in Agriculture- 2019-20

23.1 Overview

The Agriculture sector employs 80% of all economically active women comprising 33% of the agricultural labour force and 48% of self-employed farmers in the country. Agriculture, the single largest production endeavour in India, is contributing substantially to the GDP. Increasing of 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. Women in India are making essential contributions to agriculture and rural economies.

The 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.

The National Gender Resource Centre in Agriculture (NGRCA) of the DAC&FW has been established in the Extension Division. NGRCA reflects the national commitment of empowerment of women through a ‘strategy of mainstreaming and agenda setting’. The Centre acts as a focal point for convergence of all gender related activities and issues in the 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, NGRCA is actively involved in the revision of guidelines of various beneficiary oriented scheme/ programmes of the DAC&FW to ensure allocation of resources and flow of benefits to women farmers in proportion to their participation in agricultural activities.

Besides undertaking and supporting training, research and advocacy to mainstreaming gender issues in agriculture and natural resource management, NGRCA aims at forging effective functional linkages with other related departments, agencies and institutions for women empowerment.

23.2 Current Initiatives of NGRCA

Being a Nodal Centre for women in agriculture in DAC&FW, Ministry of Agriculture & Farmers' Welfare, the centre is actively involved in the following activities:

1. Macro/Micro Level and Action Research Studies initiated by the Centre include-

- Study on Kisan Credit Card & Issues Related to Credit Availability to Women: Role of Financial Institutions in Empowering Women Farmers.
- Gender Based Impact Analysis of ATMA Programme.

A publication on *Success Stories of Women Farmers and Agri-preneurs* is being developed collating best practices and success stories of women farmers and agri-preneurs received from States. It is expected that the team of committed extension functionaries and officials available at District and Block Level under the ATMA set up will not only make women aware of such interventions and best practices but would also facilitate them to derive full benefits of provisions tailor made for them.

2. Celebration of Mahila Kisan Diwas, 2019-The Centre celebrated the Mahila Kisan Diwas, 2019 on October 15, 2019 by organizing a Consultation on Gender Mainstreaming in Agriculture. MANAGE, Hyderabad; NIAM, Jaipur, Ministry of Rural Development, Divisions of DAC&FW, Gender Coordinators of States working under ATMA programme and representatives Civil Society Organizations namely FAO, UNWFP and CARE India participated in the said deliberation. The participants shared their experiences on field conditions, constraints faced by women in agriculture, efforts/role of NGRCA/ DAC&FW in gender mainstreaming, customized technology practices, marketing

support initiatives, institutional support, agro diversity, Indigenous Technical Knowledge and the way forward for empowerment. Published literature was distributed to the participants during the celebration of Mahila Kisan Diwas, 2019.

23.3 MAINSTREAMING EFFORTS OF VARIOUS DIVISIONS OF DAC&FW

Important mainstreaming and gender budgeting efforts within various Subject Matter Divisions are briefly given here under:

23.3.1 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 disbursed 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.

During the current financial year 2019-20, funds to the tune of Rs. 2209.57 Crore have been earmarked for implementation of schemes under MIDH. Out of this, a total of Rs. 768.93 crores has been released till 7th November, 2019 to the MIDH implementing agencies.

23.3.2 AGRICULTURE EXTENSION

The Centrally Sponsored Scheme Support to State Extension Programmes for Extension Reforms (ATMA) implemented since 2005 is now under implementation in 684 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 the 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. Funds under the scheme are being released to the state governments on the basis of approved State Extension Work Plan (SEWP) by the State Level Sanctioning Committee (SLSC). As per provision of the Operational Guidelines of the Modified ATMA Scheme, 2018:-

- At least 30% scheme beneficiaries should be women farmers/ farm women;
- A 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 the Agriculture Technology Management Agency (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 through a strategy suited to their needs.

Since inception of the Scheme in 2005-06, a total of 12937060 farm women (24.35% of the total benefited farmers) have participated in farmer oriented activities like exposure visits, training, demonstrations & Kisan Melas including 636866 women farmers benefited during 2019-20 (up to 30th November, 2019). During FY 2019-20, Rs. 18444.90/- lakhs was allocated and earmarked for women, out of which Rs.9606.43 lakhs has been released under the scheme for women beneficiaries (as on 31.10.2019).

The Central Sector Scheme Mass Media Support to Agriculture Extension Scheme is being implemented through Doordarshan, DD Kisan and All India Radio to telecast & broadcast sponsored programmes 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 All India Radio 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) 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. Further awareness is also created through print advertisements in leading newspapers across the country and through social media platforms viz. Facebook (www.facebook.com/agrigoi), twitter (www.twitter.com/agrigoi) of the Department.

For gender mainstreaming in Agriculture under Mass Media Scheme, 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 the DAC&FW besides publicity on gender interventions through print, electronic and social media being carried out from time to time as per request of NGRCA.

The Central Sector Scheme Establishment of Agri-Clinics & Agri-Business Centres (AC&ABC) was implemented since April, 2002 with the aim to supplement the efforts of public extension, support agricultural development and create gainful self-employment opportunities to unemployed youth (including women) 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 farmers in agriculture and allied areas. The agripreneurs trained under the AC&ABC scheme are actively engaged in providing advisory and extension services to farmers on various technologies.

The National Institute of Agricultural Extension Management (MANAGE), Hyderabad 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 on behalf of the Government of India and is monitoring credit support to agripreneurs through commercial banks. Under the AC&ABC scheme, training is imparted to unemployed candidates who possess degree/ diploma in Agriculture and allied subjects, intermediates in agriculture and science graduates with PG in agri related

courses, graduation in Life Sciences (Botany, Zoology & Chemistry) and Environmental Science and Intermediates in Agriculture through selected Nodal Training Institutes (NTIs) in various parts of the country. The NTIs also provide hand-holding to the trained candidates for establishment of agri-ventures in agriculture and allied areas and facilitates in providing loan assistance from banks and subsidy support from NABARD. There is a provision of credit linked back-ended upfront composite subsidy on the bank loan that can be availed by trained candidates under the Scheme. The subsidy is 44% in respect of women, SC/ST and all categories of candidates from the North-Eastern and Hill States and 36% in respect of other categories. Subsidy is admissible for projects of Total Financial Outlay (TFO) upto Rs.20 lakh in case of individual and Rs.100 lakh in case of Group Projects (for ventures set up by a group of 5 trained candidates).

During the current year, 3706 candidates were trained and 379 have established their ventures. Since inception of the scheme, 69472 candidates have been trained and 28510 agri-ventures have been established in the country till 31.12.2019. Out of these total trained & ventures established, 5638 and 1661 are women candidates and entrepreneurs and 112 ventures have been subsidized. These ventures are acting as supplementary institutions for the Government Extension mechanism in the states. Now the benefits of the MUDRA Loan Scheme have also been included for venture establishment under the Scheme.

Extension Education Institutes (EEl)s: To provide training and HRD support to extension functionaries across the country, the Ministry of Agriculture & Farmers Welfare has established four regional EEl)s in the country namely EEl, Nilokheri (Haryana); EEl, Hyderabad (Andhra Pradesh); EEl, Anand

(Gujarat); and EEl, Jorhat (Assam) to cater to the training needs of middle level field functionaries in the agriculture & allied department of States/UTs. During 2019-20, the Extension Education Institutes (EEl)s conducted 172 training courses with 4356 field extension functionaries including 1047 women extension functionaries (upto 31.12.2019).

Diploma in Agricultural Extension Services for Input Dealers (DAESI): During 2019-20, under DAESI programme; training was provided to 4746 input dealers including 189 women candidates (upto 31.12.2019).

23.3.3 CROPS

The National Food Security Mission (NFSM) programme is being implemented in identified districts of 28 States in the country and two UTs of Jammu & Kashmir and Ladakh. The objectives of the National Food Security Mission (NFSM) is to increase production and productivity of rice, wheat, pulses, coarse cereals and nutri-cereals(millets) through area expansion and productivity enhancement in a sustainable manner in the identified districts of the country, restoring soil fertility and productivity at the individual farm level and enhancing farm level economy (i.e. farm profits) to restore confidence among farmers. Besides, Bringing Green Revolution to Eastern India (BGREI) is also under implementation in the 7 Eastern states of the country.

While issuing administrative approval, states are advised to allocate funds for General, Special Component Plan for Scheduled Castes (SCP) and Tribal Sub Plan (TSP) for Scheduled Tribes as per their proportion in the population of the State. Besides, atleast 33% of funds are earmarked for small and

marginal farmers. At least 30% funds under NFSM and 33% under BGREI are for women farmers. During the year 2018-19, a total number of 8,76,125 and in the year 2019-20 (as on 19/11/2019) 33,585 women were provided demonstration, training, water saving devices and seed distribution under the Scheme .

The scheme National Food Security Mission (NFSM) (OS&OP) is being implemented in 29 states in the country for increasing the production and productivity of oilseeds. While issuing administrative approval states are advised to allocate funds for General, Special Component plan for Scheduled Castes (SCP) and Tribal Sub Plan (TSP) for Scheduled Tribes as per their proportion in the population of the State. Besides, at least 33% of funds are earmarked for small and marginal farmers. At least 30% is for women farmers.

23.3.4 AGRICULTURAL MARKETING

In order to provide a single window approach and a user & 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 has 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) has been merged as AMI] (ii) Marketing Research and Information Network (MRIN) (iii) Strengthening of Agmark Grading Facilities (SAGF), (iv) Agri-Business Development (ABD) through Venture Capital Assistance (VCA) and Project Development Facility (PDF) and (v) Training, Research and Consultancy through the Choudhary Charan Singh National Institute of Agriculture Marketing (NIAM).

Under Agricultural Marketing Infrastructure (AMI) component, women are eligible for subsidy @**33.33%** as against 25% for others. A total number of 4,681 and 612 women beneficiaries have been covered respectively under storage infrastructure and marketing infrastructure projects (other than storage) since inception of the scheme till 30.11.2019 under the AMI sub-scheme of ISAM (including the erstwhile Grameen Bhandaran Yojana (GBY) and Agricultural Marketing Infrastructure Grading & Standardization (AMIGS) scheme.

23.3.5 MECHANIZATION AND TECHNOLOGY

For recognizing the need to mechanize the 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 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 a woman beneficiary 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 has 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 of 3019 women were trained during 2018-19 and 2839 women trained upto 31st December, 2019 in the financial year 2019-20. A list of about 30 identified gender-friendly tools and equipment developed by 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.

23.3.6 SEEDS

Sub-Mission for Seeds and Planting Material (SMSP) 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 (SMSP). 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 is 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 2018-19, a total of 4.20 lakh women beneficiaries have been benefitted under the scheme Seed Village Programme-Certified Seed Production through Seed Village. During the year 2019-20, as on date 0.46 lakh women farmers have benefitted.

23.3.7 COOPERATION

National Cooperative Development Corporation (NCDC) encourages women cooperatives to avail assistance under its various schemes. A large number of women members are engaged and involved in cooperatives dealing with activities related to foodgrain processing, plantation crops, oilseeds processing, fisheries, dairy & livestock, spinning mills, handloom and powerloom weaving, Integrated Cooperative Development Projects, etc. Women Cooperatives are now covered under the Weaker Section Programme for the purpose of availing subsidy and concessional funding under the Central Sector Integrated Scheme on Agricultural Cooperation. During the year 2019-20, NCDC sanctioned Rs. 536.32 crore to 8 units under various programmes like service cooperative and handlooms programmes and disbursed Rs.330.00 crore. NCDC assistance has been provided to these women cooperatives in the form of working capital loan to meet their fund requirement towards expansion of their businesses by these initiatives for funding

women cooperatives. More than 145 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. Cumulatively, as on 31.12.2019 NCDC has sanctioned and disbursed financial assistance of Rs. 2816.83 crore and Rs.1940.98 crore respectively for the development of cooperative societies exclusively promoted by women. This included activities related to foodgrain processing, plantation crops, oilseeds processing, fisheries, dairy & livestock, storage, spinning mills, handloom and powerloom weaving, Integrated Cooperative Development Projects and service cooperatives. Out of the 3356 projects/units sanctioned in 2019-20 under all programmes including assistance to women cooperatives, it is estimated that 173 lakh women are enrolled as members, out of which 1228 women members are on the Board of Directors.

National Cooperative Union of India (NCUI) implements Cooperative Education Programmes through its 43 cooperative education field projects while NCCT provides training to cooperatives through its 5 Regional Institutes of Cooperative Management (RICMs), 14 Institutes of Cooperative Management (ICMs) and one National level institute ie. VAMNICOM. Besides the above, stress is given to women development activities with the overall objective of bringing women in to the cooperative fold from grass root levels through an informal approach, to revitalize and develop women participation in group activities and to improve the socio-economic condition of women of selected blocks. The Cooperative Education Programme for women is being implemented by the National Cooperative Union of India (NCUI) through the State Cooperative

Unions in the states of Madhya Pradesh, Manipur, Mizoram, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal. During the year 2018-19 as many as 1262 women were imparted education under various classes in 16 events. NCUI is now running four exclusive women development projects located at Shimoga (Karnataka), Aska (Odisha), West Imphal (Manipur) and Bhopal (M.P.) under the Special Scheme of Intensification of Cooperative Education in cooperatively under-developed states (UDS). Each field project has got a special women development component. Under this, women are organized into self-help groups. During the year 2018-19, 382 self help groups with a membership of 3302 women were formed by lady mobilizers of the cooperative education field projects. Through various income generating activities, 18,200 women were benefitted under this programme. On average, each women beneficiary was able to earn Rs.6000/- per month. During the year 2018-19, a total of 3456 woman were imparted education under various educational activities. NCUI conducted a total of 7812 training programmes the during year 2018-19 through General Cooperative Education programmes/Schemes conducted by State Cooperative Unions resulting in 3,70,670 persons being educated/trained, including 1,08,254 women participants.

During the Financial Year 2019-20 (from 1st April, 2019 to 30th September, 2019), NCUI through its Cooperative Education Field Projects conducted wide-ranging programmes on various issues of Cooperative Development. Under UDS Projects, NCUI has organized 18384 in which, 2,81,907 participants have been benefitted.

During April-September, 2019, NCUI through its National Centre for Cooperative Education (NCCE) organized 74 programmes with 2412 participants against the target of 50 programmes and 1500 participants. Out of these events 14 programmes with 464 participants were imparted for weaker cooperative sector like Labour, Fisheries, and poultry, Joint Farming, Construction, Handloom & Handicraft and SC/ST Cooperatives etc. Considering the need for socio economic development of women, 14 programmes were conducted exclusively for women participants. During the Financial Year 2018-19, no grant-in-aid released to NCUI by DAC&FW.

The 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. During the current financial year 2019-20, a sum of Rs. 710.00 lakhs has been released till date as grants-in-aid to NCCT including NE Region. Out of the total 1740 planned programmes during the year 2019-20 and to trained 43500 participants, NCCT conducted 1107 training programs and trained 38490 participants up to November, 2019. These 38490 participants include 28366 men & 10124 women participants.

23.3.8 POLICY

The National Policy for Farmers 2007 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 creches, 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.

23.3.9 AGRICULTURE CENSUS

Following the recommendations of the Central Statistics Office, Ministry of Statistics and Programme Implementation, gender based data in the Agriculture Census has been collected since 1995-96. 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 different Agriculture Censuses indicates participation of more and more women in operation and management of agricultural holdings in the country.

23.3.10 FARMERS' 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 and to enable them to take care of expenses related to agriculture and allied activities as well as domestic needs, the Central Government has started a new Central Sector Scheme, namely, the Pradhan Mantri Kisan Samman Nidhi (PM-KISAN). 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 scheme is effective from 1.12.2018. The cut-off date for identification of beneficiaries with regard to their eligibility is 1.2.2019. 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 beneficiaries on the basis of 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 also self-register through the portal. The total number of beneficiaries expected to be covered under the Scheme is 14 crore on the basis of the Agriculture Census, 2015-16. The Scheme was formally launched on 24th February, 2019. As on 30.11.2019, on the

basis of the data of beneficiaries uploaded on the PM-Kisan web portal by the State/UT Governments, a total number of 2,03,40,878 women beneficiaries have been covered under the PM-KISAN Scheme.

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 an 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 the 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. The total number of beneficiaries expected to be covered under the Scheme is 5 crore on the basis of the Agriculture Census, 2015-16. As on 2nd January, 2020; 6,23,042 women had enrolled under the Scheme.

23.3.11 RAINFED FARMING SYSTEMS (RFS)

To mainstream development of rainfed areas in a sustainable manner, the Rainfed Area Development (RAD) Scheme is being implemented in the country from the year 2014-15 as a component of the National Mission for Sustainable Agriculture (NMSA). The major objective of the RAD is to make rainfed agriculture more productive, sustainable, remunerative and climate resilient by promoting location specific Integrated/Composite Farming Systems and to promote conservation agriculture practices for sustainable use of natural resources.

Under the Pradhan Mantri Krishi Sinchayee Yojana (PMKSY), Per Drop More Crop, i.e., Per Drop More Crop component (PDMC) of PMKSY is being implemented by the Department of Agriculture, Cooperation & Farmers' Welfare from 1st July, 2015. PDMC mainly focuses on water use efficiency at the farm level through precision/ Micro Irrigation (Drip and Sprinkler Irrigation).

Under the framework of the National Mission for Sustainable Agriculture (NMSA), Sub Mission on Agro Forestry (SMAF) has been launched during 2016-17 with an aim to expand the tree coverage on farmland complementary with agricultural crops.

SMAF will accelerate the programme "Har Medh Par Ped".

Guidelines of all these schemes envisage that at least 50% of the allocation is to be utilized for small, marginal farmers of which atleast 30% are women beneficiaries/ farmers.

23.3.12 INTEGRATED NUTRIENT MANAGEMENT

Under the National Mission for Sustainable Agriculture, INM Division is implementing the Paramparagat Krishi Vikas Yojana (PKVY), Mission Organic Value Chain Development for the North Eastern Region (MOVCDNER), Soil Health Card & Soil Health Management scheme; States have been requested to earmark atleast 30% of the budget allocation for women beneficiaries/farmers.

23.3.13 PLANT PROTECTION

National Institute of Plant Health Management (NIPHM) is a component under the Sub Mission on Plant Protection and Plant Quarantine (SMPPQ) which provides Pest Management capacity building programme to State officials and farmers.

23.3.14 CREDIT

Under the Scheme 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. The coverage under the scheme is subject to land records and tenancy contracts. Further, the Scheme is demand driven. The scheme is compulsory/

mandatory for farmers obtaining seasonal agricultural operations loans for notified crops/areas from rural financial institutions i.e. loanee farmers are compulsorily covered and the scheme is voluntary for non-loanee farmers. Thus, loanee women farmers are covered compulsorily under the scheme and non-loanee women farmers are required to obtain crop insurance from approved channels i.e. insurance company or their agents, banks, Common Service Centres and online on the National Crop Insurance Portal, www.pmfby.gov.in. There is no specific extra benefit/provision for women farmers under the scheme. However, the Government is bound to pay its share in premium subsidy for all 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 a 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 a 56% increase from Kharif 18 to Kharif 19 demonstrating a favourable

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 for 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.

23.3.15 RKVY

Under RKVY-RAFTAAR (State-plan scheme), there is no specific provision for gender budgeting. However, the State Level Sanctioning Committee (SLSC) of the State is responsible to ensure that while selecting beneficiaries under any project of RKVY-RAFTAAR, adequate coverage of small and marginal farmers, Scheduled Castes, Scheduled Tribes and women and other weaker segments of society is ensured so that the benefits of implementation of a particular project or the scheme as a whole accrue to the intended beneficiaries in accordance with the guidelines and policies of the Government.

THE WAY FORWARD:

The 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 conveniently be 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 schemes & programmes and also in developing strategies to successfully implement them.

Realizing the present feminized agriculture scenario, contribution of women farmers 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 will lead to:

- Building inherent strength of women and men to mutually learn;
- Overcoming gender based prejudices; and

- 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 development 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 also smoothen the transition of women from being beneficiaries of programmes & schemes to their active participation in attaining empowerment. A brief summary of flow of benefits to women under various schemes/programmes of the DAC & FW is given in **Annexure 23.1**.

Chapter 24

Summary of Audit Paras/Observations

Rashtriya Krishi Vikas Yojana (RKVY)

There is no pending Audit para pertaining to RKVY. However, Performance Audit of the Rashtriya Krishi Vikas Yojana (RKVY) has been made for the period 2007-08 to 2012-13

(ending March 2013) by C&AG and the report was submitted in both Houses of Parliament on 5th May 2015. The details of the status of pending Audit Para/ Performance Audit Report are as follows:

Sl. No	Year	No. of Paras/PA reports on which ATNs have been submitted to PAC after vetting by Audit	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 on which vetting of Audit has been received. On the basis of vetting remarks offered by C & AG on the first ATN, all the concerned States were requested to furnish their respective comments based on which the revised ATN was prepared and forwarded to C & AG on 22.05.2018. 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 on the vetting comments of C & AG have been submitted to PAC on 10.10.2019.	-

CHAPTER - 2

**FUNCTIONS AND ORGANIZATIONAL STRUCTURE
LIST OF FUNCTIONAL DIVISIONS IN THE DEPARTMENT OF AGRICULTURE,
COOPERATION AND FARMERS' WELFARE**

DIVISIONS:

- | | |
|---|---|
| 1. Administration | 15. Information Technology |
| 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 & Watershed Development |
| 11. Farmers Welfare | 25. Seeds |
| 12. General Coordination | 26. Oil Seeds |
| 13. Hindi | 27. Agriculture Trade Policy, Promotion & Logistics Development |
| 14. Horticulture | 28. Vigilance |

ANNEXURE – 2.2

CHAPTER - 2

FUNCTIONS AND ORGANIZATIONAL STRUCTURE
INVENTORY OF FIELD FORMATIONS

I. ATTACHED OFFICES

1. Directorate of Economics & Statistics, Shastri Bhavan, 'B' Wing, New Delhi. Road, Nagpur, Maharashtra-440013.
2. Commission for Agricultural Costs and Prices, Shastri Bhavan, 'F' Wing, Second Floor, New Delhi. 6. Directorate of Jute Development, 234/4, Acharya Jagdish Bose Road, Nizam Palace Campus, Kolkata- 700020 (West Bengal).
3. Directorate of Plant Protection, Quarantine and Storage, N.H.IV, Faridabad (Haryana). 7. Directorate of Millets Development, Mini Secretariat Building, Room No. 710, 6th Floor, Bani Park, Jaipur (Rajasthan).
4. Directorate of Marketing & Inspection, N.H.IV, Faridabad (Haryana). 8. Directorate of Sugarcane Development, 8th Floor, Hall No.3, Kendriya Bhavan, Aliganj, Lucknow - 226024 (U.P).
5. Mahalanobis National Crop Forecast Centre, New Delhi. 9. Directorate of Rice Development, 191, Patliputra Colony, Patna-800013 (Bihar).

II. SUB-ORDINATE OFFICES

1. Central Farm Machinery Training & Testing Institute, Budni (Madhya Pradesh). 10. Directorate of Wheat Development, CGO Building, Hapur Road Chauraha, Kamla Nehru Nagar, Ghaziabad (U.P).
2. Northern Region Farm Machinery Training & Testing Institute, Hissar (Haryana). 11. Directorate of Extension, Krishi Vistar Bhavan, Dr. K.S. Krishna Marg, IARI Campus, Pusa, New Delhi-110 012.
3. Southern Region Farm Machinery Training & Testing Institute, Garladinne, Distt. Anantapur (A.P). 12. Directorate of Oilseeds Development, Telhan Bhavan, Himayat Nagar, Hyderabad (A.P).
4. North Eastern Region Farm Machinery Training & Testing Institute, Biswnath Chariali, Distt. Sonitpur (Assam). 13. Directorate of Pulses Development, 8th Floor, Vindhyachal Bhavan, Bhopal-462004 (M.P).
5. Directorate of Cotton Development, Bhoomi Sarvekshan Bhawan, Near Centre Point School, Seminary Hills, Katol 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.

ANNEXURE-2.3**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. AUHTORITIES

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.

Directorate of Economics & Statistics

Fourth Advance Estimates of Production of Foodgrains for 2018-19

as on 19.08.2019
Million Tonnes

Crop	Season	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18		2018-19		
															4th Adv. Est.	Final Estimate	Target	4 th Adv.Est.
1	2													14	15	16	17	18
Rice	Kharif	78.27	80.17	82.66	84.91	75.92	80.65	92.78	92.36	91.50	91.39	91.41	96.30	97.50	97.14	99.00		102.13
	Rabi	13.52	13.18	14.03	14.27	13.18	15.33	12.52	12.87	15.15	14.09	13.00	13.40	15.41	15.62	15.00		14.29
	Total	91.79	93.36	96.69	99.18	89.09	95.98	105.30	105.23	106.65	105.48	104.41	109.70	112.91	112.76	114.00		116.42
Wheat	Rabi	69.35	75.81	78.57	80.68	80.80	86.87	94.88	93.51	95.85	86.53	92.29	98.51	99.70	99.87	102.20		102.19
	Kharif	4.07	3.71	4.11	3.05	2.76	3.44	3.29	2.84	2.39	2.30	1.82	1.96	2.10	2.27	2.10		1.74
Jowar	Rabi	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15	3.15	2.42	2.60	2.85	2.53	2.80		2.02
	Total	7.63	7.15	7.93	7.25	6.70	7.00	5.98	5.28	5.54	5.45	4.24	4.57	4.95	4.80	4.90		3.76
Bajra	Kharif	7.68	8.42	9.97	8.89	6.51	10.37	10.28	8.74	9.25	9.18	8.07	9.73	9.13	9.21	9.50		8.61
	Kharif	2.35	1.44	2.15	2.04	1.89	2.19	1.93	1.57	1.98	2.06	1.82	1.39	1.98	1.99	2.30		1.22
Small Millets	Kharif	0.47	0.48	0.55	0.44	0.38	0.44	0.45	0.44	0.43	0.39	0.39	0.44	0.44	0.44	0.60		0.37
	Total	14.58	14.05	16.79	14.42	11.54	16.44	15.95	13.59	14.06	13.93	12.10	13.52	13.64	13.91	14.50		11.95
Nutri Cereals	Rabi	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15	3.15	2.42	2.60	2.85	2.53	2.80		2.02
	Total	18.14	17.50	20.60	18.62	15.47	20.01	18.64	16.03	17.20	17.08	14.52	16.12	16.50	16.44	17.30		13.97
	Kharif	12.16	11.56	15.11	14.12	12.29	16.64	16.49	16.20	16.20	17.15	17.01	16.95	18.92	20.24	20.12	21.20	
Maize	Rabi	2.55	3.54	3.85	5.61	4.43	5.09	5.27	6.05	7.11	7.16	6.51	6.98	8.47	8.63	7.50		8.18
	Total	14.71	15.10	18.96	19.73	16.72	21.73	21.76	22.26	24.26	24.17	22.57	25.90	28.72	28.75	28.70		27.23
Barley	Rabi	1.22	1.33	1.20	1.69	1.35	1.66	1.62	1.75	1.83	1.61	1.44	1.75	1.77	1.78	2.10		1.75
	Total																	

Nutri/Coarse Cereals	Kharif	26.74	25.61	31.89	28.54	23.83	33.08	32.44	29.79	31.20	30.94	28.15	32.44	33.89	34.03	35.70	30.99
	Rabi	7.33	8.31	8.86	11.49	9.72	10.32	9.58	10.24	12.09	11.92	10.37	11.33	13.10	12.94	12.40	11.96
	Total	34.07	33.92	40.75	40.04	33.55	43.40	42.01	40.04	43.30	42.86	38.52	43.77	46.99	46.97	48.10	42.95
Cereals	Kharif	105.01	105.78	114.55	113.45	99.75	113.73	125.22	122.15	122.70	122.34	119.56	128.74	131.38	131.16	134.70	133.12
	Rabi	90.21	97.30	101.46	106.45	103.70	112.52	116.98	116.63	123.09	112.53	115.66	123.24	128.21	128.44	129.60	128.43
	Total	195.22	203.08	216.01	219.90	203.45	226.25	242.20	238.78	245.79	234.87	235.22	251.98	259.59	259.60	264.30	261.55
Tur	Kharif	2.74	2.31	3.08	2.27	2.46	2.86	2.65	3.02	3.17	2.81	2.56	4.87	4.25	4.29	4.50	3.59
	Rabi	5.60	6.33	5.75	7.06	7.48	8.22	7.70	8.83	9.53	7.33	7.06	9.38	11.23	11.38	11.50	10.13
	Total	8.34	8.64	8.83	9.33	9.94	11.08	10.35	11.85	12.66	10.14	9.62	14.25	15.48	12.76	13.00	13.72
Urad	Kharif	0.90	0.94	1.12	0.84	0.81	1.40	1.23	1.50	1.15	1.28	1.25	2.18	2.84	2.75	2.80	2.56
	Rabi	0.35	0.50	0.34	0.33	0.42	0.36	0.53	0.47	0.55	0.68	0.70	0.66	0.73	0.74	0.80	0.70
	Total	1.25	1.44	1.46	1.17	1.24	1.76	1.77	1.97	1.97	1.70	1.96	1.95	2.83	3.49	3.60	3.26
Moong	Kharif	0.69	0.84	1.25	0.78	0.44	1.53	1.24	0.79	0.96	0.87	1.00	1.64	1.44	1.43	1.55	1.84
	Rabi	0.26	0.28	0.27	0.26	0.25	0.27	0.40	0.40	0.65	0.64	0.59	0.52	0.57	0.59	0.70	0.51
	Total	0.95	1.12	1.52	1.03	0.69	1.80	1.63	1.19	1.19	1.61	1.50	1.59	2.17	2.02	2.25	2.35
Lentil	Kharif	0.95	0.91	0.81	0.95	1.03	0.94	1.06	1.13	1.02	1.04	0.98	1.22	1.61	1.62	*	1.56
	Rabi	0.54	0.70	0.96	0.80	0.49	1.33	0.93	0.61	0.71	0.78	0.72	0.89	0.82	0.83	1.00	0.61
	Total	1.36	1.37	1.19	1.28	1.28	1.33	1.34	1.34	1.59	1.52	1.74	1.77	1.76	1.78	3.10	1.90
Other Rabi Pulses	Kharif	4.86	4.80	6.40	4.69	4.20	7.12	6.06	5.92	6.00	5.73	5.53	9.58	9.34	9.31	9.85	8.59
	Rabi	8.52	9.40	8.36	9.88	10.46	11.12	11.03	12.43	13.26	11.42	10.79	13.55	15.89	16.11	16.10	14.80
	Total	13.38	14.20	14.76	14.57	14.66	18.24	17.09	17.09	18.34	19.26	17.15	16.32	23.13	25.42	25.95	23.40
Total Foodgrains	Kharif	109.87	110.58	120.96	118.14	103.95	120.85	131.27	128.07	128.69	128.07	125.09	138.33	140.73	140.47	144.55	141.71
	Rabi	98.73	106.71	109.82	116.33	114.15	123.64	128.01	129.05	136.35	123.96	126.45	136.78	144.10	144.55	145.70	143.24
	Total	208.60	217.28	230.78	234.47	218.11	244.49	259.29	257.12	265.05	252.02	251.54	275.11	284.83	285.01	290.25	284.95

* included in Other Rabi Pulses

Department of Agriculture, Cooperation and Farmers Welfare
Directorate of Economics & Statistics

Fourth Advance Estimates of Production of Commercial Crops for 2018-19

as on 19.08.2019
Lakh Tonnes

Crop	Season	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18		2018-19	
															4th Adv. Est.	Final Estimate	Target
Groundnut	Khharif	62.98	32.94	73.62	56.17	38.52	66.43	51.27	31.88	80.58	59.31	53.68	60.48	75.40	75.95	75.40	53.63
	Rabi	16.95	15.69	18.20	15.51	15.76	16.22	18.37	15.07	16.56	14.71	13.66	14.14	16.39	16.57	15.28	13.31
	Total	79.93	48.64	91.83	71.68	54.28	82.65	69.64	46.95	97.14	74.02	67.33	74.62	91.79	92.53	90.68	66.95
Castorseed	Khharif	9.91	7.62	10.54	11.71	10.09	13.50	22.95	19.64	17.27	18.70	17.52	13.76	15.68	15.68	18.31	12.15
	Khharif	6.41	6.18	7.57	6.40	5.88	8.93	8.10	6.85	7.15	8.28	8.50	7.47	7.51	7.55	10.07	7.55
Sesamum	Khharif	1.08	1.21	1.10	1.17	1.00	1.08	0.98	1.01	0.98	0.76	0.74	0.85	0.74	0.70	2.01	0.65
	Khharif	82.74	88.51	109.68	99.05	99.64	127.36	122.14	146.66	118.61	103.74	85.70	131.59	109.81	109.33	148.20	137.86
Soyabean	Khharif	4.56	3.66	4.63	3.57	2.14	1.92	1.47	1.87	1.66	1.43	0.85	1.11	0.83	0.85	1.01	0.93
	Rabi	9.83	8.62	10.00	8.01	6.36	4.59	3.69	3.57	3.38	2.91	2.12	1.41	1.28	1.37	2.01	1.26
	Total	14.39	12.28	14.63	11.58	8.51	6.51	5.17	5.44	5.04	4.34	2.96	2.51	2.11	2.22	3.02	2.19
Rapeseed & Mustard	Rabi	81.31	74.38	58.34	72.01	66.08	81.79	66.04	80.29	78.77	62.82	67.97	79.17	83.22	84.30	84.86	93.39
	Rabi	1.73	1.68	1.63	1.69	1.54	1.47	1.52	1.49	1.42	1.55	1.26	1.84	1.75	1.74	2.01	1.59
Safflower	Rabi	2.29	2.40	2.25	1.89	1.79	1.50	1.45	1.09	1.13	0.90	0.53	0.94	0.47	0.55	0.83	0.24
	Khharif	167.67	140.12	207.13	178.08	157.28	219.22	206.91	207.91	226.24	192.21	166.98	215.26	209.96	210.06	255.00	212.78
Total Nine Oilseeds	Rabi	112.11	102.77	90.42	99.11	91.53	105.57	91.08	101.50	101.26	82.90	85.53	97.50	103.12	104.53	104.99	109.79
	Total	279.78	242.89	297.55	277.19	248.82	324.79	297.99	309.41	327.49	275.11	252.51	312.76	313.08	314.59	359.99	322.57
Sugarcane	Total	281.72	355.20	3481.88	2850.29	2923.02	3423.82	3610.37	3412.00	3521.42	3623.33	3484.48	3060.69	3769.05	3799.05	3850.00	4001.57
Cotton #	Total	184.99	226.32	258.84	222.76	240.22	330.00	352.00	342.20	359.02	348.05	300.05	325.77	348.88	328.05	355.00	287.08
Jute # #	Total	99.70	103.17	102.20	96.34	112.30	100.09	107.36	103.40	110.83	106.18	99.40	104.32	96.28	95.91	105.00	93.49
Mesta # #	Total	8.70	9.56	9.90	7.31	5.87	6.11	6.63	5.90	6.07	5.08	5.83	5.30	5.08	4.42	7.00	4.19
Jute & Mesta # #	Total	108.40	112.73	112.11	103.65	118.17	106.20	113.99	109.30	116.90	111.26	105.24	109.62	101.37	100.33	112.00	97.68

Lakh bales of 170 kgs. each

Lakh bales of 180 kgs. Each

Annexure 3.2(a)

Directorate of Economics & Statistics
First Advance Estimates of Production of Foodgrains for 2019-20

as on 23.09.2019
Million Tonnes

Crop	Season	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		2019-20	
		3	4	5	6	7	8	9	10	11	12	13	14	15	1st Adv. Est.	4th Adv. Est.	Target	1st Adv. Est.
1	2																	
	Kharif	78.27	80.17	82.66	84.91	75.92	80.65	92.78	92.36	91.50	91.39	91.41	96.30	97.14	99.24	102.13	102.00	100.35
	Rabi	13.52	13.18	14.03	14.27	13.18	15.33	12.52	12.87	15.15	14.09	13.00	13.40	15.62	99.24	14.29	14.00	
	Total	91.79	93.36	96.69	99.18	89.09	95.98	105.30	105.23	106.65	105.48	104.41	109.70	112.76	99.24	116.42	116.00	100.35
Wheat	Rabi	69.35	75.81	78.57	80.68	80.80	86.87	94.88	93.51	95.85	86.53	92.29	98.51	99.87		102.19	100.50	
	Kharif	4.07	3.71	4.11	3.05	2.76	3.44	3.29	2.84	2.39	2.30	1.82	1.96	2.27	1.88	1.74	2.10	1.85
	Rabi	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15	3.15	2.42	2.60	2.53	1.88	2.02	2.80	
	Total	7.63	7.15	7.93	7.25	6.70	7.00	5.98	5.28	5.54	5.45	4.24	4.57	4.80	1.88	3.76	4.90	1.85
Bajra	Kharif	7.68	8.42	9.97	8.89	6.51	10.37	10.28	8.74	9.25	9.18	8.07	9.73	9.21	7.77	8.61	9.50	8.29
	Kharif	2.35	1.44	2.15	2.04	1.89	2.19	1.93	1.57	1.98	2.06	1.82	1.39	1.99	1.68	1.22	2.30	1.59
	Kharif	0.47	0.48	0.55	0.44	0.38	0.44	0.45	0.44	0.43	0.39	0.39	0.44	0.44	0.33	0.37	0.60	0.38
	Total	14.58	14.05	16.79	14.42	11.54	16.44	15.95	13.59	14.06	13.93	12.10	13.52	13.91	11.66	11.95	14.50	12.11
Nutri Cereals	Rabi	3.56	3.44	3.81	4.19	3.93	3.56	2.69	2.44	3.15	3.15	2.42	2.60	2.53		2.02	2.80	
	Total	18.14	17.50	20.60	18.62	15.47	20.01	18.64	16.03	17.20	17.08	14.52	16.12	16.44	11.66	13.97	17.30	12.11
	Kharif	12.16	11.56	15.11	14.12	12.29	16.64	16.49	16.20	17.15	17.01	16.05	18.92	20.12	21.47	19.04	21.30	19.89
Maize	Rabi	2.55	3.54	3.85	5.61	4.43	5.09	5.27	6.05	7.11	7.16	6.51	6.98	8.63		8.18	7.60	
	Total	14.71	15.10	18.96	19.73	16.72	21.73	21.76	22.26	24.26	24.17	22.57	25.90	28.75	21.47	27.23	28.90	19.89
	Rabi	1.22	1.33	1.20	1.69	1.35	1.66	1.62	1.75	1.83	1.61	1.44	1.75	1.78		1.75	2.10	
Nutri/Coarse Cereals	Kharif	26.74	25.61	31.89	28.54	23.83	33.08	32.44	29.79	31.20	30.94	28.15	32.44	34.03	33.13	30.99	35.80	32.00
	Rabi	7.33	8.31	8.86	11.49	9.72	10.32	9.68	10.24	12.09	11.92	10.37	11.33	12.94		11.96	12.50	
	Total	34.07	33.92	40.75	40.04	33.55	43.40	42.01	40.04	43.30	42.86	38.52	43.77	46.97	33.13	42.95	48.30	32.00
Cereals	Kharif	105.01	105.78	114.55	113.45	99.75	113.73	125.22	122.15	122.70	122.34	119.56	128.74	131.16	132.37	133.12	137.80	132.35
	Rabi	90.21	97.30	101.46	106.45	103.70	112.52	116.98	116.63	123.09	112.53	115.66	123.24	128.44	132.37	128.43	127.00	
	Total	195.22	203.08	216.01	219.90	203.45	226.25	242.20	238.78	245.79	234.87	235.22	251.98	259.60	132.37	261.55	264.80	132.35
Tur	Kharif	2.74	2.31	3.08	2.27	2.46	2.86	2.65	3.02	3.17	2.81	2.56	4.87	4.29	4.08	3.59	4.60	3.54
	Rabi	5.60	6.33	5.75	7.06	7.48	8.22	7.70	8.83	9.53	7.33	7.06	9.38	11.38	2.65	10.13	11.60	2.43
	Kharif	0.90	0.94	1.12	0.84	0.81	1.40	1.23	1.50	1.15	1.28	1.25	2.18	2.75	2.65	2.56	2.90	2.43
Urad	Rabi	0.35	0.50	0.34	0.33	0.42	0.36	0.53	0.47	0.55	0.68	0.70	0.66	0.74	2.65	0.70	0.80	
	Total	1.25	1.44	1.46	1.17	1.24	1.76	1.77	1.97	1.70	1.96	1.95	2.83	3.49	2.65	3.26	3.70	2.43

Moong	Kharif	0.69	0.84	1.25	0.78	0.44	1.53	1.24	0.79	0.96	0.87	1.00	1.64	1.43	1.58	1.84	1.60	1.42
	Rabi	0.26	0.28	0.27	0.26	0.25	0.27	0.40	0.40	0.65	0.64	0.59	0.52	0.59		0.51	0.70	
	Total	0.95	1.12	1.52	1.03	0.69	1.80	1.63	1.19	1.61	1.50	1.59	2.17	2.02	1.58	2.35	2.30	1.42
Lentil	Rabi	0.95	0.91	0.81	0.95	1.03	0.94	1.06	1.13	1.02	1.04	0.98	1.22	1.62		1.56	*	
	Kharif	0.54	0.70	0.96	0.80	0.49	1.33	0.93	0.61	0.71	0.78	0.72	0.89	0.83	0.91	0.61	1.00	0.83
Other Rabi Pulses	Rabi	1.36	1.37	1.19	1.28	1.28	1.33	1.34	1.59	1.52	1.74	1.47	1.77	1.78		1.90	3.10	
	Kharif	4.86	4.80	6.40	4.69	4.20	7.12	6.06	5.92	6.00	5.73	5.53	9.58	9.31	9.22	8.59	10.10	8.23
	Total	8.52	9.40	8.36	9.88	10.46	11.12	11.03	12.43	12.43	13.26	11.42	10.79	13.55	16.11	14.80	16.20	
Total Pulses	Total	13.38	14.20	14.76	14.57	14.66	18.24	17.09	18.34	19.26	17.15	16.32	23.13	25.42	9.22	23.40	26.30	8.23
	Kharif	109.87	110.58	120.96	118.14	103.95	120.85	131.27	128.07	128.69	128.07	125.09	138.33	140.47	141.59	141.71	147.90	140.57
	Rabi	98.73	106.71	109.82	116.33	114.15	123.64	128.01	129.05	136.35	123.96	126.45	136.78	144.55		143.24	143.20	
Total Foodgrains	Total	208.60	217.28	230.78	234.47	218.11	244.49	259.29	257.12	265.05	252.02	251.54	275.11	285.01	141.59	284.95	291.10	140.57

* included in Other Rabi Pulses

Annexure 3.2(b)

Ministry of Agriculture and Farmers Welfare
Department of Agriculture, Cooperation and Farmers Welfare
Directorate of Economics & Statistics

First Advance Estimates of Production of Commercial Crops for 2019-20

as on 23.09.2019
Lakh Tonnes

Crop	Season	2005-06	2006-07	2007-08	2008-09	2009-10	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16	2016-17	2017-18	2018-19		2019-20	
															1st Adv. Est.	4th Adv. Est.	Target	1st Adv. Est.
Groundnut	Kharif	62.98	32.94	73.62	56.17	38.52	66.43	51.27	31.88	80.58	59.31	53.68	60.48	75.95	63.28	53.63	75.68	63.11
	Rabi	16.95	15.69	18.20	15.51	15.76	16.22	18.37	15.07	16.56	14.71	13.66	14.14	16.57		13.31	16.08	
	Total	79.93	48.64	91.83	71.68	54.28	82.65	69.64	46.95	46.95	97.14	74.02	67.33	74.62	92.53	63.28	66.95	91.76
Castorseed	Kharif	9.91	7.62	10.54	11.71	10.09	13.50	22.95	19.64	17.27	18.70	17.52	13.76	15.68	15.17	12.15	19.32	17.37
Sesamum	Kharif	6.41	6.18	7.57	6.40	5.88	8.93	8.10	6.85	7.15	8.28	8.50	7.47	7.55	7.10	7.55	10.17	6.86
Nigerseed	Kharif	1.08	1.21	1.10	1.17	1.00	1.08	0.98	1.01	0.98	0.76	0.74	0.85	0.70	0.82	0.65	2.03	0.83
Soyabean	Kharif	82.74	88.51	109.68	99.05	99.64	127.36	122.14	146.66	118.61	103.74	85.70	131.59	109.33	134.59	137.86	149.64	135.05
Sunflower	Kharif	4.56	3.66	4.63	3.57	2.14	1.92	1.47	1.87	1.66	1.43	0.85	1.11	0.85	0.94	0.93	1.55	0.67
	Rabi	9.83	8.62	10.00	8.01	6.36	4.59	3.69	3.57	3.38	2.91	2.12	1.41	1.37		1.26	1.50	
	Total	14.39	12.28	14.63	11.58	8.51	6.51	5.17	5.44	5.44	5.04	4.34	2.96	2.51	2.22	0.94	2.19	3.05
Rapeseed & Mustard	Rabi	81.31	74.38	58.34	72.01	66.08	81.79	66.04	80.29	78.77	62.82	67.97	79.17	84.30		93.39	82.37	
Linseed	Rabi	1.73	1.68	1.63	1.69	1.54	1.47	1.52	1.49	1.42	1.55	1.26	1.84	1.74		1.59	2.03	
Safflower	Rabi	2.29	2.40	2.25	1.89	1.79	1.50	1.45	1.09	1.13	0.90	0.53	0.94	0.55		0.24	0.63	
Total Nine Oilseeds	Kharif	167.67	140.12	207.13	178.08	157.28	219.22	206.91	207.91	226.24	192.21	166.98	215.26	210.06	221.89	212.78	258.39	223.89
	Rabi	112.11	102.77	90.42	99.11	91.53	105.57	91.08	101.50	101.26	82.90	85.53	97.50	104.53		109.79	102.61	
	Total	279.78	242.89	297.55	277.19	248.82	324.79	297.99	309.41	309.41	327.49	275.11	252.51	312.76	314.59	221.89	322.57	361.00
Sugarcane	Total	2811.72	3555.20	3481.88	2850.29	2923.02	3423.82	3610.37	3412.00	3521.42	3623.33	3484.48	3060.69	3799.05	3838.92	4001.57	3855.00	3777.66
Cotton #	Total	184.99	226.32	258.84	222.76	240.22	330.00	352.00	342.20	359.02	348.05	300.05	325.77	328.05	324.83	287.08	357.50	322.67
Jute #	Total	99.70	103.17	102.20	96.34	112.30	100.09	107.36	103.40	110.83	106.18	99.40	104.32	95.91	96.65	93.49	105.00	95.19
Mesta #	Total	8.70	9.56	9.90	7.31	5.87	6.11	6.63	5.90	6.07	5.08	5.83	5.30	4.42	5.04	4.19	7.00	4.37
Jute & Mesta #	Total	108.40	112.73	112.11	103.65	118.17	106.20	113.99	109.30	116.90	111.26	105.24	109.62	100.33	101.69	97.68	112.00	99.56

Lakh bales of 170 kgs. each

Lakh bales of 180 kgs. each

Statement showing Cost*, MSP and Percentage Return over all India weighted average cost of production for the year 2018-19 and 2019-20

SI. No.	Commodity	2018-19			2019-20		
		Cost*	MSP	% Return	Cost*	MSP	% Return
KHARIF CROPS							
1	PADDY (Common)	1166	1750	50	1208	1815	50
	(Grade A)^		1770			1835	
2	JOWAR (Hybrid)	1619	2430	50	1698	2550	50
	(Maldandi) ^		2450			2570	
3	BAJRA	990	1950	97	1083	2000	85
4	MAIZE	1131	1700	50	1171	1760	50
5	RAGI	1931	2897	50	2100	3150	50
6	ARHAR(TUR)	3432	5675	65	3636	5800	60
7	MOONG	4650	6975	50	4699	7050	50
8	URAD	3438	5600	63	3477	5700	64
9	COTTON (Medium staple)	3433	5150	50	3501	5255	50
	(Long Staple) ^		5450			5550	
10	GROUNDNUT IN SHELL	3260	4890	50	3394	5090	50
11	SUNFLOWER SEED	3592	5388	50	3767	5650	50
12	SOYABEAN (Yellow)	2266	3399	50	2473	3710	50
13	SESAMUM	4166	6249	50	4322	6485	50
14	NIGERSEED	3918	5877	50	3960	5940	50
RABI CROPS							
1	WHEAT	866	1840	113	923	1925	109
2	BARLEY	860	1440	67	919	1525	66
3	GRAM	2637	4620	75	2801	4875	74
4	MASUR (LENTIL)	2532	4475	77	2727	4800	76
5	RAPSEED/MUSTARD	2212	4200	90	2323	4425	90
6	SAFFLOWER	3294	4945	50	3470	5215	50
OTHER CROPS							
1	COPRA (Milling)	5007	7511	50	6347	9521	50
	(Ball)^		7750			9920	
2	JUTE	2267	3700	63	2535	3950	56

*: Includes all paid out costs such as those incurred on account of hired human labour, bullock labour/machine labour, rent paid for leased in land, expenses incurred on use of material inputs like seeds, fertilizers, manures, irrigation charges, depreciation on implements and farm buildings, interest on working capital, diesel/electricity for operation of pump sets etc, miscellaneous expenses & imputed value of family labour.

^ Cost is not separately compiled for Paddy (Grade A), Jowar (Maldandi), Cotton (long staple) and Copra(ball).

ANNEXURE -13.1

Details of state-wise and commodity wise allocated pulses

S.No	Pulses	State	Qty Allocated (IN MT)	Amount Received (Rs in Lakhs)
I	Gram			
	1	Chhattisgarh	43480.00	10746.35
	2	Daman	6.42	1.47
	3	Gujarat	54384.89	13,088.66
	4	Himachal Pradesh	34100.12	8,600.91
	5	Kerala	8600.00	2,359.68
	6	Madhya Pradesh	246384.78	59,769.53
	7	Maharashtra	56001.31	14,345.96
	8	Tamil Nadu	2051.00	560.46
	9	Uttar Pradesh	1584.06	443.70
	10	Uttarakhand	20658.00	5,130.28
	Total		467250.57	1,15,046.99
II	Masoor			
	1	Himachal Pradesh	12949.30	2,979.63
	2	Madhya Pradesh	8736.62	1,826.21
	3	Nagaland	7552.44	1,853.61
	4	Tripura	29210.36	5,603.66
	5	Uttar Pradesh	316.80	79.45
	Total		58765.52	12,342.56
S.No	Pulses	State	Qty Allocated (IN MT)	Amount Received (Rs in Lakhs)
III	Moong			
	1	Daman	7.38	2.66
	2	Gujarat	11,284.27	3,783.59
	3	Himachal Pradesh	3,102.15	1,161.28
	4	Kerala	7,575.00	2,793.91
	5	Tamil Nadu	2,063.00	701.66
	Total		24,031.80	8,443.10
IV	Tur			
	1	Andhra Pradesh	61,436.59	16,349.18
	2	Daman	2.73	0.50
	3	Guarat	16,200.00	2,826.90
	4	Karnataka	99,485.98	28,220.72
	5	Kerala	12,081.29	3,578.81
	6	Tamil Nadu	1,88,815.27	53,775.74
	7	Maharashtra	36,000.15	13,266.00
	Total		4,14,022.01	1,18,017.86
V	Urad			
	1	Himachal Pradesh	10,827.12	2,619.74
	2	Kerala	10,332.40	2,598.17
	3	Maharashtra	10,000.32	2,597.09
	Total		31,159.84	7,815.00
	Grand Total		9,95,229.74	2,61,665.51

Statewise Allocation and Release of funds under Normal RKVY- RAFTAAR and Sub-schemes for 2019-20 as on 31.12.2019

(Rs. in crore)

Sl. No.	Name of the States	Normal RKVY			BGREI	CDP		RPS		AEIC		AMHLT		Swachh Bharat		NRAA		AFDP		Total Sub-Scheme		Grand Total			Utilization		
		Allocation Normal RKVY	1st instalment	2nd instalment		Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	Allocation	Release	UC Revd	UC Pending	% of Utilization	
1	Andhra Pradesh	200.84	100.42	100.41	200.83		2.13	1.06		1.83	0.92	1.55	0.00			2.00	1.00	2.00	1.00	9.51	3.98	210.34	204.81	97.37%	60.75	144.06	29.66%
2	Bihar	129.00	62.49	0.00	62.49	52.05	26.00	0.18	0.09	1.00	0.50									55.53	26.59	184.53	89.08	48.28%		89.08	0.00%
3	Chhattisgarh	66.79	33.40	0.00	33.40	59.21	29.61			3.00	1.50	0.00	0.00							65.87	31.11	132.66	64.51	48.63%		64.51	0.00%
4	Goa	16.00	3.31	0.00	3.31					0.16	0.00	0.10	0.00							0.28	0.00	16.28	3.31	20.33%		3.31	0.00%
5	Gujarat	109.82	54.91	0.00	54.91		2.01	1.00		1.44	0.35	2.30	0.00					2.50	2.50	8.25	3.85	118.07	58.76	49.77%	1.25	57.51	2.13%
6	Haryana	63.37	31.69	22.00	53.69		3.02	0.00	1.48	0.00		1.10	0.00						5.60	0.00	68.97	53.69	77.85%	19.31	34.38	35.97%	
7	Himachal Pradesh	24.10	12.05	12.05	24.10							0.80	0.37						0.80	0.37	24.90	24.47	98.24%		24.47	0.00%	
8	J & K	20.37	10.19	0.00	10.19							0.80	0.00						0.80	0.00	21.17	10.19	48.13%		10.19	0.00%	
9	Jharkhand	72.90	30.91	0.00	30.91	33.86	16.93				1.44	0.00	1.30	0.60					36.60	17.53	109.50	48.44	44.24%		48.44	0.00%	
10	Karnataka	179.36	89.68	0.00	89.68		1.60	0.80	3.00	1.50	1.44	0.00	1.30	0.00			2.00	1.00	11.84	4.55	191.20	94.23	49.28%	32.54	61.69	34.53%	
11	Kerala	64.29	28.10	0.00	28.10						2.16	0.90	0.50	0.00					2.66	0.90	66.95	30.00	44.81%		30.00	0.00%	
12	M. P.	178.70	89.35	0.00	89.35						1.03	0.52	2.80	0.00					3.63	0.52	182.53	89.87	49.24%	9.67	80.20	10.76%	
13	Maharashtra	251.06	125.54	0.00	125.54						0.00	1.08	0.00	2.80	0.00			5.00	2.50	10.70	2.50	261.76	128.04	48.92%		128.04	0.00%
14	Orissa	136.29	68.14	0.00	68.14	61.13	30.56	0.02	0.01	1.50	0.00	1.70	0.00					71.55	30.57	207.84	98.71	47.49%	65.70	33.01	66.56%		
15	Punjab	82.75	0.00	0.00	0.00							1.15	0.00						8.21	0.00	90.95	0.00	0.00%		0.00	0.00%	
16	Rajasthan	159.21	79.61	0.00	79.61							3.10	1.50					1.40	0.00	2.00	0.75	165.71	81.86	49.40%		81.86	0.00%
17	Tamil Nadu	166.70	83.36	83.35	166.71						0.05	0.03	3.88	1.94					1.63	3.25	1.63	9.93	171.68	97.20%	56.81	114.87	33.09%
18	Telangana	259.77	129.89	0.00	129.89							0.10	0.05							1.40	0.70	261.18	130.59	50.00%		130.59	0.00%
19	Uttarakhand	22.57	11.28	11.29	22.57								0.80	0.00					0.80	0.00	23.37	24.47	104.73%	9.10	15.37	37.19%	
20	U. P.	288.22	144.12	0.00	144.12	48.60	24.30	3.59	1.80			4.90	2.45					2.75	1.38	58.47	29.93	348.06	174.05	50.01%	20.08	153.97	11.54%
21	West Bengal	164.12	82.05	0.00	82.05	56.51	54.00	0.18	0.09			0.36	0.00	2.10	0.83					59.15	54.92	223.27	136.97	61.35%	16.30	120.67	11.90%
Total "MH - 3601"		2656.21	1271.49	229.10	1500.59	311.36	161.40	19.95	4.93	15.68	5.44	21.76	3.41	35.50	7.05			20.00	11.01	429.65	215.13	3089.86	1717.72	55.86%	291.51	1426.21	16.97%
1	Assam	154.79	77.40	0.00	77.40	63.64	30.25				1.25	0.00							1.85	0.00	19.46	8.73	44.86%		8.73	0.00%	
2	Assam	15.53	7.76	0.00	7.76							1.50	0.00						65.14	30.25	219.93	107.65	48.95%	81.18	26.47	75.41%	
3	Manipur	17.17	8.59	0.00	8.59						0.50	0.00							0.80	0.00	16.33	7.76	47.54%		7.76	0.00%	
4	Meghalaya	10.19	5.10	0.00	5.10						0.67	0.20	1.62	0.60					2.89	0.80	20.06	9.59	46.81%		9.59	0.00%	
5	Mizoram	37.88	18.94	9.47	28.41						1.25	0.00		0.30	0.00				1.55	0.00	11.74	5.10	43.44%		5.10	100.00%	
6	Nagaland	15.29	7.65	0.00	7.65						0.65	0.31							0.95	0.31	38.83	28.72	73.98%	18.94	9.78	65.94%	
7	Sikkim	54.69	27.35	0.00	27.35							0.30	0.00						0.30	0.00	15.59	7.65	49.06%		7.65	0.00%	
8	Tripura	323.15	161.52	9.47	170.99	63.64	30.25	0.00	0.00	4.32	0.51	3.24	0.60	4.20	0.00			1.92	0.00	56.61	27.35	48.31%	16.53	10.82	60.44%		
Total "MH - 2552"		323.15	161.52	9.47	170.99	63.64	30.25	0.00	0.00	4.32	0.51	3.24	0.60	4.20	0.00			75.40	31.36	398.55	202.35	50.77%	121.75	80.60	60.17%		
1	Delhi	3.30	0.00	0.00	0.00							0.30							0.30	0.00	3.60	0.00	0.00%		0.00	0.00%	
2	Puducherry	2.70	0.00	0.00	0.00														0.00	0.00	2.70	0.00	0.00%		0.00	0.00%	
Total "MH - 3602"		6.00	0.00	0.00	0.00														0.00	0.00	6.30	0.00	0.00%		0.00	0.00%	
1	A & N	2.30	1.15	0.00	1.15							0.00	0.00						0.00	0.00	2.30	1.15	50.00%		1.15	0.00%	
2	Chandigarh	0.20	0.00	0.00	0.00														0.00	0.00	0.20	0.00	0.00%		0.00	0.00%	
3	D & N Havelli	2.90	0.00	0.00	0.00														0.00	0.00	2.90	0.00	0.00%		0.00	0.00%	
4	Daman & Diu	0.50	0.00	0.00	0.00														0.00	0.00	0.50	0.00	0.00%		0.00	0.00%	
5	Lakshadweep	0.30	0.00	0.00	0.00														0.00	0.00	0.30	0.00	0.00%		0.00	0.00%	
Total Us		12.20	1.15	0.00	1.15							0.30	0.00						0.30	0.00	12.50	1.15	9.20%	0.00	1.15	0.00%	
MH - 2401 / 0096 (For SAP) (Admin/ Innovation/National)		199.70	35.03		35.03										0.00				0.00	0.00	199.70	35.03	17.54%		35.03	0.00%	
Grand Total		3191.26	1468.19	238.57	1707.76	375.00	211.65	20.00	4.93	20.00	5.95	25.00	4.01	40.00	7.05			11.01	11.01	560.40	248.50	3751.66	1956.26	52.14%	413.26	1543.00	21.13%
(States+Us+Other)																			BE	RE	3745.00	1956.26	52.24%				
																					3000.00	1956.26	65.21%				

ANNEXURE- 15.2 (a)
Sector wise Approved Projects Cost (Ongoing and Completed projects) under RKVY –RAFTAAR, 2018-19

(in Crore)

Sr No	State	CROP	HORT	SERI	ANHB	OTHR	FISH	COOP	IPMT	SEED	FINM	AMEC	EXTN	MRKT	NONF	ITEC	AGRE	NRM	IRRI	ORFM	DDEV	Total
1	ANDHRA PRADESH	5.29	55.25	8.35	48.43	0.00	20.21	0.30	0.00	17.97	0.00	60.52	0.00	0.00	2.40	0.00	27.80	0.00	0.00	112.92	18.36	377.63
2	ARUNACHAL PRADESH	0.00	0.00	0.00	0.00	3.80	0.00	0.00	0.00	0.00	0.00	5.05	3.20	6.88	0.00	0.00	0.00	3.50	0.00	1.03	0.00	23.46
3	ASSAM	154.50	3.81	5.46	21.55	10.43	5.13	0.00	3.00	19.37	0.00	17.52	0.00	21.79	10.70	0.00	10.95	0.00	0.00	0.00	7.42	291.62
4	CHATTISHGARH	133.47	31.20	0.00	0.00	0.00	0.00	0.00	0.00	15.00	0.00	0.80	1.03	1.20	0.00	0.00	0.00	0.00	19.00	6.60	0.00	208.30
5	GOA	0.00	1.28	0.00	0.00	1.53	0.00	0.00	0.00	0.00	0.00	0.00	0.38	1.74	0.00	0.00	0.00	0.00	0.00	0.00	0.00	4.92
6	GUJARAT	11.82	40.50	0.00	116.22	0.00	4.00	0.00	11.10	107.45	0.00	0.00	20.95	170.66	0.00	0.00	41.57	4.17	0.00	1.10	7.04	536.59
7	HARYANA	5.03	11.92	0.00	14.50	0.70	9.98	0.00	6.21	13.30	5.00	0.00	25.50	17.00	0.00	0.00	17.12	35.00	20.00	12.14	10.08	203.46
8	HIMACHAL PRADESH	3.50	3.16	0.00	6.75	4.50	1.01	0.00	0.00	0.00	0.00	1.60	0.00	0.00	0.00	0.00	1.00	0.00	1.58	0.00	0.00	23.09
9	KARNATAKA	6.75	30.02	3.02	46.42	27.47	2.61	0.00	0.00	9.22	0.00	22.85	12.50	0.00	0.00	0.00	2.97	5.00	0.00	0.00	0.00	168.83
10	KERALA	9.99	0.00	0.00	2.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.89	11.85	4.58	0.00	0.60	30.42
11	MADHYA PRADESH	67.19	0.00	0.00	37.65	0.00	13.41	111.03	0.00	39.10	0.86	70.00	46.52	0.00	0.00	0.00	6.88	0.00	0.00	24.60	71.00	487.34
12	MAHARASHTRA	0.00	349.44	13.48	24.37	0.16	0.00	0.00	0.00	0.00	0.00	300.00	2.01	41.86	0.00	0.00	1.02	0.00	0.00	0.56	0.00	732.90
13	MEGHALAYA	0.00	5.80	0.00	4.21	0.26	3.99	0.59	1.25	0.00	0.00	1.89	11.11	0.00	0.00	0.00	0.00	3.25	0.00	0.13	0.00	32.49
14	NAGALAND	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	0.46	0.00	0.00	0.00	0.46
15	ORISSA	88.35	40.79	25.71	49.92	15.88	28.13	33.43	6.34	0.00	7.88	37.61	4.09	7.90	0.00	0.00	6.83	12.53	7.00	1.45	12.85	387.70
16	RAJASTHAN	0.00	2.75	0.00	28.28	22.61	0.00	0.00	0.00	0.12	0.00	0.00	0.00	0.00	0.00	0.00	9.33	52.54	48.10	0.00	56.09	418.83
17	TAMILNADU	174.25	48.84	0.00	24.44	0.00	20.27	11.80	0.00	1.00	0.00	42.60	57.81	26.00	0.00	0.00	5.55	4.50	0.00	0.00	25.94	443.01
18	TELANGANA	2.15	32.32	13.97	37.05	0.00	4.29	2.70	3.28	57.36	4.44	128.30	0.00	0.85	0.00	1.23	19.49	0.00	0.00	0.42	12.93	321.79
19	TRIPURA	11.50	0.00	0.00	6.28	0.00	5.30	0.00	0.00	0.19	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	23.27
20	UTTAR PRADESH	130.19	72.51	0.00	21.51	1.60	0.00	0.00	2.10	72.92	7.37	23.68	104.64	10.00	0.00	0.00	27.48	0.00	28.94	40.59	7.60	551.14
21	UTTARAKHAND	0.00	0.00	0.00	2.72	0.00	0.00	0.00	0.00	6.41	0.00	0.00	2.80	9.14	0.00	0.00	0.00	19.20	0.00	0.00	0.00	40.27
22	WEST BENGAL	114.64	21.40	2.98	46.21	0.00	37.70	30.00	0.00	4.74	0.80	54.25	14.19	0.00	0.00	0.00	0.00	0.00	40.32	0.00	0.00	367.24
	TOTAL	918.62	750.98	72.98	539.02	287.95	157.02	189.85	33.28	364.16	26.45	767.67	305.74	315.02	13.10	1.23	178.88	152.00	169.52	201.53	229.93	5674.95

Total Cost : Rs. 5674.95

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; 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

ANNEXURE- 15.2 (b)

Sector wise Approved Projects Cost (Ongoing and Completed projects) under RKVY- RAFTAAR, 2019-20

(Rs. in crore)

Sr No	State	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	0.00	37.63	0.00	0.00	75.00	19.61	330.21
2	CHATTISHGARH	0.00	30.33	0.00	0.00	0.00	12.52	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	42.86
3	GOA	0.00	0.00	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	0.80	0.00	0.12	0.00	0.00	5.42
4	GUJARAT	5.00	14.17	0.00	26.76	44.51	5.00	0.00	10.00	114.60	0.90	0.00	1.38	2.00	0.00	0.00	54.05	0.00	0.00	1.00	5.20	284.58
5	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
6	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
7	KARNATAKA	3.66	33.87	6.11	31.78	35.05	14.83	0.00	10.81	3.90	0.00	0.00	0.00	0.00	0.00	0.00	23.03	0.00	0.00	1.00	0.00	184.04
8	MAHARASHTRA	3.60	131.00	0.00	1.63	0.00	0.00	0.00	0.00	0.00	0.00	62.96	0.00	13.99	7.49	0.00	0.00	45.00	0.00	1.98	0.00	267.65
9	NAGALAND	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	2.00	0.00	1.50	0.00	0.00	0.00	0.00	0.00	0.00	0.00	3.50
10	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	0.00	29.70	0.00	0.00	0.00	0.00	373.39
11	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	0.00	35.01
12	TAMILNADU	139.04	21.95	0.00	7.09	0.00	13.31	15.23	22.52	0.38	6.45	29.68	118.00	13.10	0.00	0.00	3.56	3.00	0.00	0.00	15.20	408.51
13	TELANGANA	0.00	26.14	11.45	98.32	0.00	2.00	12.60	14.62	36.84	1.02	120.00	0.00	0.00	0.00	0.00	37.79	0.00	0.00	0.00	0.00	360.79
14	TRIPURA	41.32	1.43	0.00	9.11	0.00	4.69	0.00	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
15	UTTAR PRADESH	77.17	40.23	1.57	32.02	0.00	0.00	32.00	0.00	4.98	3.30	0.00	18.99	0.00	0.00	0.00	25.00	0.00	0.00	0.62	14.68	250.56
16	WEST BENGAL	94.83	8.46	0.00	0.00	0.00	23.86	33.46	2.50	17.82	0.00	40.40	7.61	0.00	0.00	0.00	0.00	0.00	1.49	0.00	0.00	230.43
	TOTAL	544.87	421.25	28.85	345.45	104.15	124.49	93.29	76.18	241.44	20.97	409.89	215.86	30.59	8.01	11.29	257.84	92.12	32.86	83.85	61.01	3204.27

Total Cost : Rs. 3204.27

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; 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

Annexure-20.1

Seeds Programmes in North-Eastern States						
S. No.	Schemes/ Programmes Activities Approved	Schemes/Programmes/ Activities taken	Target for 2018-19	Achievements 2018-19	Target for 2019-20	Achievements 2019-20
1.	National Seed Reserve	The basic objective of this component is to keep seed available for meeting requirement during natural calamities.	65600 Quintals	59525 Quintals	68380 Quintals	68380 Quintals (expected)
2.	Transport Subsidy on movement of Seeds to North-Eastern States including Sikkim, Himachal, J&K, Uttarakhand and Hill areas of West Bengal.	<p>The topographical situation and climatic conditions are 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 Headquarters.</p> <p>(b) The actual cost, restricted to maximum limit of Rs. 120/- 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>	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>For a quantity of 41043.31 quintals transported exclusively to NE States, an amount of Rs. 122.95 lakh has been reimbursed.</p> <p>The total quantity of seeds transported including in NE States is 140681.57 quintals. An amount of Rs. 324.35 lakh has been reimbursed.</p>	As mentioned in Col. 4.	<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 in NE States is 157341.56 quintals (upto 29.11.2019). An amount of Rs. 241.69 lakh has been reimbursed</p>

Annexure-23.1

WOMEN IN AGRICULTURE AT A GLANCE

S. NO	DIVISIONS/ SUBJECT MATTER AREA	Scheme/ Component	Flow of benefit to women in schemes/programmes
1.	Horticulture	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	<p>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 in 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.</p> <p>During the current financial year 2019-20, funds to the tune of Rs. 2209.57 Crore have been earmarked for implementation of schemes under MIDH. Out of this, a total of Rs. 768.93 crores has been released till 7th November, 2019 to the MIDH implementing agencies</p>
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- <ol style="list-style-type: none"> a) Study on “Kisan Credit Card & Issues Related to Credit Availability to Women: Role of Financial Institutions in Empowering Women Farmers. b) Gender Based Impact Analysis of ATMA Programme. • A publication on ‘Success Stories of Women Farmers and Agri-preneurs’ is being developed collating best practices and success stories of women farmers and agri-preneurs received from States • Celebration of Mahila Kisan Diwas, 2019 on October 15, 2019 by organising a Consultation on ‘Gender Mainstreaming in Agriculture’.
3.		Support to States for Extension Reforms	<ul style="list-style-type: none"> • At least 30% scheme beneficiaries should be women farmers/farm women. • 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; • Farm Women’s Food and Nutritional Security Groups (FIGs) @ at least 2 women FSGs/block to be formed annually for ensuring food and nutritional security providing assistance of Rs. 10,000/- per group.

			<ul style="list-style-type: none"> 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 through a strategy suited to their needs At least 30% scheme beneficiaries are to be women farmers/ farm women; Representation of Women farmers in different decision making bodies at State, District and Block level such as State Farmers Advisory Committee (SFAC) at State Level; Agriculture Technology Management Agency (ATMA) Governing Board, ATMA Management Committee(MC) and District Farmer Advisory Committee (DFAC) at district level and Block Farmer Advisory Committee (BFAC) at Block Level <ul style="list-style-type: none"> Preferential involvement of women as 'Farmer Friends' under the extension delivery mechanism below the block level (@1Farmer Friend/2 Villages) Since inception of the Scheme in 2005-06, total 12937060 farm women (24.35% of the total benefited farmers) have participated in farmer oriented activities like Exposure Visits, Training, Demonstrations & Kisan Melas including 636866 women farmers benefited during 2019-20 (up to 30th November, 2019). During FY 2019-20, Rs. 18444.90/- lakhs was allocated and earmarked for women, out of which Rs.9606.43 lakhs has been released under the scheme for women beneficiaries (as on 31.10.2019).
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>During the current year, 3706 candidates were trained and 379 have established their ventures. Since inception of the scheme, 69472 candidates have been trained and 28510 agri-ventures have been established in the country till 31.12.2019. Out of these 5638 and 1661 are women candidates and entrepreneurs.</p>
5.		Extension Education Institutes	During 2019-20, the Extension Education Institutes (EIs) conducted 172 training courses with 4356 field extension functionaries including 1047 women extension functionaries (upto 30.12.2019).
6.		Diploma in Agril. Extension Services for Input Dealers (DAESI)	During 2019-20, 4746 input dealers were trained including 189 women candidates (up to 30.12.2019).

7.		Model Training Courses	During 2018-19 (till 31.12.2018), 46 Model Training Courses have been conducted with 923 field extension functionaries including 123 women extension functionaries.
8.	Crops	National Food Security Mission (NFSM) & Bringing Green Revolution to Eastern India (BGREI)	At least 30% of funds under NFSM and 33% under BGREI will be made for women farmers. During the year 2018-19, a total number of 8,76,125 and in the year 2019-20(as on 19/11/2019); 33,585 women were provided demonstration, training, water saving devices and seed distribution under the Scheme .
9.	Agricultural Marketing	Integrated Scheme for Agricultural Marketing (ISAM)	Women under AMI are eligible for subsidy @ 33.33% as against 25% for others. A total number of 4,681 and 612 women beneficiaries are covered respectively under storage Infrastructure projects and marketing infrastructure projects (other than storage) since inception of the scheme till date under AMI sub-scheme of ISAM (including erstwhile GrammenBhandaranYojana (GBY) and Agricultural Marketing Infrastructure Grading & Standardization (AMIGS) scheme.
10	Mechanization and Technology	Sub Mission on Agricultural Mechanization (SMAM)	<ul style="list-style-type: none"> State Governments have been advised to ensure 30% of allocation under the scheme belongs to women beneficiary and also to furnish reports separately in SMAM guidelines. 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. Gender Friendly Equipment for Women: Under the component 1 of SMAM, Agricultural Mechanization through Training, Testing, and Demonstration, a total 3019 women were trained during the 2018-19 and 2839 women trained up to 31st December, 2019 in the financial year 2019-20.
11.	Seeds	Sub-Mission for Seed and Planting Material (SMSP)	Financial assistance/ subsidy benefits are equally available/ open to all the farmers including that of women farmers. Implementing States/UTs/ agencies have been requested to allocate sufficient funds and ensure participation of women farmers. During the year 2019-20, as on date 0.46 lakh women famers have been benefitted.

12.	Cooperation	National Cooperative Development Corporation	<p>The Cooperative Education Programme for women is being implemented by National Cooperative Union of India (NCUI) through the State Cooperative Unions in the states of Madhya Pradesh, Manipur, Mizoram, Orissa, Rajasthan, Tamil Nadu, Uttar Pradesh and West Bengal.</p> <p>During the year 2018-19 as many as 1232 women were imparted education under various classes in 16 events. During the year 2018-19, 382 self help groups with membership of 3302 women were formed by the lady mobilizers of the cooperative education field projects. Through various income generating activities, 18200 women were benefitted under this programme. During the year 2018-19, a total of 3456 women were imparted education under various educational activities.</p> <p>During the year 2019-20, NCDC sanctioned Rs. 536.32 crore to 8 units under various programmes.</p>
			<p>NCUI conducted a total 7812 Training Programmes the during year 2018-19 through General Cooperative Education programmes/ Schemes conducted by State Cooperative Unions resulting in 370670 persons being educated/trained, including 108254 Women participants.</p> <p>Cumulatively, as on 31.12.2019 NCDC has sanctioned and disbursed financial assistance of Rs. 2816.83 crore and Rs.1940.98 crore respectively for the development of cooperative societies, exclusively promoted by women. Out of the 3356 projects/units sanctioned in 2019-20 under all programmes including assistance to women cooperatives, it is estimated that 173 lakh women are enrolled as members, out of which 1228 women members are on the Board of Directors.</p>
13.	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. + 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.
14.	Rainfed Farming Systems (RFS)	National Mission for Sustainable Agriculture (NMSA).	<p>Guidelines of all these schemes envisage that at least 50% of the allocation is to be utilized for small, marginal farmers of which atleast 30% are women beneficiaries/ farmers.</p>

15.	Integrated Nutrient Management		Under the National Mission for Sustainable Agriculture, INM Divisions are implementing ParamparagatKrishiVikasYojana (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.
16.	Farmers' Welfare	Pradhan Mantri Kisan Samman Nidhi(PM-KISAN)	As 30/11/2019, on the basis of the data of beneficiaries uploaded on the PM-KiSAN web portal by the State/UT Governments, a total number of 2,03,40,878 women beneficiaries have been covered under the PMKiSAN Scheme.
		Pradhan Mantri Kisan Maan-Dhan Yojana(PM-KMY)	As on 02/01/2020, 6,23,042 women farmers had enrolled under the Scheme.

Note:-

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